

APPENDIX No. 10.

COLD STORAGE—A DISCUSSION OF ITS UTILITY IN THE CONSERVATION OF FOOD, AND OF THE QUALITY OF COLD STORED PRODUCTS.

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FOREWORD.

The writer of this pamphlet, Frank G. Urner, is vice-president of the Urner-Barry Company, of New York, publishers of *The Producers' Price-Current* and *New York Produce Review*, of which latter he is editor. Mr. Urner has had an experience of over thirty years as a market reporter, a student of trade conditions in the produce markets, and a writer on trade economics. In presenting brief extracts of testimony from scientific investigators on the subject of the quality of cold stored products, Mr. Urner has not pretended to represent at all comprehensively the mass of fact and conclusion so developed, but only to set forth the clear evidence that cold stored products, when properly handled, are worthy of the entire confidence of consumers; and to indicate the fact that "quality" in perishable food products depends upon the method of manufacture or preparation and handling more than upon the length of time they are held, under proper conditions and within reasonable limits.

COLD STORAGE.

The purpose of this pamphlet is to tell the truth about cold storage as it is applied to the preservation of some of the staple food products; to explain the motives which lead to the use of cold storage by dealers in perishable foods, and to consider the effect of such use upon production and prices.

General Misinformation.—The general public, depending largely or wholly upon newspapers for information of such matters, has been misinformed in regard to the function and use of cold storage. Ever since the "high cost of living" has been a subject of public agitation the majority of newspaper allusions have been such as to create the erroneous impression that cold storage is a tool by which monopolistic combinations of food dealers control and manipulate prices to their own advantage and the public injury. Grossly exaggerated statements have been printed as to the length of time food products are held in storage and a popular prejudice has been created against cold stored products which is not justified by the facts, and which would probably be dispelled if the facts were known and the real value of cold storage in the economy of food production and distribution is appreciated.

The widespread agitation of the subject of cold storage in connection with the "high cost of living" during the past three or four years has led to proposals of legislation restricting and regulating the industry, many of which have been based upon the misinformation and prejudice before mentioned. Some of the legislative consideration of the subject has doubtless been sincere and predicated upon a proper investigation of the facts—notably so in the case of the elaborate and extensive hearings conducted by the Committee on Manufactures of the United States Senate, and by a commission appointed by the Massachusetts House of Representatives to make exhaustive study of the facts as a basis for legislation. And it is not to be denied that the conduct of all dealings in food products should be subject to such restrictions and supervision as will protect the public health and welfare. But many legislators have

seized upon the widespread agitation, and the prejudice against cold storage created by false and misleading statements, to attack the industry as an enemy to the public interest; and these demagogues have added to the popular misunderstanding by unscrupulous or ignorant assertions, besides proposing the enactment of legal restraints some of which are unwise, unnecessary and harmful.

It is, however, not the purpose of this pamphlet to discuss the question of legislative restriction; the matter is mentioned only to emphasize the fact that no such restriction should be imposed until the true relation of cold storage preservation to the public interest is understood and appreciated. It is rather the purpose here to set forth this relation in its true light and to aid in dispelling prejudice against a system that has grown up naturally in response to a public need and which is now affording facilities of incalculable value to the public in the conservation of food.

A Homely Illustration.—Picture a village depending for its water supply upon a mountain stream. When the winter snows are melting and the spring rains abundant the stream is flush to over-flowing with its life-giving burden and the people of that village are supplied with water far beyond their needs; perhaps the stream carries away untouched and unneeded ten times as much water as the people of the village require. But when the summer droughts come the stream falls to a mere fraction of its springtime flush and gives to the people of the village no adequate supply. Without some means of conservation of the surplus in time of flush there may come even a famine for lack of water during the season of natural scarcity. But the people of the village are wise enough to understand the danger and guard against it. They select an appropriate place above the village and dam the stream to create a lake of reserve water which is filled to overflowing in the season of flush and from which an ample supply may be drawn when the stream itself becomes deficient. If they did not take this precaution they would be fools.

Now this picture illustrates the general principle upon which is built up the preservation by cold storage of those foods whose production—or maximum production—is seasonable. But there is an important difference which must be taken into consideration. The streams of butter and eggs and poultry that flow into our cities from great distances throughout the producing territory are not filled as with manna from heaven, or as the stream of water from the free hand of nature. The volume of their flow varies seasonably according to the nature of the product, but these streams are filled by the labour of man in directing and controlling and making available the forces of nature. Nature alone fills our streams with water and dries them up again and no amount of human labour or ingenuity can vary the supply except by conservation of the waste. Nature also causes the cow to give milk, the fowl to lay eggs and reproduce their kind, but to make these supplies of food available and sufficient, and to direct them into the streams that nourish our people requires human intelligence and labour and this, beyond satisfying the needs of the individual, can be induced only by an adequate payment. The sources of our streams of food are lodged in the mountains of human labour—in the business pursuits of those who choose such fields of endeavour as their means of support and profit. So that when the season of flush production comes we must not expect a volume of supply so great that after the people have had all they want a great surplus can be thrown away and wasted—as is the case with the mountain stream of water. On the contrary we can expect a production even during the season of maximum, only equal to what can be disposed of at a price sufficient to encourage and justify that production.

If you will imagine the mountain stream of water to be filled only by the labour of men, pumping the water into it from the ground, you will readily see that even in the spring, when the supply is naturally excessive, the pumpers would not pump any more water into the stream than the consumers below would adequately pay for; and the waste, instead of occurring in the stream would be found in the underground courses; and when the dam was built the people of the village would have to pay the pumpers a living wage to induce them to fill the reservoir for future needs.

Now the cold storage warehouses are the dams by which we are enabled to increase the profitable production of many kinds of food beyond the momentary requirements in seasons of natural abundance. It is manifestly only by such increase of production beyond immediate needs that the supply of these foods can reach its possible maximum; and it is only by a proper preservation of such surplus that the supply of them can be made sufficient during seasons when fresh production is naturally deficient.

Variability of Production.—Some understanding of the variability of production is necessary to an appreciation of the utility of cold storage preservation. To those who live in the country and are familiar with the facts of farm life this explanation may seem trite; but many of our city people have little conception of the fact that animal products vary in their natural seasons of supply in the same way if not to the same extent as do the supplies of vegetable products. Everybody knows that strawberries, unless grown and ripened at great cost under glass, are obtainable from any one locality during a very few weeks only; and from all localities, by reason of different climatic conditions, during only a few months. During the rest of the year there are no strawberries to be had at all, except such as are preserved by canning. The same is true of other small fruits and berries, and of the tender vegetables. (Here in passing it is worth considering what would be the effect upon the production of these perishable, short-seasoned small fruits and tender vegetables if there were no means of their preservation? Obviously a much smaller quantity would be raised and the total food supply greatly reduced.) Animal products vary in extent owing to a practical uniformity in the season of natural reproduction. Cows give most milk after the calves are dropped and during the season of most abundant green food; and more calves are dropped in the spring than at any other season. There is a vast difference in the volume of milk production from season to season, reaching its maximum in May and June, thereafter gradually decreasing until a minimum is reached in the following winter. The production of butter and cheese varies even more than the milk flow because the demand for fresh milk is constant and imperative while butter and cheese, being less perishable, can be made in greatest quantity when the surplus of milk is great.

The hatching season for all kinds of fowls is in the spring and early summer and at that season the production of eggs reaches its maximum. Egg production naturally decreases when extreme heat comes on, and falls off rapidly when the hens begin to moult—a process of shedding the feathers and replacing them with new. The moult begins in some sections as early as July, at others not until September or October, and is not usually finished until November. After the moult is finished and the fowls become fully fledged again, the spring pullets are usually old enough to lay eggs, so that in December the egg laying poultry is physically fit for free production; but hens will not lay much in extreme cold or when the ground is covered with snow unless they are very carefully housed and fed, and the rank and file of the farm poultry get no such care. Egg production as a whole begins to increase in February when the weather is moderate, becomes large in March, reaches its maximum usually in April and May, declines steadily during the summer, falls off rapidly in September and October and reaches a minimum usually in November and December. But in December, as well as in January and February, the production is extremely variable, depending upon the weather conditions.

Since the natural hatching season in different sections of the country extends from April to July, reaching its maximum in May and June, it is evident that the natural season for poultry whose character depends upon age is also seasonable. Apart from variations caused by artificial incubation, which are not sufficient to have much influence upon the poultry supply as a whole, the young chickens are chiefly "broilers" from late May to August and chiefly "roasters" from September to December, though small breeds of young chickens, spring hatch, are marketed fresh as broilers until the latter season. But when the young crop of chickens reaches maturity the cockerels

soon become coarse meated and tough and the pullets soon become fowls, so that after about December there is a great scarcity or entire absence of live poultry having the superior characteristics of young chickens fit either for broiling or roasting. Fowls, also, though obtainable fresh killed at all seasons, are in far the best physical condition to serve as acceptable food when about twelve to sixteen months old.

Turkeys, hatched in the spring during the normal season, are rarely big enough to market until October, and few attain full growth until December. They are of the finest quality for food from late November to mid-January, after which the toms become coarse and staggy. There would be very few turkeys eaten after mid-January if people had to depend upon freshly killed birds, owing to the unfavourable physical character of the meat during the late winter, spring and summer.

Necessity of Preservation.—Now it will be obvious to anyone who gives the matter any intelligent consideration that preservation of surplus is, in respect to many necessities of life, a prime essential. The storage of water has already been indicated as an instance. The storage of ice for use during the warm season is another. Every kind of vegetable food, save such as may be imported from the tropics or raised expensively under glass, must be preserved from the summer or fall harvest for use in the non-productive season, months later. Methods of preservation have therefore always been essential to communities dwelling in northern latitudes and they have grown with the necessities of the people. Hard, dry, ripened grains are easily preserved, requiring only a dry storehouse in which they may be kept in their original condition for months without regard to temperature. Certain staple vegetables and fruits, as potatoes, onions, other roots and tubers, apples, pears and other durable fruits, have always been preserved for months after their harvest by simply placing them in cool, dry rooms and protecting them from freezing. Other more perishable vegetables and fruits have, from time immemorial, been preserved by drying and, for ages past, by cooking in sugar and hermetical sealing. And in answer to the same need butter and cheese and eggs have been carried—long before the inception of cold storage—for months under conditions which though failing to preserve the quality acceptably were yet generally used because of the urgent need of relieving a natural seasonal scarcity of these foods. Modern cold storage is a direct result of the invention of mechanical refrigeration; and it has afforded the most perfect method of preserving many perishable foods in their original condition. Even those more durable fruits and vegetables formerly preservable for an extended period without it can now, by the possible control of temperature, be carried in much more perfect condition and with a minimum of waste for a longer period; butter can be carried frozen for many months without appreciable loss of quality; eggs can be carried for months with less effect upon their quality than would be given by a week's holding under unfavourable conditions of temperature and humidity; the flesh foods that can in no other manner be preserved in their original, un-cooked condition, may, by freezing, be held for months with no change that can affect their wholesomeness or palatability.

Cold Storage a Boon.—It seems evident that such a development as this should prove a boon to mankind. For it is obvious that upon the ability to preserve surplus production depends the profitable opportunity for fullest production. If the people of our country can consume, at a price sufficient to induce production, say a million and a half cases of eggs a week there would be no inducement for the production of three million cases a week during the months of greatest productivity; but if, with a productive capacity of three million cases a week in April and May the production naturally falls to a half million cases in November and December, the greatest production is naturally encouraged by the ability to hold the surplus to the season of scarcity. Thus in all foods, any method of preservation which enables us to carry surplus from a season of maximum production to a period of natural deficiency, permits an increase of production, adds to the total food supply, and must, of necessity, lead to a lower average price than would result from a diminution of the supply.

This naturally leads us to a more detailed consideration of the effect of cold storage preservation upon price levels and to an analysis of the oft-made charges that dealers use the ability to carry goods in cold storage as a means of manipulating markets to their own advantage and the public injury.

Economic Effects.—Before the facts of the case in this respect can be understood clearly there are some general conditions of production and distribution that must be known, and one or two fundamental economic laws that must be accepted as inevitable. In the first place it should be considered—as will be obvious upon the most casual thought—that the eggs and poultry and milk products which supply our millions of population are produced upon millions of farms covering most of the agricultural territory of the entire nation. In the case of our larger cities the supplies of these articles are drawn from innumerable primary points situated at more or less distances away—up to perhaps fifteen hundred miles—and at equally great distances from each other. Under such conditions it is impossible that the producers, as a whole, or in any considerable part, can deal directly with the consumer. As a matter of fact the distribution is effected by several classes of intermediate tradesmen. Some of these collect the produce from farmers in their neighbourhood, or from country storekeepers, who receive it from farmers, usually in exchange for needed supplies of other kinds. By this means egg and poultry are aggregated at central points in quantity sufficient to permit proper and more or less uniform preparation for market and economical transportation over great distances. In the case of butter and cheese, creameries or factories are established at central points—either corporate enterprises or co-operative associations of farmers themselves—where milk and cream can be taken from a large surrounding territory and economically manufactured in large quantity. From such centers the product is shipped directly to consuming centers in all sections of the country. And in all consuming centers there are various classes of distributors by whom the products are received from interior shippers, classified according to quality, and directed to appropriate retail points for final distribution to individual consumers. Thus the fact will appear evident that there are many thousands of tradesmen gathering up these farm products in comparatively small quantities and aggregating them for transportation; also that there are many thousands of dealers in the centers of consumption, scattered over the entire country. Now, as a matter of fact, there is no combination between these various classes of collectors and distributors by which any unanimity of action in regard to the prices to be paid or demanded for the produce is possible or attempted. The business field in every phase of the industry is open to any one who wishes to engage in it. And there is no attempt to combine the dealers in any unanimity of policy as to the storage of surplus or the withdrawal of goods from storage. There are associations of shippers, organized for the discussion of public matters of mutual interest and for the encouragement of advanced methods of handling the products; there are also associations of distributors in consuming centers organized for the collection and dissemination of trade facts which may be indispensable to a proper conduct of individual business. But these different and widely scattered associations make no attempt to coerce or control the business activities of their individual members or to dictate their business policy in any respect whatever.

Another fact that should be clearly understood is that the cold storage warehouses as a rule are public institutions open to and soliciting the patronage of all. Their owners do not, in most cases, own any of the goods stored; they simply sell space and guarantee proper temperatures. The storers of food in cold warehouses are legion and disconnected and there is no uniformity in their policy.

(The writer makes these assertions in respect to the general distributing trade in butter, cheese, eggs and dressed poultry, from a personal knowledge, based upon many years of observation and close connection with the trade as a student and reporter of market conditions and prevailing values. But they can readily be shown to be true by any intelligent investigation).

One or two fundamental trade laws must also be considered before the economic effect of cold storage preservation can be understood and some of the fallacious statements in regard to it dispelled. These have to do with the general law of "supply and demand." One is that as a general rule the demand for a commodity increases as its price declines, and decreases as its price advances. Another is that the current value of any article is the highest price at which the quantity urgently offered can be sold. This is manifestly true of any form of property.

We must regard the trade in food products in the light of our general social structure which is, so far, based upon individualism and not socialism. Our government and law recognizes the individual right to legally acquired property and the main-spring of business activity in all directions is profit. A food dealer buys and sells food, not as a philanthropist, but as a means of profit and livelihood. He is, at the same time, entitled to a feeling of satisfaction that he is performing a public service. And it is true that so long as free and unrestricted competition exists, he could not exact a profit on his dealings unless he did perform a useful service, for otherwise he would be crushed out of existence by those distributors who are essential. So also the incentive to the withdrawal of food to cold storage is solely the opportunity to sell the goods later at a higher price and make a profit.

But it can be shown that the ability to make a profit by such holding is coincident with the performance of a public service and not dependent at all upon any imaginary ability to inflict a public injury.

The general utility of cold storage as a means of increasing the production of certain perishable foods has, perhaps, been sufficiently demonstrated. There is now a general recognition of the fact that the ability to carry butter and eggs and poultry and fish from seasons of flush production throughout the succeeding months of natural scarcity does provide our people with more or less liberal supplies when there would otherwise be a great deficiency, and that the institution of cold storage preservation is therefore a public benefit. It remains to be considered how the benefit is gained and what problems the individual dealer has to face when he undertakes to supply this public need in consideration of the profit that he may reasonably expect as a recompense for his investment and risk.

First it is frankly to be stated that the business of carrying food products in cold storage, beyond the mere transient protection of goods in course of current distribution, is speculative. It cannot be otherwise. Some dealers who have established trade requirements that can be closely estimated for a future period, buy in the flush season and store against these known or approximately known needs; and these may claim that their purchases in advance of such requirements are not speculative. But as the output prices are always based upon current market values at the time of final output, and as these prices cannot be foretold, there is a strong speculative element in all such purchases. And the larger part of the stored goods is carried by wholesale merchants who depend upon the open general market for the final outlet, and whose operations are necessarily purely speculative. But no manner of conducting the business of carrying surplus production can be conceived which is not speculative. In the season of flush production there is no means of knowing how much of the excessive supply can safely be carried to the future markets or what price may safely be paid for it; for the extent of the future shortage is variable according to weather conditions and other circumstances that cannot be known, and the extent of future demand for any particular article of food is affected by the supply and cost of other foods. Furthermore the knowledge of quantity being stored from time to time is incomplete and the reports obtainable from certain centers of storage are more or less unreliable, although they are gradually becoming more complete and trustworthy.

The chief guide to individual merchants who store goods for a long hold is the experience of the last previous season's operations, modified, it may be, by general reports and evidences of the volume of current production. As a matter of fact the

storage of these foods—butter, cheese, eggs and poultry—is not always profitable; sometimes large profits are made, but sometimes there are very serious losses, and if a term of years is taken the average result will be found to show only a very moderate profit.

Uncertainty of Results.—The great variation in the financial results of carrying these goods in cold storage will be understood as inevitable when the conditions surrounding production are considered. But first it must be understood that there can be no reasonable expectation of profit in carrying any of these commodities past the next following season of flush production, because while there may be some variation in the relatively low point to which values fall in the flush season this difference is never great enough to compensate for the cost of long holding and the lessened value of year old goods as compared with fresh production. There have been occasional instances when butter and poultry have been held longer than twelve months, but such cases are very exceptional and have usually resulted in losses to the original storer. Whenever the surplus carried in cold storage is found to be more than can be sold out at a profit during the succeeding period of scarcity it is the very general practice to force a clearance before the advent of the next flush season regardless of the losses that must be incurred by so doing—and this has always been the case, even before any legal restrictions were placed upon the length of time during which goods could be held in storage.

To appreciate, therefore, the conditions under which the public can realize the benefits of cold storage preservation of surplus production these facts must be clearly borne in mind: that there is no combination of dealers tending to any uniformity of action or policy; that the whole business of storing goods in a season of relative abundance to be sold in a later season of relative scarcity is conducted individually by thousands of dealers, each according to his own views as to the probability of profit; that the total quantity being stored or remaining in storage from time to time is not certainly known, but only indicated by partial information; that all goods stored must, in order to gain a profit, be put into consumption before the next season of flush-production.

Bearing these facts in mind the reader can put himself in the place of a dealer in these perishable foods with some appreciation of the problems that confront him both in the storage of the products and in their later withdrawal for sale. It is manifest that as the development of cold storage preservation has induced a production far beyond what would be profitable without it, there is nothing to stop the downward movement of prices in periods of maximum production save the demand for storage. But the views of dealers and speculative buyers as to the safe price to pay are always various and the decline is stopped normally at the point where enough buyers for storage will operate to bring the remaining supply to a parity with the consumptive demand at that price. But there is never any certainty that the price paid for storage is just such as to result in just the proper amount of withdrawal to supply later needs at just a reasonable amount of profit or at any profit at all, considering the proposition as a whole. The quantity withdrawn is never certainly known, the extent of future demand at any particular price level can only be estimated, and the extent of future current production is widely variable and unknowable. As the season advances and these unknown elements become gradually more clearly indicated the disposition to hold or force to sale the individual holdings varies according to individual interpretation of the knowledge available. As a rule the first material reduction of fresh supplies sufficient to force a normal upward movement in prices to a point where stored goods can be sold at any profit at all—even a very slight profit—finds a good many dealers who own goods in storage ready to sell. Later, when the season of greatest natural scarcity is reached, holders of reserve stock are more or less free sellers according to their interpretation of the fuller knowledge of supply and demand then available. Sometimes the conditions of fresh production in the season of natural scarcity become so unfavourable and the reserve is found to be working down so rapidly, that

holders generally see a prospect for great shortage and withdraw stocks from sale for extreme prices; when the outcome proves to justify such expectations extreme prices are realized and large profits may be made. But it is to be considered that when holders do realize extreme profits by holding a moderate quantity of stored goods to a season of exceptional scarcity, the scarcity would be still greater and prices still higher if the reserve had not been so held. So that when it is understood that prices must rise and fall strictly according to the supply available and the demand at various price levels, it will be appreciated that the very fact that a profit is made by holding and *selling* is proof of a public benefit. But very often the conditions of fresh supply during the seasons of natural scarcity—or the developments in respect to demand at a profitable relation to the price paid for stored goods—are unfavourable to holders of reserve and as the next season of increased production approaches more or less heavy losses must be incurred in order to force a clearance. So the occasional large profits realized must be considered in relation to the occasional disastrous losses; and if the results of a series of years are analyzed it will be found that the average profit earned by carrying goods in storage is very moderate—certainly no greater than is reasonable in view of the investment and risk involved. But of course some dealers and operators are more astute than others; some, through a keener judgment of trade conditions, get more benefit from the favourable seasons than loss from the bad seasons—and vice versa. But there is manifestly no means by which this matter of cold storage accumulation can be conducted with any certainty of making the accumulations exactly fit, at a minimum satisfactory profit, the later scarcity of fresh goods. Even if the whole business were organized as one, and conducted by the wisest heads in the nation, it would still be impossible, because the storage must be undertaken in ignorance of the later conditions.

But the public is safe from injury in any event; for the season's yield must be sold before the next season of flush; and if, by too free a storage, prices are sustained for a time above the proper level, they are sure to fall below the normal level when the excess is forced to sale; and if a winter scarcity proves so great as to force prices to an extreme point, absorbing at the same time all the deficient amount of reserve carried, it is equally true that, had more been carried prices would have been higher when the greater reserve was being accumulated. Such a condition is only evidence that through the natural inability to judge future conditions exactly, cold storage preservation has not fully performed its functions; and occasional conditions of extreme scarcity only serve to emphasize the violent fluctuations and extremes of prices for many articles that would be experienced if we had not adequate cold storage facilities.

The True Effect of Preservation.—If all these facts are considered it will appear that cold storage cannot be used to raise prices to an abnormal level, considering the season as a whole. It is of course evident that after production has been increased by the ability to store surplus a stoppage or serious restriction of cold storage would, in the flush seasons of products stored, result in a lower fall of prices; but this would make so large a production unprofitable and curtail the yield by driving producers out of that particular line of work until prices in the flush seasons were again restored to a profitable level; and when that occurred the seasons of scarcity would become seasons of practical dearth except for those who could pay extravagant prices; and some kinds of goods, such as broiling and roasting chickens and turkeys that are fit to eat, at some seasons could not be obtained at all. It is also to be considered that with the stimulus to production given by the ability to carry surplus, the yield increases to a point where, in the flush season, despite the withdrawal of large quantities to storage, prices usually fall to about as low a point as possible and afford any fair margin of profit to producers. Further, it is to be considered that dealers cannot make money by holding these products off the market and paying the charges on them; they can only realize by *selling*, and if they make a profit by selling it is

proof that the goods were needed; it is also evident that if the market were deprived of the stored goods when sold, the scarcity would be greater and prices higher through the increased competition to secure the lessened and deficient quantity.

If understood, these considerations should demonstrate the economic necessity of cold storage, and disprove the fallacious assertions that dealers can use the holding facilities to the public injury. It remains to consider the common popular prejudice against cold-stored products—a prejudice which is, however, gradually falling away as the subject is becoming better understood.

No one would hesitate to eat bread in the winter and spring because they knew the wheat from which it is made was grown and stored away six months or a year ago. No one would balk at a luscious apple harvested in September and placed on the table in the following May or June. Every one knows that cheese of the usual type is not fit to eat until it has been "ripened" by weeks of curing—a process that is simply delayed by longer holding in artificially corrected temperatures. Butter carried for months in a frozen condition at temperatures about zero changes in character and flavour to no appreciable degree and is practically as good to eat as the day it was made. Eggs deteriorate in quality more or less according to the conditions surrounding them after laying. In hot, damp weather they may become rotten in a week or two; in cold, dry air they keep sweet and fresh flavoured for months. Doubtless a perfectly fresh egg, kept cool and dry, is better when under a week old than one so kept for six to ten months; yet cold stored eggs put away in the best season and then of fine quality are far better in every respect up to six months' proper cold storage than a large proportion of the eggs marketed as promptly as is usual from the western farms to the city consumer. And from October to January—and frequently to February inclusive—properly packed and carried cold storage eggs furnish an excellent and wholesome food when new eggs are so scarce as to be beyond the reach of nine consumers out of ten. Consumers are very likely to class all poor eggs as "cold storage," whereas at many seasons they are far more likely to have become poor because they were kept in less favourable surroundings. There is very rarely a time, even in the periods when fresh eggs are naturally very scarce, when good, sound, sweet flavoured, refrigerator eggs cannot be bought by New York consumers at 25 to 35 cents a dozen retail, according to the variable conditions of supply; and up to the time when new eggs become plentiful—usually during February—the stored goods of the better grades are of a quality which should prove an entirely satisfactory substitute for fresh stock that may cost 50 to 60 per cent more.

Frozen poultry, if frozen when fresh and in perfect condition and properly carried, suffers no appreciable deterioration for months and up to the usual limit of commercial holding cannot be distinguished from fresh killed stock by most people. Furthermore, at some seasons poultry of certain kinds cannot be had at all except from the refrigerators, owing to the nature of the birds, their seasonable hatching period and seasonable growth.

EXPERT TESTIMONY.

Bearing upon the wholesomeness of cold stored foods much scientific investigation has been undertaken in recent years, the results of which have been widely published. The chief findings have been brought out very fully in the governmental investigations of the general subject of cold storage before alluded to, and we may fittingly conclude this pamphlet with a few extracts from such expert testimony, based upon careful scientific research.

Dr. Harvey W. Wiley, formerly chief chemist of United States Department of Agriculture, in "Use of Cold Storage," Senate Document No. 486 (pp. 4 and 5) says: "Again, there are certain periods of the year at which certain food products are produced in greatest abundance and at these periods the production is larger by far than the immediate demand. The application of cold in such cases may carry over a portion

of these products in a perfectly legitimate way for the benefit of the consumer at those periods of the year when the production of the article ceases altogether or is diminished. The exercise of cold storage in these cases seems to me justifiable, provided the period of detention is not so great as to cause appreciable deterioration."

BRIEF EXTRACTS FROM AN EXHAUSTIVE REPORT OF THE COMMISSION TO INVESTIGATE THE SUBJECT OF THE COLD STORAGE OF FOOD. COMMONWEALTH OF MASSACHUSETTS, HOUSE DOCUMENT No. 1733, 1912.

"Cold storage is a highly important factor in the present system of distributing the food supply in this country. Indeed the services rendered by this agency are so great that cold storage must be regarded as practically indispensable to the general well-being." (Page 12.)

"The value of cold storage in increasing the available supply of perishable food products throughout the entire year is recognized by every person who has given intelligent study to this subject." (Page 17.)

"The members of this commission inspected cold-storage plants in different cities to observe the manner in which they are conducted. In general, conditions were found to be very satisfactory. It appears that scientific methods of refrigeration are carefully followed. The larger plants are of modern construction, most of them having been built within the last ten years. The sanitary conditions in these plants are excellent; the temperatures are properly maintained, and the ventilation is adequate." (Page 28.)

"Instead of being a menace to the public health, cold storage has, in the main, exhibited itself as a great agency for the conservation of the vital resources of the population. It has enlarged, diversified, and enriched the food supply of the people. In the distribution of the food supply to the congested population of the great cities especially, cold storage is an indispensable factor. Without cold storage the crowded masses in the urban centres would be obliged to subsist on a dietary at once more meagre and more costly than that enjoyed at the present time." (Page 32.)

"Professor William T. Sedgwick, of the Massachusetts Institute of Technology, who ranks among the foremost experts on questions affecting the health of the people, characterized cold storage, in his testimony before this commission, as one of the most important and beneficial methods of food preservation. . . . Professor Sedgwick declared further: "So far as I am aware, there is no evidence whatever that cold storage is in any way prejudicial to the public health. On the contrary, it is one of the greatest aids to public health, in that it makes food more accessible and more abundant, and thus enables people to keep up their strength and avoid such diseases as scurvy, from which the human race formerly suffered so intolerably." (Pages 32-33.)

"The Hon. James Wilson, former Secretary of Agriculture, regards cold storage as a great benefit to humanity. 'It is a great blessing,' he declares, 'to be able to put meat, vegetables and fruit into cold storage where they will keep. There is no doubt about that.'" (Page 32.)

BRIEF EXTRACTS FROM TESTIMONY AT THE HEARINGS BEFORE
COMMITTEE ON MANUFACTURES, U. S. SENATE,
SIXTY-SECOND CONGRESS, 1911.

Dr. Mary E. Pennington, chief of Food Research Laboratory, U.S. Department of Agriculture, a scientist who has probably devoted more research than any other into the effects of cold storage upon the quality and condition of certain foods, notably poultry and eggs, gave exhaustive testimony. The following extracts from Dr. Pennington's testimony bear directly upon the points discussed in this pamphlet:

Dr. Pennington's Testimony.

Mr. LITTLEFIELD [Speaking of poultry]: How does the change that takes place at the end of 12 months of cold storage, 10 degrees F., compare with the change that takes place in the same product after 24 hours' exposure under the same circumstances before refrigeration?

Dr. PENNINGTON: * * * There would probably be a greater change in 24 hours if the temperature was from 65 degs. to 75 degs. than if the temperature was 10 degrees F. for 12 months.

Mr. LITTLEFIELD: That is to say, the ordinary food product that is kept in the house, without being kept in a refrigerator, under ordinary circumstances would show more deterioration than the same food product kept in cold storage for 12 months?

Dr. PENNINGTON: If the atmospheric temperature should be over 60 degrees it would—that is in respect to chickens. * * We have at the expiration of 12 months [in storage at 10 degs. F.] a change which is fairly comparable with the change at the end of 15 days at 32 degrees F., and with the change at the end of 5½ days in a good house refrigerator, and which is very much less than the change at the end of three days at a temperature of from 65 to 75 degrees. * * *

Senator CUMMINS: As to meat kept hard frozen for 12 months; would a chicken so kept and eaten at the end of 12 months be injurious to the health of the person who ate it?

Dr. PENNINGTON: I have eaten many of them and found them very palatable.

Senator CUMMINS: But scientifically, you know of nothing, that is, you know of no change that has taken place that would result in injury to the person who ate it?

Dr. PENNINGTON: I have not been able to find any change which would with our present knowledge, be called injurious.

* * * *

Senator CUMMINS: So, as a whole, you think if we were eating altogether chickens that had been hard frozen for 16 months, we would be eating better food than our forefathers and foremothers handled in the ordinary way; that is your conclusion, I take it?

Dr. PENNINGTON: If the poultry has been properly handled before it is hard frozen, and our entire supply should consist of such poultry, I think it would be better poultry than we have been accustomed to heretofore, and better than most of what we have on our markets at the present time.

* * * *

Mr. LITTLEFIELD: You have investigated also during this period with reference to the subject of eggs, have you not?

Dr. PENNINGTON: Yes, sir.

Mr. LITTLEFIELD: Will you be kind enough to say to the committee whether your results with reference to eggs are practically parallel with the results you have described in connection with poultry?

Dr. PENNINGTON: The investigation or study of eggs has been practically along the same lines as the study of poultry. Eggs are more difficult to handle if anything

and keep in good condition than poultry. Nature has set a limit on eggs herself. An egg ordinarily will not keep in good condition under refrigeration for more than ten months—between nine and ten months generally—and it must be an extra good egg that will hold in good condition for ten months. Eggs that are to be kept under refrigeration must be even more carefully selected than poultry which is to be kept hard frozen. The results of deterioration in eggs are more plainly detected by the consumer than are deterioration changes in poultry. By careful handling of eggs, just as by careful handling of poultry the quality [quantity] to the consumer can be enormously increased and the length of time during which eggs can be made available as food for the people can also be increased.

FROM THE TESTIMONY OF DR. WILLIAM J. GIES, PROFESSOR OF BIOLOGICAL CHEMISTRY, COLUMBIA UNIVERSITY,

Mr. LITTLEFIELD: Have you had occasion to examine fish that have been the subject of cold storage?

Dr. GIES: I have.

Mr. LITTLEFIELD: Please state to the committee what your experiments in that line have been.

Dr. GIES: Briefly stated, fish in cold storage for a year, blue fish for example, and fluke—when allowed to thaw in my office on an ordinary table at room temperature after twenty-four hours (that is after the fish had softened) appeared to be practically identical with fresh fish of the same kind.

EXTRACTS FROM REPORT OF SPECIAL COMMITTEE APPOINTED BY CHICAGO ASSOCIATION OF COMMERCE, TO INVESTIGATE THE COLD STORAGE INDUSTRY.

A special committee was appointed by the Chicago Association of Commerce to investigate the subject of cold storage of food products and the methods involved therein. The members of the Committee were Arthur R. Reynolds, M.D., former commissioner of health, Chicago; Marvin A. Farr, real estate; Edward Clifford, of Hornblower and Weeks, stock brokers; William S. Kies, attorney and general counsel, Chicago and Western Indiana Railway; C. D. Loper, of Mullen and Co., woollens.

After months of careful study and investigation the committee made an exhaustive report on May 31, 1912, from which the following brief extracts are taken:—

“Your committee finds at the outset that there is an unreasonable prejudice on the part of the public towards food products which have been in cold storage. This prejudice in many instances is unfounded; and in others responsibility for such prejudice is traceable directly to the retailer who sells food products unfit for consumption, many of which have never been in cold storage. The consumer finding the products tainted and unfit for use readily denominates the articles as cold storage products.”

“There is no more reason in our judgment for condemning cold storage because at some time bad products have come out of a cold storage warehouse, than to condemn an orchard because at some time rotten apples have been found in shipments from it.

“Cold storage should not be blamed for the results of an inadequate local inspection of markets and retail places in general.”

“In reference to the charge that cold storage of food products causes a scarcity and an inflation in prices the fact appears to be that only a small percentage of the annual production of perishable foodstuffs is stored in cold storage warehouses. The

storage of these foodstuffs, however, makes it possible to supply the people of the great metropolitan centres in time of scarce production with the surplus of the time of plentiful production."

"Exhaustive examination of the statistics compiled under the direction of your committee, and a comparison of these statistics with the facts obtained by the Department of Agriculture, after exhaustive research demonstrate clearly that prices of butter, eggs, poultry and fish have been more uniform during the years since cold storage has become a factor in the case of food products than before that period. These statistics also show that taking an average for a period of years, prices on the whole have been lower than during the years when cold storage was unknown."

"Whatever prejudice members of your committee may have had against cold storage products at the outset of this investigation has been effaced. We are satisfied that if the public were as familiar with the facts and conditions in the case as we are that instead of protesting against them, consumers would in certain seasons demand cold storage products in preference to those supposedly fresh from the farm, but detained in delivery. There is much greater need of regulating the handling of perishable products by retailers wherever such products may come from, than for legislation regulating cold storage."

CONCLUSION.

The foregoing considerations and evidence of scientific experts and distinguished investigators justify the conclusion that cold storage preservation of perishable foods is a most important public utility; that it permits and induces a large increase of production, adds to the total food supply, and must result in a lower average of prices than could occur without it. Also that cold stored products, when properly prepared and handled, are entirely wholesome and palatable, and worthy of the entire confidence of consumers.

APPENDIX No. 11.

SUMMARY OF COLD STORAGE CHARGES.

PRINCE EDWARD ISLAND.

Butter.....	Rate per	cwt. per month.....	15-20 cts.
Meats.....	"	100 lb. per "	25-50 "

NOVA SCOTIA.

Butter.....	Rate per	100 lb. per month.....	25-50 cts.
Meats.....	"	"	12½-25-40-50 cts.
" (lamb).....	Rate per	carcass per month.....	8-16 cts.
Poultry.....	"	100 lb. "	12½-25-40-50 cts.
Fish.....	"	"	12½-25-40-50 "

NEW BRUNSWICK.

Butter.....	Rate	per 100 lb. per month.....	12½-15 cts.
Meats.....	"	"	12½-25 " plus 5 cts. handling charge on each carcass.
Poultry.....	"	"	25 "
Fish.....	"	"	12½-25 "
Apples.....	"	brl. "	5-10 "
"	"	box "	3 "
Evaporated Apples.....	"	"	4 "
Canned Apples.....	"	100 lb. per month.....	12½ "

QUEBEC.

Butter.....	Rate per	100 lb. per month.....	12½-14-25 cts.
Meats.....	"	100 lb. per month.....	12½-25-50 cts.
Poultry.....	"	100 lb. per month.....	12½-25-37½-50 cts.
Fish.....	"	100 lb. "	12½-25 cts.
"	"	brl. "	30 "
Cheese.....	"	box "	3-5-6-7-10 cts..
"	"	season.....	4½ cts.
Eggs.....	"	doz. per month.....	½ "
"	"	case "	7-10 "
"	"	season.....	40 "
Apples.....	"	brl. per month.....	10-12-15-40 cts.
"	"	box "	4 cts.
Other Fruit.....	"	"	5-6-10-12-13 cts.
"	"	brl. per month.....	10-12-15-40 "
"	"	keg.....	10-15 cts.
"	"	basket.....	3 "
"	"	case.....	10-15 "
Vegetables.....	"	bag per month.....	4-7-8 "
"	"	sack, crate or bskt. per month	10 "
"	"	brl. per month.....	12 "

ONTARIO.

Butter.....	Rate	per 100 lb. per month.....	12½-14-18-20-25-50 cts.
"	"	season.....	62½ cts.
"	"	tub per month.....	10-15 "
"	"	pkgge "	10 "
Meats.....	"	100 lb. "	12½-15-20-25-37½-50-75-\$1.
"	"	carcass "	(beef), \$1; (hogs), 50 cts.; (lamb), 7-12½-15-25.
"	"	quarter piece month (beef).....	25 cts.
Poultry.....	"	100 lb. per month.....	12½-25-37½-50 cts.
"	"	pair "	10-15 cts.
"	"	each (turkeys) per month.....	10 "
Fish.....	"	100 lb. per month.....	12½-25-50 cts.
"	"	box "	3-5 cts.
Cheese.....	"	100 lb. per month.....	12½ cts.
"	"	box "	2-3-4-5-6-7-8-10 cts.
"	"	season.....	25 cts.
Eggs.....	"	case per season.....	30-40-45 cts.
"	"	month.....	5-10-12-15 cts.
"	"	crate	10 cts.
"	"	100 lb. "	12½-50 "
Rabbits.....	"	case (2 doz. to case) per month.....	10 cts.
Lard.....	"	100 lb. per month.....	12½ "
Apples.....	"	brl. "	12½-50 "
"	"	"	10-12-13-15-25 cts.

BOARD OF INQUIRY INTO

SUMMARY OF COLD STORAGE CHARGES—Continued.

ONTARIO—Continued.

	Rate per			
Apples	brl.	season	25-30-45	cts.
"	box	month	5	"
"	bus.	"	2½	"
Other Fruit	box or c-	per month	10-15	"
"	basket	"	2½-5	"
"	100 lb.	per season	50	"
Evaporated Apples	100 lb.	month	6-12½-50	cts.
Vegetables	bag	month	3-10	"
"	crate	season	25	"
"	bus.	"	5	"
Honey	100 lb.	"	50	"

MANITOBA.

	Rate	per 100 lb.	per month	
Butter	"	"	12½-15	cts.
Meats	"	"	12½-25	"
Poultry	"	"	12½-15-25-33½	cts.
Fish	"	"	12½	cts.
"	box	"	5	"
Cheese	100 lb.	"	12½	"
"	cheese	"	10	"
"	case	"	10	"
Eggs	100 lb.	"	15	"
Lard	"	"	5	"
Apples	brl.	"	15	"
Other Fruit	100 lb.	"	12½	"
"	keg	"	8	"

SASKATCHEWAN.

	Rate per			
Butter	100 lb.	per month	25-30	cts.
Meats	100 lb.	"	15-25	"
Poultry	100 lb.	"	25-50	"
Fish	100 lb.	"	25	"
Cheese	box	"	10	"
"	100 lb.	"	10	"
Eggs	case	"	15	"
"	"	season	75	"
Lard	cwt.	month	20	"
Apples	brl.	"	15	"
"	box	"	7-10	"
Other Fruit	"	"	10	"
"	brl.	"	20	"
Vegetables	100 lb. bag	per month	10	"
"	crate	per month	25	"
"	sack	"	10	"
"	cwt.	"	10	"
Canned Goods	case (24 to cts.)	per month	10	"

ALBERTA.

	Rate per			
Butter	cwt.	per month	25-30	cts.
Meats	"	"	25-30	"
Poultry	"	"	30	"
Fish	"	"	20-25	"
Lard	20-lb. pail	per month	3	"
Apples	box	per month	10	"
Vegetables	cwt.	"	10	"

BRITISH COLUMBIA.

	Rate per			
Butter	100 lb.	per month	20-25	cts.
Meats	100 lb.	"	15-20-25-33½-50	cts.
Poultry	100 lb.	"	15-20-25-50	"
Fish	"	"	20-25-50-75	"
Rabbits	"	"	25	cts.
Cheese	"	"	15-25	"
Eggs	case	"	12-13-15	cts.
"	doz.	"	1-3	ct.
Apples	box	"	5-6-7-9	cts.
Other Fruit	"	"	4-7	"
"	100 lb.	"	25	"
"	doz.	"	1-3	"
Vegetables	100 lb.	"	25	"

YUKON TERRITORY.

	Rate per			
Butter	100 lbs.		\$3	00
Meats	"		3	00
Poultry	"		3	00
Fish	"		3	00
Lard	"		3	00

APPENDIX No. 12.



4-5 GEORGE V.

CHAP. 22.

AN ACT TO REGULATE COLD STORAGE WAREHOUSES.

[Assented to 12th June, 1914.]

HIS Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as *The Cold Storage Warehouse Act*. Short title.
2. In this Act, unless the context otherwise requires,— Interpretation.
 - (a) "Minister" means "the Minister of Agriculture";
 - (b) "cold storage" means the storage of articles of food at or below a temperature of forty degrees Fahrenheit, in a cold storage warehouse;
 - (c) "cold storage warehouse" means an establishment in connection with which refrigerating machinery, or ice and salt, is used for the purpose of maintaining a temperature of forty degrees Fahrenheit, or below, and in which articles of food are stored for periods exceeding twenty-one days;
 - (d) "articles of food" means butter, eggs, fish, poultry and meats, except meat in process of manufacture or curing, and such other foods as may be designated by Order in Council.
3. The Governor in Council may make such regulations as he Regulations. deems necessary or expedient, to provide for a supervision of all cold storage warehouses.
4. Such regulations may provide,— Subjects of regulation.
 - (a) for the licensing of all cold storage warehouses;
 - (b) for the inspection of all cold storage warehouses;
 - (c) for a system of periodic and other reports by owners of cold storage warehouses showing the quantities in storage of the several articles of food;
 - (d) for limiting the several periods of time during which the respective articles of food may be held in cold storage;
 - (e) for the inspection of food products before they are placed in cold storage warehouses, while they are in such warehouse and when they are removed therefrom, and

(f) for labelling or marking food products or packages of food products when placed in cold storage warehouse and when removed therefrom for sale.

Inspectors
may be
appointed.

5. The Minister may appoint inspectors and other officers for carrying out the provisions of this Act and the regulations made thereunder.

When inspection
can be made.

6. Any inspector or other officer so appointed may enter any cold storage warehouse, for the purpose of making an inspection or obtaining such information as may be necessary for the proper enforcement of the Act or the regulations made thereunder. And the owner, manager, superintendent storeman and other employees of every such cold storage warehouse shall give such inspector or other officer every assistance and facility for making such inspection and shall give such full and correct information respecting the warehouse and its contents as may be required by the inspector or other officer.

Information
required by
inspecting
officer.

Exceptions.

7. The provisions of this Act shall not be construed as applying to refrigerated rooms in connection with hotels, restaurants, dining car services, retail shops, private houses, manufacturing establishments, other than packing houses, nor to refrigerator cars or steamships with refrigerated space.

Penalty.

8. Any person, firm or corporation who contravenes any provisions of this Act or any regulation made thereunder, shall be liable, upon summary conviction, to a fine not exceeding two hundred dollars or to imprisonment for a term of six months, or to both fine and imprisonment.

Publication
of regulations.

9. Every Order in Council and regulation made under this Act shall be published in *The Canada Gazette* and shall be laid by the Minister before Parliament within fifteen days after the commencement of the next session.

APPENDIX No. 13.



9-10 EDWARD VII.

CHAP. 9.

An Act to provide for the investigation of Combines, Monopolies, Trusts and Mergers.

[Assented to 4th May, 1910.]

HIS Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as *The Combines Investigation Act*. Short title.

INTERPRETATION.

2. In this Act, unless the context otherwise requires,— Definitions.

(a) "application" means an application to a judge for an order directing an investigation under the provisions of this Act; "Application."

(b) "Board" means a Board of Investigation established under the provisions of this Act; "Board."

(c) "combine" means any contract, agreement, arrangement or combination which has, or is designed to have, the effect of increasing or fixing the price or rental of any article of trade or commerce or the cost of the storage or transportation thereof, or of the restricting competition in or of controlling the production, manufacture, transportation, storage, sale or supply thereof, to the detriment of consumers or producers of such article of trade or commerce, and includes the acquisition, leasing or otherwise taking over, or obtaining by any person to the end aforesaid, of any control over or interest in the business, or any portion of the business, of any other person, and also includes what is known as a trust, monopoly or merger; "Combine."

(d) "Department" means the Department of Labour; "Department."

(e) "judge" means, in the province of Ontario, any judge of the High Court of Justice; in the province of Quebec, any judge of the Superior Court; in the provinces of Nova Scotia, New Brunswick, British Columbia, Prince Edward Island, Saskatchewan and Alberta, any judge of the Court of Queen's Bench; in the Northwest Territories, any judge of the Court of Queen's Bench; "Judge."

katchewan and Alberta, any judge of the Supreme Court; in the province of Manitoba, any judge of the Court of King's Bench, and in the Yukon territory, any judge of the Territorial Court;

- "Minister." (f) "Minister" means the Minister of Labour;
 "Order." (g) "order" means an order of a judge under the provisions of this Act;
 "Prescribed." (h) "prescribed" means prescribed by this Act, or by any rule or regulation made thereunder;
 "Registrar." (i) "Registrar" means the Registrar of Boards of Investigation appointed under this Act.

ADMINISTRATION.

Administration. 3. The Minister shall have the general administration of this Act.

Registrar of Boards. 4. The Governor in Council shall appoint a Registrar of Boards of Investigation, who shall have the powers and perform the duties prescribed.

Appointment and tenure of office. 2. The office of Registrar may be held either separately or in conjunction with any other office in the public service, and in the latter case the Registrar may, if the Governor in Council thinks fit, be appointed by reference to such other office, whereupon the person who for the time being holds such office or performs its duties shall, by virtue thereof and without thereby being entitled to any additional remuneration, be the Registrar.

ORDER FOR INVESTIGATION.

Order for investigation 5. Where six or more persons, British subjects resident in Canada and of full age, are of opinion that a combine exists, and that prices have been enhanced or competition restricted by reason of such combine, to the detriment of consumers or producers, such persons may make an application to a judge for an order directing an investigation into such alleged combine.

Application for order. 2. Such application shall be in writing addressed to the judge, and shall ask for an order directing an investigation into the alleged combine, and shall also ask the judge to fix a time and place for the hearing of the applicants or their representative.

Form of application 3. The application shall be accompanied by a statement setting forth,—

(a) the nature of the alleged combine and the persons believed to be concerned therein;

(b) the manner in which the alleged combine affects prices or restricts competition, and the extent to which the alleged combine is believed to operate to the detriment of consumers or producers;

(c) the names and addresses of the parties making the application and the name and address of one of their number or of some other person whom they authorize to act as their representative for the purposes of this Act and to receive communications and conduct negotiations on their behalf.

4. The application shall also be accompanied by a statutory declaration from each applicant declaring that the alleged combine operates to the detriment of the declarant as a consumer or producer, and that to the best of his knowledge and belief the combine alleged in the statement exists and that such combine is injurious to trade or has operated to the detriment of consumers or producers in the manner and to the extent described, and that it is in the public interest that an investigation should be had into such combine. Declaration of applicants.

6. Within thirty days after the judge receives the application he shall fix a time and place for hearing the applicants and shall send due notice, by registered letter, to the representative authorized by the statement to receive communications on behalf of the applicants. At such hearing the applicants may appear in person or by their representative or by counsel. Hearing of application.

7. If upon such hearing the judge is satisfied that there is reasonable ground for believing that a combine exists which is injurious to trade or which has operated to the detriment of consumers or producers, and that it is in the public interest that an investigation should be held, the judge shall direct an investigation under the provisions of this Act; or if not so satisfied, and the judge is of opinion that in the circumstances an adjournment should be ordered, the judge may adjourn such hearing until further evidence in support of the application is given, or he may refuse to make an order for an investigation. Order for investigation by judge.

2. The judge shall have all the powers vested in the court of which he is a judge to summon before him and enforce the attendance of witnesses, to administer oaths, and to require witnesses to give evidence on oath or on solemn affirmation (if they are persons entitled to affirm in civil matters), and to produce such books, papers or other documents or things as the judge deems requisite. Adjournment for further evidence.

8. The order of the judge directing an investigation shall be transmitted by him to the Registrar by registered letter, and shall be accompanied by the application, the statement, a certified copy of any evidence taken before the judge, and the statutory declarations. The order shall state the matters to be investigated, the names of the persons alleged to be concerned in the combine, and the names and addresses of one or more of their number with whom, in the opinion of the judge, the Minister should communicate in order to obtain the recommendation for the appointment of a person as a member of the Board as hereinafter provided. Powers of judge.

APPOINTMENT OF BOARDS.

- Appointment of Board.** 9. Upon receipt by the Registrar of the order directing an investigation the Minister shall forthwith proceed to appoint a Board.
- Constitution of Board.** 10. Every Board shall consist of three members, who shall be appointed by the Minister under his hand and seal of office.
- Members of Board.** 11. Of the three members of the Board one shall be appointed on the recommendation of the persons upon whose application the order has been granted, one on the recommendation of the persons named in the order as being concerned in the alleged combine, and the third on the recommendation of the two members so chosen.
- Recommendation of third member.** 12. The persons upon whose application the order has been granted and the persons named in the order as being concerned in the alleged combine, within seven days after being requested so to do by the Registrar, may each respectively recommend the name of a person who is willing and ready to act as a member of the Board, and the Minister shall appoint such persons members of the Board.
- Communications with representatives of parties.** 2. For the purpose of obtaining the recommendations referred to in subsection 1 of this section it shall be sufficient, as respects the applicants, for the Registrar to communicate with the representative mentioned in the statement as authorized to receive communications on their behalf, and as respects the persons concerned in the alleged combine it shall be sufficient for the Registrar to communicate with the persons named in the order, as the persons with whom the Minister should communicate for this purpose.
- When Minister may select members.** 3. If the parties, or either of them, fail or neglect to make any recommendation within the said period, or such extension thereof as the Minister, on cause shown, grants, the Minister shall, as soon thereafter as possible, select and appoint a fit person or persons to be a member or members of the Board.
- Recommendation and appointment of a judge as third member.** 4. The two members so appointed may, within seven days after their appointment, recommend the name of a judge of any court of record in Canada who is willing and ready to act as a third member of the Board, and the Minister shall appoint such judge as a member of the Board, and if they fail or neglect to make a recommendation within the said period, or such extension thereof as the Minister on cause shown grants, the Minister shall, as soon thereafter as possible, select and appoint a judge of any court of record in Canada to be the third member of the Board.
- Chairman.** 5. The third member of the Board shall be its chairman.
- Vacancies.** 6. A vacancy in the membership of a Board shall be filled in the same manner as an original appointment is made.

13. No person shall act as a member of the Board who is one of the applicants for the Board or who has any direct pecuniary interest in the alleged combine that is the subject of investigation by such Board, or who is not a British subject. Persons disqualified as members.

14. As soon as possible after all the members of the Board have been appointed by the Minister, the Registrar shall notify the parties of the names of the chairman and other members of the Board. Notice of personnel of Board.

15. Before entering upon the exercise of the functions of their office the members of the Board shall take the following oath:— Oath of office.

I,....., do solemnly swear,—

That I will truly, faithfully and impartially perform my duties as a member of the Board appointed to investigate.....

That I am a British subject.

That I have no direct pecuniary interest in the alleged combine that is to be the subject of investigation.

That I have not received nor will I accept either directly or indirectly any perquisite, gift, fee or gratuity from any person in any way interested in any matter or thing to be investigated by the Board.

That I am not immediately connected in business with any of the parties applying for this investigation, and am not acting in collusion with any person herein.

16. The Department may provide the Board with a stenographer and such clerical and other assistance as to the Minister appears necessary for the efficient carrying out of the provisions of this Act. The Department shall also repay any reasonable and proper disbursements made or authorized and certified by the judge who grants the order directing the investigation. Clerical assistance to Board. Disbursements.

17. Upon the appointment of the Board the Registrar shall forward to the chairman copies of the application, statement, evidence, if any, taken before the judge, and order for investigation, and the Board shall forthwith proceed to deal with the matters referred to therein. Commencement of investigation

INQUIRY AND REPORT.

18. The Board shall expeditiously, fully and carefully inquire into the matters referred to it and all matters affecting the merits thereof, including the question of whether or not the price or rental of any article concerned has been unreasonably enhanced, or competition in the supply thereof unduly restricted, in consequence of a combine, and shall make a full and detailed report thereon to the Minister, which report shall set forth the various proceedings and steps taken by the Board for the purpose of fully and carefully ascertaining all the facts and circumstances Inquiry. Report to Minister.

circumstances connected with the alleged combine, including such findings and recommendations as, in the opinion of the Board, are in accordance with the merits and requirements of the case.

Scope of investigation.

2. In deciding any question that may affect the scope or extent of the investigation, the Board shall consider what is required to make the investigation as thorough and complete as the public interest demands.

Report of Board.

19. The Board's report shall be in writing, and shall be signed by at least two of the members of the Board. The report shall be transmitted by the chairman to the Registrar, together with the evidence taken at such investigation certified by the chairman, and any documents and papers remaining in the custody of the Board. A minority report may be made and transmitted to the Registrar by any dissenting member of the Board.

Minority report.

Publication of reports.

20. Upon receipt of the Board's report and of the minority report, if any, a copy thereof shall be sent free of charge to the parties and to the representative of any newspaper in Canada who applies therefor, and the report and minority report, if any, shall also be published without delay in *The Canada Gazette*. The Minister may distribute copies of the report, and of any minority report, in such manner as to him seems most desirable, as a means of securing a compliance with the Board's recommendations. The Registrar shall, upon payment of such fees as may be prescribed, supply a certified copy of any report or minority report to any person applying for it.

Distribution of copies.

Fee for certified copies.

Reduction of Customs duties to secure reasonable competition

21. Whenever, from or as a result of an investigation under the provisions of this Act, or from or as a result of a judgment of the Supreme Court or Exchequer Court of Canada or of any superior court, or circuit, district or county court in Canada, it appears to the satisfaction of the Governor in Council that with regard to any article there exists any combine to promote unduly the advantage of the manufacturers or dealers at the expense of the consumers, and if it appears to the Governor in Council that such disadvantage to the consumer is facilitated by the duties of customs imposed on the article, or on any like article, the Governor in Council may direct either that such article be admitted into Canada free of duty or that the duty thereon be reduced to such amount or rate as will, in the opinion of the Governor in Council, give the public the benefit of reasonable competition.

Revocation of patent in certain cases.

22. In case the owner or holder of any patent issued under *The Patent Act* has made use of the exclusive rights and privileges which, as such owner or holder he controls, so as unduly to limit the facilities for transporting, producing, manufacturing, supplying, storing or dealing in any article which may be a subject of trade

trade or commerce, or so as to restrain or injure trade or commerce in relation to any such article, or unduly to prevent, limit or lessen the manufacture or production of any article or unreasonably to enhance the price thereof, or unduly to prevent or lessen competition in the production, manufacture, purchase, barter, sale, transportation, storage or supply of any article, such patent shall be liable to be revoked. And, if a Board reports that a patent has been so made use of, the Minister of Justice may exhibit an information in the Exchequer Court of Canada praying for a judgment revoking such patent, and the court shall thereupon have jurisdiction to hear and decide the matter and to give judgment revoking the patent or otherwise as the evidence before the court may require.

Jurisdiction
of Exchequer
Court.

23. Any person reported by a Board to have been guilty of unduly limiting the facilities for transporting, producing, manufacturing, supplying, storing or dealing in any article which may be a subject of trade or commerce; or of restraining or injuring trade or commerce in relation to any such article; or of unduly preventing, limiting or lessening the manufacture or production of any such article; or of unreasonably enhancing the price thereof; or of unduly preventing or lessening competition in the production, manufacture, purchase, barter, sale, transportation, storage or supply of any such article, and who thereafter continues so to offend, is guilty of an indictable offence and shall be liable to a penalty not exceeding one thousand dollars and costs for each day after the expiration of ten days, or such further extension of time as in the opinion of the Board may be necessary, from the date of the publication of the report of the Board in *The Canada Gazette* during which such person so continues to offend.

Combines
restricting
manufacture,
trade or
competition.

Penalty.

SITTINGS OF BOARD.

24. The sittings of the Board shall be held at such times and places as are fixed by the chairman, after consultation with the other members of the Board, and the parties shall be notified by the chairman as to the times and places at which sittings are to be held: Provided that, so far as practicable, the Board shall sit in the locality within which the subject-matter of the proceedings before it arose.

Sittings of
Board.

25. The proceedings of the Board shall be conducted in public, but the Board may order that any portion of the proceedings shall be conducted in private.

Proceedings.

26. The decision of any two of the members present at a sitting of the Board shall be the decision of the Board.

Decisions

27. The presence of the chairman and at least one other member of the Board shall be necessary to constitute a sitting of the Board.

Quorum.

Absence of member. **28.** In case of the absence of any one member from a meeting of the Board the other two members shall not proceed, unless it is shown that the absent member has been notified of the meeting in ample time to admit of his attendance.

Appearance of parties. **29.** Any party to an investigation may appear before the Board in person or may be represented by any other person or persons, or, with the consent of the Board, may be represented by counsel.

When counsel appointed by Minister. **30.** Whenever in the opinion of the Minister the public interest so requires, the Minister may apply to the Minister of Justice to instruct counsel to conduct the investigation before a Board, and upon such application the Minister of Justice may instruct counsel accordingly. The fees and expenses allowed to such counsel by the Minister of Justice shall be paid out of such appropriations as are made by Parliament to provide for the cost of administering this Act.

Fees.

Contempt of Board. **31.** If, in any proceedings before the Board, any person wilfully insults any member of the Board, or wilfully interrupts the proceedings, or without good cause refuses to give evidence, or is guilty in any other manner of any wilful contempt in the face of the Board, any officer of the Board or any constable may take the person offending into custody and remove him from the precincts of the Board, to be detained in custody until the conclusion of that day's sitting of the Board, and the person so offending shall be liable, upon summary conviction, to a penalty not exceeding one hundred dollars.

Penalty.

WITNESSES AND EVIDENCE.

Witnesses and evidence. **32.** For the purposes of an investigation the Board shall have all powers which are vested in any court of record in civil cases for the following purposes, namely: the summoning of witnesses before it, and enforcing their attendance from any part of Canada, of administering oaths, and of requiring witnesses to give evidence on oath or on solemn affirmation (if they are persons entitled to affirm in civil matters) and to produce such books, papers or other documents or things as the Board deems requisite to the full investigation of the matters into which it is inquiring.

Oath. 2. Any member of the Board may administer an oath.

Signature of chairman. 3. Summonses to witnesses and all other orders, process and proceedings shall be signed by the chairman.

Inspection of documents. **33.** All books, papers and other documents or things produced before the Board, whether voluntarily or in pursuance of summons, may be inspected by the Board, and also by such parties as the Board allows.

34. Any party to the proceedings shall be competent and may be compelled to give evidence as a witness. Parties as witnesses.

35. Every person who is summoned and duly attends as a witness shall be entitled to an allowance for attendance and travelling expenses according to the scale in force with respect to witnesses in civil suits in the superior courts of the province in which the inquiry is being conducted. Expenses of witnesses.

36. If any person who has been duly served with a summons and to whom at the time of service payment or tender has been made of his reasonable travelling expenses according to the aforesaid scale, fails to attend or to produce any book, paper or other document or thing as required by his summons, he shall, unless he shows that there was good and sufficient cause for such failure, be guilty of an offence and liable upon summary conviction to a penalty not exceeding one hundred dollars. Failure of witness to attend or to produce documents.
Penalty.

37. The Board may, with the consent of the Minister, employ competent experts to examine books or official reports, and to advise it upon any technical or other matter material to the investigation, but the information obtained therefrom shall not, except in so far as the Board deems it expedient, be made public, and such parts of the books, papers or other documents as in the opinion of the Board are not material to the investigation may be sealed up. Experts.

REMUNERATION AND EXPENSES OF BOARD.

38. The members of a Board shall be remunerated for their services as follows:— Remuneration of Board.

- (a) To the two members first appointed an allowance of five dollars each per day for a time not exceeding three days during which they may be actually engaged in selecting the third member of the Board.
- (b) To each member an allowance at the rate of twenty dollars for each day's sitting of the Board.

39. Each member of the Board shall be entitled to his actual and necessary travelling expenses and an allowance of ten dollars per day for each day that he is engaged in travelling from or to his place of residence for the purpose of attending or after having attended a meeting of the Board. Travelling expenses.

40. No member of the Board shall accept in addition to his travelling expenses and allowances as a member of the Board any perquisite, gift, fee or gratuity of any kind from any person in any way interested in any matter or thing that is being investigated by the Board. The acceptance of any such perquisite, gift, Acceptance of gratuity prohibited.

Penalty. gift, fee or gratuity by any member of the Board shall be an offence, and shall render such member liable upon summary conviction to a fine not exceeding one thousand dollars, and he shall thereafter be disqualified to act as a member of any Board.

Vouchers for expenses.

41. All expenses of the Board, including expenses for transportation incurred by the members thereof or by persons under its order in making investigations under this Act, salaries of employees and agents, and fees and travelling expenses of witnesses, shall be allowed and paid upon the presentation of itemized vouchers therefor, approved and certified by the chairman of the Board, which vouchers shall be forwarded by the chairman to the Registrar. The chairman shall also forward to the Registrar a certified and detailed statement of the sittings of the Board, and of the members present at each of such sittings.

Detailed statement of sittings.

MISCELLANEOUS.

Technical irregularities.

42. No proceedings under this Act shall be deemed invalid by reason of any defect of form or any technical irregularity.

Evidence of report.

43. Evidence of a report of a Board may be given in any court by the production of a copy of *The Canada Gazette* purporting to contain a copy of such report, or by the production of a copy of the report purporting to be certified by the Registrar to be a true copy.

Allowances determined by Minister.

44. The Minister shall determine the allowance or amounts to be paid to all persons, other than the members of a Board, employed by the Government or any Board, including the secretaries, clerks, experts, stenographers or other persons performing any services under the provisions of this Act.

Regulations by Governor in Council.

45. The Governor in Council may make such regulations, not inconsistent with this Act, as to him seem necessary for carrying out the provisions of this Act and for the efficient administration thereof.

Publication.

2. Such regulations shall be published in *The Canada Gazette*, and upon being so published they shall have the same force as if they formed part of this Act.

To be laid before Parliament.

3. The regulations shall be laid before both Houses of Parliament within fifteen days after such publication if Parliament is then sitting, and if Parliament is not then sitting then within fifteen days after the opening of the next session thereof.

Annual report to Parliament.

46. The Minister shall lay before Parliament, within the first fifteen days of the then next session, an annual report of the proceedings under this Act.

1907, c. 11 amended.

47. Subsection 1 of section 12 of *The Customs Tariff, 1907*, is repealed.

48. This Act shall not be construed to repeal, amend or in R.S., c. 125. any way affect *The Trade Unions Act*, chapter 125 of the Revised Statutes, 1906.

SCHEDULE.

FORM 1.

APPLICATION FOR ORDER DIRECTING AN INVESTIGATION.

"The Combines Investigation Act."

(Section 5.)

Dated at this day of, 19..

IN THE MATTER of an alleged combine [*here state shortly the nature of the combine*].

To the Honourable [*here insert the name of the judge*], a Judge [*or, Chief Justice as the case may be*] of the [*here insert the title of the court*].

The undersigned are of opinion that a combine exists [*here state shortly the nature of the alleged combine*] and that prices have been enhanced [*or, competition has been restricted by such combine, as the case may be*] to the detriment of consumers [*or, producers, as the case may be*].

The undersigned therefore apply for an order under "The Combines Investigation Act" directing an investigation into such alleged combine.

[*Here state—*

(a) *the nature of the alleged combine and the persons believed to be concerned therein; and,*

(b) *the manner in which the alleged combine affects prices or restricts competition, and the extent to which the alleged combine is believed to operate to the detriment of consumers or producers, as the case may be.*]

STATEMENT ACCOMPANYING APPLICATION FOR ORDER.

Dated at this day of, 19..

The undersigned hereby authorize of [*give name and place of residence*] to act as our representative for the purposes of "The Combines Investigation Act," and to receive communications and conduct negotiations on our behalf.

The

BOARD OF INQUIRY INTO

The names and addresses of the persons applying for the aforesaid order are as follows.—

Names.	Addresses.

STATUTORY DECLARATION ACCOMPANYING APPLICATION FOR ORDER.*

CANADA: }
 Province of }
 To Wit. }

I,, of the.....of.....
 in the.....of.....
 do solemnly declare:—

1. That the alleged combine operates to my detriment as a consumer [or, producer, as the case may be].
2. That to the best of my knowledge and belief the combine alleged in the foregoing statement exists and that such combine is injurious to trade [or, has operated to the detriment of consumers, or, producers, as the case may be] in the manner and to the extent described.
3. That it is in the public interest that an investigation should be had into such combine.

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath, and by virtue of The Canada Evidence Act.

Declared before me at.....in the county of
this.....day of.....19..

FORM 2.

ORDER DIRECTING INVESTIGATION.

“The Combines Investigation Act.”

(Section 7.)

IN THE MATTER of the application of [here insert the names of applicants], dated the.....day of.....19..

*A declaration as above must be made by each applicant.

for

for an order directing an investigation under "The Combines Investigation Act" into an alleged combine [*here state shortly the nature of the combine*].

I, the Honourable,
 a Judge [*or, Chief Justice, as the case may be*] of [*here insert the name of court*] after having read the application of [*names of applicants*], dated the.....day of..... 19...,
 the statement and statutory declarations accompanying the same and the evidence produced by the said applicants, am satisfied that there is reasonable ground for believing that a combine exists [*here describe nature of combine*] which is injurious to trade [*or, which has operated to the detriment of consumers, or, producers, as the case may be*], and that it is in the public interest that an investigation should be held, and I do therefore direct that an investigation be held, under the provisions of the said Act into the following matters, that is to say: [*here set out the matters to be investigated.*]

The names of the persons alleged to be concerned in the alleged combine are [*here insert names and addresses*] and I am of opinion that the Minister of Labour should communicate with [*here insert the name or names with, in each case, the address*] in order to obtain the recommendation for the appointment of a person as a member of the Board of Investigation on behalf of those concerned in the said alleged combine.

Dated at.....this.....day of..... 19..

APPENDIX No. 14.

MEMORANDUM BY MR. WAY.

INLAND REVENUE—CANADA.

WEIGHTS AND MEASURES STANDARDS BRANCH.

CHIEF INSPECTOR'S OFFICE,

OTTAWA, January 21, 1914.

To the Commission on High Cost of Living.

The Weights and Measures Law of Canada and the Weights and Measures Inspection Service are exclusively concerned with the accuracy and inspection of all weights, measures and weighing machines used in trade, and have no jurisdiction over the accuracy of the "weight" and "measure" delivered—or what may better be termed dishonest short weight and measure.

The above is clearly apparent by reference to section 30 of the Act, where a distinction is made between a measure and a container, vessel or package.

The position taken in the past is that dishonest weight is common fraud, the public being entitled to protect themselves under the common law.

The result is the Weights and Measures Inspection Service affords no protection to the public other than to see that the apparatus used in trade pass a periodical biennial—in some cases, annual inspection.

The apathy and reluctance of the public, and the dependence of the retailer upon the few wholesale supply houses, failing responsible Government supervision over quantitative weight, opens the door to many questionable practices that undoubtedly have some bearing on the high cost of living.

The chief factor contributing to the high cost as regards retail trade and weights and measures, is the increase of packed goods—in which regard the absence of the Government supervision is most apparent. Soda biscuits for instance are sold by the package—on which is printed "not sold by weight." A customer asks for one pound, and is given a package—the aforesaid labelling protecting the trader from all prosecution. Butter is sold by the pound, but never weighed, and the quantity delivered is not represented as being sold as one pound, the entry on the bill being "1—Creamery—35c."

Consider the vast quantities of Prepared Breakfast Food, all of which is sold by the "package," without any reference to weight or protection therefrom.

Your attention is drawn to extracts from American laws appended hereto that meet such conditions, and which according to articles in "The annals" have had a great bearing on the cost of living.

An important contributory factor to high cost is the general introduction of automatic computing weighing machines. These machines indicate simultaneously with the weight, the cost of the article weighed—the result is money-weight. For example a "roast" is called for, placed on the scale, and the price at once is called \$1.35—no weight is mentioned. The action is so swift that although the weight is indicated on all such machines on the public side, the latter are unable to reckon the value. In this year's Weights and Measures amendments provision is made for the inspection of these computing charts, but the lack of Government inspection of "weights delivered" again leaves a clear road to fraud, because the bill of sale reads "Beef Roast—\$1.35." If the meat is 22 cents a pound and the customer weighs the

meat at home and finds an excess charge is made, action cannot be taken even under the common law because the "weight" is *not* given on the bill, and the "roast," not the "quantity," is sold and delivered for \$1.35.

With Government "weight" and "measure" inspection and supervision, a few test cases in a city, and one or two prosecutions, the public would get what they pay for.

In connection with the preceding and with the questionable practice, so prevalent, of selling such large collective articles as potatoes, apples, etc., by measure, I strongly advocate an amendment to the Weights and Measures Act, to the following effect: "All commodities, other than liquids, shall be sold by weight." (This would also control packages.)

I am unable to quote any law enacting same, the nearest being the New York State law, which only specifies *certain* commodities that must be so sold.

Expenditure and Costs.—The expenditure for the Weights and Measures Inspection Service for the last year was \$131,344.17—of which \$100,696.52 was collected in fees. This is for the present periodical duties of inspection and stamping.

The introduction of Short Weight Inspection duties would necessarily greatly increase the number of officers and expenditures, and become a Government obligation.

It is most desirable, in my opinion, to emphasize that the Weights and Measures Inspection Service should be administered as a protective service only—not in any way as revenue producing.

Nevertheless, fees must be largely perpetuated to prevent indiscriminate and paralysing demands for inspection. Canada is of vast territory, and it would only seem necessary to have short weight supervision in the large cities, requiring but a few additional officers, but of high qualifications.

It might not be inadvisable to mention that this same question has been agitated in England for several years, but the Imperial Government do not seem disposed to act, for in March, 1911, the President of the Board of Trade, replying to a question in the House, said: "The whole question of short weight and measure has been under the consideration of the Board of Trade for some time past, and inquiries were still being pursued. The question was by no means free from difficulty, and he was not at present able to say what the result of the inquiries would be"—and nothing has yet been done.

Cheese Commission Report.—This report, in my opinion, has very little bearing on the cost of living—but will serve to emphasize the vital need of efficient weights and measures inspection—since the same is the fundamental of household economy, and is inseparably associated with the daily life of every man, woman and child.

I would refer you to the paragraphs marked on pp. 8, 10, 14, 15.

Milk Bottles.—The records of the Standards Branch show many tests on milk bottles—all of which were found short with the exception of some from Winnipeg which were found 3.3 per cent too large. The shortages reported are:—

Bottles from Montreal, 1909—

1 quart-bottle—8½ drams short—1.25 per cent short.

2 1-pint bottles—6 drams short—2 per cent (approximately).

From Ottawa, 1909—

Quart-bottles—¼ ounce short—1.25 per cent short.

Pint bottles—¼ ounce short—1.25 per cent short.

From Toronto, 1910—

1 ¼-pint bottle, 5 per cent short.

(One of 2-gross.)

From Woodstock, 1911—

2 pint-bottles—3 ounces short—15 per cent short (wine measure).

From Toronto, 1912—

1 pint-bottle (sample)— $3\frac{1}{4}$ per cent short (This resulted in exportation of 16,000 bottles.)

From the above it will be noted shortages average between $1\frac{1}{2}$ and 3 per cent.

The results of Inspection.—According to a letter on file from The Diamond Flint Glass Co., of Toronto, March, 1911, they evidently figure on there being 10 per cent of culls if bottles are inspected.

This will raise the price per gross. If a fee of 50 cents per gross is charged for inspection—since it would be contrary to present weights and measures regulations to exempt them from an inspection fee—this would also advance prices.

The Ottawa Dairy are on record as using 750 gross per annum—which at above fee would mean an additional expenditure of \$375 per annum.

Added to which the life of a bottle upon the statement of the same company is only about six months.

Mr. Fyfe, my predecessor, gave this question considerable attention in 1910—amongst other things, there is a statement on file that the bottle manufacturers would have little cause for complaint if the toleration of error for pints and quarts were fixed at 14 and 20 drams.

That is, such bottles should be allowed a toleration: Pints of $4\frac{1}{4}$ per cent approx.; quarts of 3 per cent approx.

This would defeat inspection—whilst a more rigid accuracy would send up prices.

Government inspection or supervision is, in my judgment, an obligation under the Weights and Measures Act—but there is a doubt whether the possible advance in the price of milk to meet the charges of increased accuracy, would not outweigh the average shortage under the present non-inspection system.

Concluding—the chief relation between weights and measures inspection and the cost of living is, that after an instrument has been inspected and stamped, a trader can deliver short weight or measure without hindrance from any Government official—upon packed and canned goods, there is no protection, and against dishonest pilfering in retail there is only ineffective recourse to common law.

Attached please find extracts from U.S.A. Laws *re* packet goods, etc.

Yours truly,

(Signed) E. O. WAY,
Chief Inspector.

EXTRACTS FROM OTHER LAWS *re* WEIGHTS AND MEASURES STATE OF NEW YORK.

Milk Bottles.—“Bottles and jars used for the sale of milk or cream shall have clearly blown (or moulded) or otherwise permanently marked, in the sides or bottom of the bottle, the name, initials, or trademark of the manufacturer and a designating number.” (the latter being furnished by the State Department).

“Any manufacturer who sells milk and cream bottles.that do not comply as to size, marking, etc., with the provisions of.shall suffer a penalty of \$500.”

“Any dealer who knowingly uses for the purpose of selling milk or cream, jars or bottles.that do not comply.shall be deemed guilty of giving false or insufficient measure.”

NOTE: Practically the same provisions hold good in Massachusetts, Wisconsin, Minnesota, Detroit, and other states and cities.

Packages, etc.—New York State.—“When commodities are sold or offered for sale in containers.whose size is not otherwise provided for by statute, the net quantity of the contents.or a statement that the specified weight *includes* the container,

the weight of which shall be marked, shall be plainly and conspicuously marked, branded or otherwise indicated on the outside, etc....."

"A 'Container' shall include any carton, box, crate, barrel, half-barrel, hamper, keg, drum, jug, jar, crock, bottle, bag, basket, pail, can, wrapper, parcel or package."

Method of Sale—New York State.—"All meat, meat products and butter, shall be sold or offered for sale by weight, all other commodities not in containers, shall be sold or offered for sale by standard weight, measure or numerical count, and such weight, measure or count shall be marked on a label or tag attached thereto; provided, however, that vegetables may be sold by the head or bunch."

Another important clause comes from the Massachusetts law.

Short Weight.—"Whoever, himself or by his servant or agent.....gives or attempts to give *false* or *insufficient weight* or measure shall for the first offence be punished, etc....."

This is necessarily a corollary to an inspection of weighing.

Personally I am disposed to prefer the suggestions of the Incorporated Society of Inspection of Weights and Measures of England in the matter of sales—the principal two being (1) All goods offered for sale by retail in packages which have previously been made up and set aside with a view to sale, shall be sold by weight and not by price only without any reference to weight.

(2) That of all packages which are not equal in weight (net weight) to any one of the Board of Trade Standards of Avoirdupois, shall have the represented net weight clearly marked on the outside.

NOTE: Advocacy of this clause is based upon the possible saving in marking or printing all packages, wrappers or labels with weight values—any package not marked would be assumed by the inspecting officers to be a $\frac{1}{4}$ -pound, $\frac{1}{2}$ -pound, $\frac{3}{4}$ -pound, 1 pound, etc. It would also assist in eliminating odd and irregular weights in net contents.

A precedent to the above can be found in the Provincial Bread Act, administered by municipal officers.

(Initialed) E. O. W.

APPENDIX No. 15.

MEMORANDUM.—Adulteration and Inspection of Food Stuffs.

Of the many directions in which existing laws seek to make selfishness impotent and to disject ignorance, my personal experience for thirty years past has been confined to that which deals with foods, drugs and agricultural fertilizers. Fraud in manufacture and sale is not peculiar to the classes of articles named; but, from the fact that food is in universal demand, its manufacture and sale offer tempting facility to fraud. To substitute, in whole or in part, an article of low value for one of high value is an irresistible temptation to the selfish manufacturer and vendor; and where the ignorance of the consumer makes it impossible for him to distinguish between the genuine and the surrogate, he is sure to become the prey of imposture. New discoveries in material and in processes of manufacture have made, and continue to make, it more and more possible to imitate recognized and well known foods, and thus to defraud the unwary purchaser. Recognizing this fact, Canada, in common with all other civilized countries, has enacted laws which are designed to protect the public in the matter described. Our Food Act is known as the Adulteration Act, and, in its original form dates from 1876. Since first being placed in our statute book it has been considerably modified, conformably to experience gained. Even as now written it is by no means perfect, although statistics in my possession prove beyond question that a great change for the better has taken place in our foods since 1876. Perhaps the greatest difficulty found in making the Act effective from the first was the vagueness attaching to the use of names of the various foods in ordinary use. Every one thinks he knows the meaning of such terms as flour, sugar, milk, cheese, etc., but when a case involving the definition of these terms comes before the courts, it by no means follows that the matter is as simple as it looks. A large part of the work done under the Adulteration Act has consisted of studies made with a view to legally defining foods. In consequence of progress made in this direction we find it comparatively easy to declare adulteration where it exists, and to secure judgment. It by no means follows that some changes in definition may not yet be justifiable. I might illustrate this in the case of butter. Following English precedent, we have ruled that not more than 16 per cent of water may be present in legal butter. I am convinced that this limit is still too wide. Country butter of good quality seldom contains more than 9 or 10 per cent of water; and we have ample records to prove that butter as known to our mothers seldom contained more than 10 per cent of water. It is sufficiently evident that, to buy water at the present price of butter is a bad investment. Butter-making is now in the hands of factories, some of these being of very large capacity. It is to their manifest advantage to retain the largest amount of water in their product that the law allows. Hence we seldom find so-called creamery made butter with less than 15 or 16 per cent of water. It has been found possible to cause butter to retain as much as 30 per cent of water, and several samples recently in our hands actually contained this amount. Of course these cases will be prosecuted; but their occurrence indicates how necessary it is that the public should be protected by law.

Perhaps the most important improvement in the food law now apparent is such a change in the *modus operandi* as shall make it apply to importations of foodstuffs into Canada. I have knowledge of shipments of adulterants for pepper and other spices having no food value, being delivered at Halifax. These adulterants we found in samples of pepper bought at retail in many widely separated towns in Canada;

and it goes without saying that the whole shipment found its way into commerce. Had we been able to stop this shipment at the port of entry and to refuse its admittance into the country, just so much money as was paid for it by defrauded consumers would have been saved to them. I am endeavouring to secure such a change in administration of the Act as shall meet cases of the kind. It is certain that the cost of living is increased unnecessarily by every case of fraud. The man who pays the price of legal butter for an article containing 30 per cent of water when the price of butter is 30 cents a pound is paying 5 cents too much on each pound he buys. Otherwise expressed this means that on the assumption that the butter he buys is needed for nutriment, then, in order to obtain necessary nutriment he must purchase 6 pounds in order to get the nourishment that should have been found in 5 pounds of legal butter; and the cost of living, so far as this item is concerned, is increased 20 per cent. Articles which I have noted as particularly subject to adulteration of the kind referred to, and which might equally well have been used to illustrate the subject are: Baking powders, catsups and other sauces; coffee; condensed milk; cream of tartar; flavouring extracts of many kinds; honey; ice cream; jams and jellies; lard; lime juice; maple sugar and syrup; milk; olive oil; vinegar.

Cattle foods (bran, shorts, etc.) are necessarily inspected from time to time, in order to check known tendencies to fraud in these articles. Fertilizers, insecticides and many drugs have been shown to lend themselves to sophistication, and to require frequent inspection.

(Signed)

A. MCGILL.

January 30, 1914.

APPENDIX No. 16.

MEAT INSPECTION IN CANADA.

Memorandum for the Veterinary Director General—Prepared by James Audley.

SUMMARY.

(1) *Number of Establishments and totals of animals slaughtered each year from start of meat inspection. Per cent of increase over last year also shown.*

(2) *Hog Killings of Canada, Denmark and Ireland. Irish live stock exports. Sheep stock of Canada and New Zealand.*

(3) *Condemnations on cattle and swine, year ending March, 1913, showing per cent for tuberculosis, also an estimate of monetary loss on hogs.*

(4) *Live Stock Receipts at Toronto, Montreal and Winnipeg, year ending December, 1913. Note heavy calf receipts Montreal.*

(5) *Provincial Killings and per cent of total slaughter eight months ending November 30, 1913.*

I would draw your attention to the enormous export of cattle to the United States for the past eight months and which total up 185,201.

Toronto market is now about the highest on the continent, \$9 being paid for cattle on that market in the past few days.

The imports of sheep for immediate consumption being 162,422; besides this importation of live animals there is a lot of Australian and New Zealand mutton coming to British Columbia and western Canada and also beef from Australia.

Owing to the heavy hog killings out west, eastern establishments are drawing a lot of hog products from as far west as Vancouver, and a lot of bacon, etc., is being shipped to the United States from western establishments.

I might say that of total cattle slaughtered, calves represent about 23 per cent.

JAMES AUDLEY.

Janury, 1914.

Live stock slaughtered in Canada at inspected establishments:—

	No. Establishments.	Cattle.	Sheep.	Swine.
7 months ending March 31, 1908.....	28	131,660	86,049	861,989
Year ending March 31, 1909.....	32	298,241	191,792	1,532,796
Year ending March 31, 1910.....	30	384,789	257,049	1,261,496
Year ending March 31, 1911.....	32	411,308	329,017	1,452,237
Year ending March 31, 1912.....	32	408,401	376,437	1,852,997
Year ending March 31, 1913.....	32	450,390	455,647	1,617,741
Year ending March 31, 1914 (estimated).....	34	546,000	491,000	1,646,000
April 1 to November 30, shows increase of over previous year.....		29.76%	9.00%	3.75%

Irish and Danish hog killings compared with Canadian, eleven months ending November 30, 1913:—

*Ireland.....	1,099,091
*Denmark.....	2,011,350
Canada.....	1,405,582

*Almost all of which is exported to England in the shape of bacon.

Ireland exported same period live animals:—

Cattle.....	1,050,718
Sheep.....	637,712
Swine.....	162,556

SHEEP.

Canada compared with New Zealand:—

	Canada.	New Zealand.
Census, 1913.....	2,141,000	23,996,000

Year ending March, 1913, Canada imported 229,743 sheep from United States for slaughter. New Zealand exports yearly about 5,000,000 carcasses of lamb and mutton.

Last November Swift & Co., Chicago, were reported to be freezing 25,000 sheep to supply their Winnipeg trade.

P. Burns, Calgary, states that 75 per cent of all sheep killed in his Calgary plant were from Montana, U.S.A.

Condemnations on cattle and swine year ending March 31, 1913:—

CATTLE.

	Number of Carcasses.	Number of Condemnations.	Per cent Condemnations.
Killed carcasses.....	450,930		
Condemned for tuberculosis.....		2,080	55 p.c.
" other causes.....		1,700	45 p.c.
Total condemnations.....		3,780	100 p.c.
Portions—			
Condemned for tuberculosis.....		16,691	15.50 p.c.
" other causes.....		91,256	84.50 p.c.
Total condemnations.....		107,947	100 p.c.

SWINE.

	Number of Carcasses.	Number of Condemnations.	Per cent Condemnations.
Killed carcasses.....	1,607,741		
Condemned for tuberculosis.....		2,155	70 p.c.
" other causes.....		938	30 p.c.
Total condemnations.....		3,093	100 p.c.
Portions—			
Condemned for tuberculosis.....		382,184	83 p.c.
" other causes.....		49,000	12 p.c.
Total condemnations.....		431,184	100 p.c.

The monetary loss on above is very difficult to arrive at.

One house in Toronto showed their loss on hogs to be around 5 cents per hog killed.

Another house situated in a district where the percentage of tubercular affected animals is very high gave their loss at 10 cents per hog killed.

The losses in Western Canada while not as high as Ontario and Quebec for tubercular affection, is high for other causes, and a conservative estimate would be, I think about 5 cents per hog killed, which would amount to about \$80,000.

No statistics available of losses on cattle.

Live stock receipts at sale yards in Toronto, Montreal and Winnipeg year ending December 31, 1913:—

TORONTO.

Cattle.	Sheep.	Swine.	Calves.
367,977	174,776	346,367	53,854

The calf receipts are equal to 12½ per cent of all bovine animals or 1 to 7.

MONTREAL.

Cattle.	Sheep.	Swine.	Calves.
198,337	146,947	193,445	117,854

The calf receipts are equal to 37 per cent of all bovine animals or 1 to 1⅞.

WINNIPEG.

Cattle.	Sheep.	Swine.	Calves.
78,228	53,748	173,640	6,310

The calf receipts are equal to 7½ per cent of all bovine animals or 1 to 13.

You will note the very heavy receipts of calves at Montreal almost equal to the cattle receipts but this does not begin to represent the thousands that are disposed of otherwise and goes a long way to help the shortage of the present and coming years.

Provincial killings for April 1 to November 30, 1913, and percentage of total slaughter:—

	Cattle.	Sheep.	Swine.
Ontario...	155,774	128,473	594,966
	37%	30½%	54%
Quebec...	164,085	138,466	214,711
	39%	33%	20%
Manitoba...	46,102	43,782	110,080
	11%	10%	10%
Alberta...	29,972	50,604	104,235
	7%	12%	9½%
Saskatchewan...	4,404	5,081	18,148
	1%	1½%	1½%
British Columbia...	16,700	32,273	50,785
	4%	8%	4½%
Prince Edward Island and Maritime..	1,474	20,478	8,466
	0.30%	5%	0.75%
Total..	418,511	419,155	1,101,391

EXTRACT from the Nor-West Farmer, January 20, 1913.

Cattle receipts at the Winnipeg stock yards for the past five years, with the average estimated prices per year, are as follows: In 1912, 101,044; 1911, 102,726; 1910, 190,517; 1909, 169,458; 1908, 170,088; at \$5.48½; \$4.64½; \$4.55½; \$3.76½, and \$3.53 per cwt., respectively. It is interesting to note that the highest prices each year have been in the month of July. It is also interesting to know that last year's average price is almost one dollar per cwt. higher than in 1911, and practically two dollars higher than in 1909. In spite of the falling off of 70,000 head since 1909, the total value of the cattle last year was \$193,870 more than it was three years ago.

Total value cattle for 1912.. . . .	\$7,517,670
Total value cattle for 1911.. . . .	6,448,269
Total value cattle for 1910.. . . .	9,568,611
Total value cattle for 1909.. . . .	7,323,800

APPENDIX No. 17.

Ottawa Journal, April 25, 1914.

AVERAGE FAMILY PAYS \$30 PER ANNUM AS RESULT OF FIRES IN THE UNITED STATES AND CANADA.—FIRE WASTE, THROUGH INSURANCE TOUCHES THE POCKET OF EVERY MAN, WOMAN AND CHILD IN THE NATION—GREATER CARE ADVOCATED.

By E. ANDREW.

The following extracts from the stirring address of Mr. Franklin H. Wentworth, Secretary of the National Fire Protection Association, to the members of the Canadian Manufacturers' Association at Toronto, shows the great ravages of fire, how it effects every person in America and contains excellent suggestions for fire prevention and reducing fire hazard and insurance rates.

The awakening of a people to any great economic fact concerning their public or private welfare is always a matter of profound importance. The recognition by the people of the economic significance of the fire waste has been retarded both in the United States and Canada by an attitude of mind, bred by residence in a country of apparently boundless natural resources.

The Dominion of Canada has suffered frightfully in the matter of its standing timber.

A perforated water-pipe has evolved the automatic sprinkler, the best fire-fighting engine yet devised, and ten thousand reports of fires on the National Association records fail to show where sprinkler systems have failed to hold the blaze in check or extinguish it, unless there was something abnormal about the fire or some fault in the equipment or in the water supply. About eighty per cent of all these ten thousand fires on record occurring in properties equipped with automatic sprinklers were extinguished by the operation of ten sprinkler heads or less.

As the automatic sprinkler came into use the insurance companies began to grant liberal reductions for their installation.

It is obvious that insurance rates cannot be reduced irrespective of the loss ratio without forcing insurance companies who mean honestly to pay their losses, to retire. Capital invested in underwriting is not so irrevocably fixed as capital invested in public service corporations using public property or rights of way. Such investments can be controlled easily by the State, but capital invested in underwriting can easily seek other channels and withdraw when undesirable burdens are placed upon the companies, thus leaving the business world without the desired indemnity.

Every one pays.—Our waste of \$3 per capita per annum means that every man, woman and child in America pays three dollars per year for fire waste.

That means that the man with the average family, his wife and three children, a family of five, pays \$15 per year fire tax. The United States Government in its report adds to this fire waste the cost of maintenance of fire departments, which is as much more. This means thirty dollars per year for the average family.

Now, if on some blue Monday in every year a representative of the Government was to come around and ask each man for a cheque for \$30 to pay his share of the national carelessness, then he would realize what he is paying. Now we do not realize it because the tax is indirect.

The big manufacturers and merchants know that this fire expense is a tax. They equip their premises with automatic sprinklers. They put in protective apparatus

They get the lowest insurance rate they can because it helps them to compete; but the man in the street, the ordinary man, does not know how this fire waste is paid, Take wool, for example. Wool in the warehouse is insured—that is a tax. It is insured in transportation, and there it pays a fire tax. It is insured in the textile factory where it is worked up into cloth. It is insured in the clothing, store, insured in the tailor shop, in the department store, and all the way along this fire tax is added to the cost, and when you buy a coat you pay it. Every stock of goods that is insured carries this tax, and it is passed along to the ultimate consumer. The masses do not know that they pay it. They do not realize that when they buy a hat, or a pair of shoes, or a suit of clothes, or anything which goes through the regular channels of industry, production, distribution and exchange, they pay a tax. Not realizing it they are indifferent to fire. They think fire does not affect them.

Immense loss.—The fire loss in the United States and Canada for the last ten years has averaged \$250,000,000 a year. What could you do with that? You could build roads, build canals, improve your harbours, build battleships—if you have no less mediæval use for your iron. You could do a great many things with \$250,000,000 a year. What does that mean? That means \$30,000 an hour, \$500 a minute; it means that every ten minutes we are burning the equivalent of a comfortable \$5,000 home. What country can stand a drain like that? Suppose we were to throw into the sea \$250,000,000 in wheat or corn or cotton, or lose \$250,000,000 out of our two national treasuries. Then we would realize that we were being impoverished by this waste. But we have lost the faculty of being moved by an ordinary fire. In Europe a \$100,000 fire shocks the entire country. All the papers in Continental Europe comment on it, wanting to know how it occurred, who was responsible for it, whether the conditions in the city where it occurred can be found elsewhere so that such a fire might be duplicated. But here in America, if we take up the morning paper and do not find two or three \$100,000 fires we think nothing has happened.

We are the most careless people with matches on the face of the earth. In Europe, if you want matches you have to go where they are kept. In America matches are everywhere; on our bureaus, in our desk drawers; on the mantle-piece, library tables; in all our old waistcoat pockets in the closet; if we wake up in the middle of the night and reach out and cannot find a match we feel insulted. Every match is a potential conflagration. There is no reason why any man who loves his family should have any match in the house except the match which lights only on the box. These strike-anywhere matches, if they are dropped on the floor and stepped on, will frequently ignite the skirts of women. This match is particularly dangerous to the child. The child is an imitator. He sees his older brother or his father or mother light a match. That is a dramatic thing. It is going to stick in his mind; he will remember it until he can get hold of one of these little fire sticks and see what he can do with it, and perhaps burn his little body.

Indirect taxation.—The fire waste touches the pocket of every man, woman and child in the nation; it strikes as surely but as quietly as indirect taxation; it merges with the cost of everything we eat and drink and wear. The profligate burning every year of \$250,000,000 in the value of work of men's hands means the inevitable impoverishment of the people. This fearful loss spread over the entire business world of America is beginning to manifest its impoverishing blight. The people feel it without yet being awake to its cause. Their awakening is retarded by the prevalence of the foolish notion that the insurance companies pay this colossal tax. But how could they, and remain solvent? They are mere collectors and distributors of that portion of this tax which is represented by their policies. Half of it they never touch; it falls upon the householder direct. San Francisco and Chelsea do not pay for themselves. The people of Canada and Massachusetts help pay for them. And next year San Francisco and Chelsea, risen from their ashes, may help

to pay for your cities and ours. There is one way in which we can escape the periodical paying for one another, and that is for us both to begin rational building construction and then protect what we have builded against fire.

The building of proper flues and chimneys is especially necessary in connection with residences. Then we must have a general revision throughout the country of our building codes. We must stop the building of a certain shoddy class of buildings, and we must limit the height of buildings. In Boston we limit them to 125 feet. I learn that in Montreal the limit is 130 feet. It is too late for a limit to be established in New York. New York is no longer a city; New York is a disease. The latest achievement in New York is a building of fifty-five stories.

They have recently established a fire college in New York where firemen from different parts of the country go to study. A couple of firemen from Philadelphia attending this college last week were asked this question: What would you do with a water-tower if a fire broke out in the fifty-fifth story of a building? One of the Philadelphians looked at the other and said "We are out of our class; we don't have to fight fire in Heaven in Philadelphia." A friend of mine in New York declares in all sobriety that on Manhattan Island a greater number of people travel greater distances vertically every day than horizontally. If anything like the earthquake in San Francisco were to occur and the people in downtown New York were precipitated into the street they would pile up four deep. However, they declare they are in no danger.

Placing Blame.—We must begin to place the responsibility upon the individual for fires. It is difficult to do that, I know, and yet it can be done. In France, if you have a fire and that fire damages your neighbour's property, you have to pay your neighbour's loss. That is very educative. It would be a very good thing if we had such a law in America. We can fix responsibility, however, and we can change our attitude of mind towards the man who has fires. When we look upon the man who has a fire as one who has done an unneighbourly thing; as one who is a public offender unless he can prove that he was in no way responsible for that fire; then we will have begun to make headway. We must have inquiry into the causes of all fires, not merely an inquiry into the fire which is suspected to be the work of some incendiary. Nearly every fire is the result of some carelessness, and the careless man must be held up to public criticism as a man who has picked the pockets of the rest of us because that is what it is in its last analysis. When we get fire marshals in every province who shall inquire into the causes of fires, I believe we will begin to correct our personal habits in respect to the things that cause fires.

APPENDIX No. 18.

MEMORANDUM submitted through Major H. C. Blair on the subject of Steam Trawlers and the Fishing Industry in the United Kingdom, by Mr. George S. F. Edwards, of Smiths Dock Company, Limited, South Banks near Middlesborough-on-Tees, England.

MY DEAR BLAIR,—In further reply to your letter of the 17th February, I shall now proceed to answer the questions you ask me in this letter.

1. How is the fresh fish transported to the inland towns in this country?

When the fish is landed from the trawler at the fish market it is sorted according to class and quality on the floor of the market. The entire catch is then exposed to public auction, the bidders consisting of fish merchants who have customers in different towns throughout the country or who act as buyers for the large public institutions, such as workhouses, lunatic asylums, etc.

2. Transport of fish.

Immediately the buyers have completed their purchase they proceed to pack the fish, either in wooden boxes or in kits, or barrels. Most of the fish is gutted on the spot and is packed with intervening layers of crushed ice. The railway wagons are ranged up alongside the fish market, the floor of which is level with the floor of the railway wagons. We do not use refrigerated cars, as our distances do not necessitate this, what we use are specially constructed covered in fish trucks, the dimensions being 46 feet inside length, 7 feet 9 inches width, and 10 feet 10 inches height from ground to roof and 7 feet 3 inches height from the floor of the truck to the roof. At the principal fishing ports the railway companies run special express fish trains. Take Grimsby for instance, which is our fishing metropolis, indeed the fishing metropolis of the world. There are twenty-three fish trains despatched every day, seven of which are special express trains, these being drawn by specially constructed locomotives. These locomotives are of great boiler power, enabling a very high tractive effort to be maintained at high speeds. All other traffic gives way to these express fish trains except certain through passenger traffic on the main lines.

3. What is the margin of profit, showing whether the consumer has to pay a reasonable price or not. What benefits do the carriers reap, etc.

The price of fish in this country is regulated by supply and demand. The buyer on the market, or more correctly speaking, the distributing merchant, looks to a profit of 5 per cent on his turnover after paying all expenses of packing, railway carriage, etc., and it often happens, when there is a glut of fish, he has to take less. The fishmonger, that is the man who supplies the public, looks to securing a profit of 10 per cent on his turnover, certainly not less. This, however, depends on the locality in which his business is conducted; fishmongers in London, for instance, whose customers consist of wealthy families in the West End, derive very large profits. It is common knowledge, however, that the fishmonger's price does not vary with the price received by the owner of the steam trawler, in other words when there is a glut of fish and it is sold by auction at ruinous prices, the price of fish to the consumer is not proportionately reduced. On the other hand it is only fair to say when there is a scarcity of fish and prices rule high at the market the fishmonger's price is not raised, but the former happens more frequently than the latter.

Of late years a business has sprung up in our densely populated towns which has had a great effect on the fish trade in general; I allude to the business of the fish frier. These people have shops where certain kinds of fish are prepared and fried ready for

use in large quantities, and prove excellent and nutritious, as well as cheap, food for the working and poorer classes of the population. This trade of the fish frier has developed enormously of late years, and has proved a veritable backbone to our fishing trade, as it absorbs a large quantity of the poorer classes of fish which otherwise would have been a drug in the market, and at times unsaleable.

The difficulty to be contended with in a large and comparatively sparsely populated country like Canada, is that the towns are scattered over such a wide area, and in themselves do not represent a very large population, thus the cost of transit is a very serious consideration. On account of the long distances to be traversed, particularly in summer weather, it would hardly be possible to adopt the same principle of preserving the fish for transit as is adopted in this country, namely by means of crushed ice, which is quite sufficient to keep the fish in a fresh condition for the period occupied by carrying over any distance of this small country of ours; that being so I think it would be found necessary to introduce specially refrigerated fish trucks in your country.

With regard to the rates for carrying fish in this country, we will take Grimsby as the base and I give you a list of some of the rates from that port:—

Cost of Carriage per Cwt.

	Prime.	Coarse.	Smoked.	
Birmingham.....	2/3d	2/3d	1/9d	(Reduction of 3d to 6d for 3-ton lots) (Reduction " " for 3-ton lots.).....
Liverpool.....	2/3d	2/-	1/11d	
London.....	2/4d	1/6d	1/8d	
Manchester.....	2/-	1/9d	1/8d	
Sheffield.....	1/7d	1/7d	1/7d	
Plymouth.....	3/6d	3/6d	3/-	
Dublin.....	4/9d	3/-	3/-	
Edinburgh.....	4/9d	3/-	2/6d	

You ask what became of the fishermen who operated the old sailing vessels; did they get employment on the steam trawlers?

In reply to this question I may tell you that the success of Grimsby as a fishing port is due to the fact that previous to steam trawling being introduced in the early eighties there existed a fleet of something like fifteen hundred sailing smacks working out of the port of Grimsby, and as steam gradually displaced the sailing smack, it was found that the crews of the sailing smacks were ideal men for working the steam trawlers, and when the evolution became rapid there was no difficulty to be faced in regard to finding crews for the steam trawlers, whereas in other ports which possess many greater advantages than Grimsby, geographical and otherwise, the one great obstacle to success has been the difficulty in manning the steam trawlers, thus the development of these other ports has been both slow and tedious.

I will now proceed to give you some interesting information regarding the port of Grimsby:—

There are 650 steam fishing vessels belonging to that port, and 50 new ones are expected to be put into commission during the present year.

The estimated quantity of fish landed by British vessels at Grimsby during 1913 was 179,226 tons, an increase over 1912 of 3,500 tons.

About 1,250,000 tons of coal are used annually by the fleet of steam trawlers.

200,000 tons of ice are used annually.

The average number of vessels landing their fish at Grimsby market each day is 68, while on January 6, 1913, no less than 124 vessels laden with fish entered the fish dock, the largest number on record for any one day.

The total quantity of fish carried by the railway company in one year was 170,000 tons, added to which there was 26,000 tons exported by the railway company's steamers plying between Grimsby and the Continent, making a grand total of 196,000 tons.

The fish trade of Grimsby requires 60,000 railway trucks annually.

The largest quantity carried by rail in any one day was 1,400 tons.

Of late years a new development has sprung up in the despatch of fish in small parcels direct to the consumer. Firms who are carrying on this business issue price lists of packages of various sizes and prices, composed of various kinds of prime fish, and a large number of consumers in this country derive their supplies direct from Grimsby. In one year 450,000 of these parcels, of an average weight of twelve pounds, and paying an average charge of 8d. each to the railway company were carried. In addition to these, there were large numbers sent by parcels post, amounting to many thousands.

The estimated number of packages of all sizes handled in one year by the railway company alone was 4,000,000.

The existing fish docks at Grimsby have a total water area of about 35 acres, which, however, is quite inadequate to cope with the trade. An additional dock, however, is in course of construction which will have a water area of 28 acres.

The covered-in fish markets where the fish is landed run to an area of 3,316 square feet, and there are about 500 merchants engaged in buying and despatching the fish to all parts of the country.

The capital invested in steam trawlers amounts to £3,500,000, and 6,000 men are employed directly in the fleet, whilst 50 per cent of the town's population is dependent on the fishery industry.

An enormous business is done at Grimsby in the salting and drying of cod, ling, etc., hundreds of tons being dealt with and prepared in this manner. The railway company have provided special facilities, and the area over which this class of fish is distributed is rapidly increasing.

A large business is done in the manufacture of cod liver oil, and all the offal is used for the manufacture of fish meal and fish guano, which is a very profitable business.

When you come to consider that the population of Canada scarcely exceeds that of London, and that the distance from London to our furthest away fishing port, namely Aberdeen, is inside of 500 miles, you will readily understand that in the present condition of the population in Canada the problem to be solved is a very difficult one. I mention London in particular, but our other large towns such as Birmingham, Nottingham, Leicester, Manchester, Leeds, and all the large towns in the cotton spinning area, the large colliery districts of this country are very large consumers of fish, but it is only within the last twenty years that fish has been recognized in this country as a cheap and nutritious diet for the working classes. Previous to that it was looked upon more as a luxury to be enjoyed by the wealthier classes of this country.

Yours sincerely,

(Sgd.) GEO. S. F. EDWARDS.

March, 14, 1914.

APPENDIX No. 19.

Statement No. 1, showing wholesale quotations for Spring Wheat Flour, Bakers' Grade (Second Patents) at Chicago, Montreal, Toronto, Ottawa, Liverpool and London during the months of November and December, 1909:—

Chicago, per barrel.....	\$ 5 60
Montreal, per barrel.....	5 20
Toronto, per barrel.....	5 10
Ottawa, per barrel.....	5 10
Liverpool, per barrel.....	5 04
London, per barrel.....	5 20

NOTE.—The Montreal quotation includes delivery to buyer; the Toronto and Ottawa quotations are f. o. b. cars.

Statement No. 2, showing wholesale and retail prices of bread in the above-mentioned cities during the months of November and December, 1909. (The wholesale price is given first; the retail price second):—

	Price of Loaf.	Weight of Loaf.
	Cts.	Oz.
Chicago.....	4	14
".....	5	14
Montreal.....	6½	20
".....	8	20
Toronto.....	4	16
".....	5	16
Ottawa.....	9	32
".....	11	32
Liverpool.....	5	32
".....	6	32
London.....	5½	32
".....	6½	32
Price per 100 ounces—		
Chicago.....	28-57	
".....	35-71	
Montreal.....	32-5	
".....	40-0	
Toronto.....	25-0	
".....	31-25	
Ottawa.....	28-12	
".....	34-37	
Liverpool.....	15-62	
".....	18-75	
London.....	17-18	
".....	20-31	

It is difficult to make a fair comparison of prices of bread in different cities because of the fact that it is the weight of the loaf and not the price which is affected by its quality. All loaves are sold at the same figure but the better the quality the lighter the loaf. In the above table a considerable difference is shown in the price of bread in Montreal and Toronto. The Montreal loaf which is used in the table is supposed to weight 20 ounces but, as a matter of fact, loaves labelled with this weight frequently weigh more, the overrun sometimes amounting to 8 ounces. In Ottawa the actual weight of the loaf usually corresponds with the stamped weight. Whether this is the case in Chicago, Liverpool and London I do not know.

BOARD OF INQUIRY INTO

COST OF MATERIAL TO THE BAKER.

In ordinary straight breadmaking the cost of the ingredients, other than flour, used in baking one barrel of flour is about as follows:—

1½ pounds yeast at 30c. per lb.	45 cents.
3 " lard at 17c. per lb.	51 "
3 " sugar at 4¾c. per lb.	14½ "
2½ " salt at 1c. per lb.	2½ "
	<u>\$1 13</u>

If we add to this amount the price of the flour per barrel we get the cost of the material to the baker in each city as follows:—

Chicago	\$5 60 + \$1 13 = \$6 73 per barrel.
Montreal	5 20 + 1 13 = 6 33 "
Toronto	5 10 + 1 13 = 6 23 "
Ottawa	5 10 + 1 13 = 6 23 "
Liverpool	5 04 + 1 13 = 6 17 "
London	5 20 + 1 13 = 6 33 "

NOTE.—I have used the same estimate of cost of ingredients, other than flour, for all the cities mentioned, but I think the cost of sugar, lard, yeast and salt would be from eight to ten cents less per barrel in Liverpool and London than in Canada or the United States.

One barrel of flour (196 lbs.) will take up about 115 pounds of water and the lard, sugar, salt and yeast about 10 pounds more, making in all about 321 pounds of dough. Allowing 2 ounces per pound for evaporation during baking would leave about 280 pounds of bread per barrel, equal to 140 2-pound loaves.

This quantity of bread at the wholesale prices quoted in the table in Statement No. 2 gives the following return per barrel of flour:—

Chicago	280 lbs. bread at 28½ cts. per 100 os. =	\$12.76
Montreal	280 " 32½ cts. " =	\$14.56
Toronto	280 " 25 cts. " =	\$11.20
Ottawa	280 " 28 cts. " =	\$12.54
Liverpool	280 " 15½ cts. " =	\$6.94
London	280 " 17 cts. " =	\$7.61

The baker's gross outlay for material and his gross receipts from the sale of bread, per barrel of flour manufactured, stand, therefore, as follows:—

City.	Cost of material per brl. of flour baked.	Receipts from bread per brl. of flour baked.	Gross profit.
	\$ cts.	\$ cts.	\$ cts.
Chicago	6 73	12 76	6 03
Montreal	6 33	14 56	8 23
Toronto	6 23	11 20	4 97
Ottawa	6 23	12 54	6 31
Liverpool	6 17	6 94	*0 77
London	6 33	7 61	*1 28

*Should probably be 10 cents more for the reason stated in note given above.

Out of the gross profit shown above the baker has to pay wages, rent, fuel, cost of delivery, interest, etc. If a better grade of flour is used than "Strong Bakers," which I have quoted throughout, then of course, the profit shown above would be lessened. That would hold good, however, with the Old Country baker as well as with the baker on this side of the water, and it is evident, therefore, that the baker in England works

on a much smaller margin than his confrere in Canada or the United States. The margin of the Liverpool baker appears to be so small as to preclude any chance of profit, but it must be remembered that the volume of his business is very great. For instance, one firm of bakers in Liverpool have a capital of \$500,000, own fifty-seven shops from which they sell bread wholesale and retail and also deliver from house to house by hand barrow. Another firm has seventy-five shops, another forty, and another thirty-five.

Everything considered the gross profit shown for bakers in Chicago, Montreal, Ottawa, and Toronto seems excessive compared with the Liverpool figures, and it would appear as though the householder in this country would find it profitable to make bread at home. It would cost less and the bread would probably be more wholesome.

(Signed) W. W. MOORE,
Chief, Markets Division.

Ottawa, January 20, 1910.

APPENDIX No. 20.

THE HIGH COST OF LIVING.

A CONSUMER'S AND A MILLER'S VIEWS ON THE QUESTION.

The two letters following appeared in recent issues of the Standard (Montreal). They give two distinct views on the high cost of living problem as affected by the milling industry. We invite further discussion on the questions raised in these letters from our readers.

SIR,—Whatever transient distractions claim the monetary regard, the one subject of permanent anxiety to our population, whether in Montreal or elsewhere, is the high cost of living.

Rent, food, clothing,—the three economic essentials in urban centres which have been soaring for the last ten years,—show no ameliorative symptoms, and thousands of families in Montreal and elsewhere, desiring decency of life and environment are compelled to resign themselves to untoward physical conditions which deny the faintest intimation of beauty, and render virtue itself well nigh impossible.

The Government was appealed to. Every political economist knows that you cannot legislate against a tendency. Hon. Mr. R. Borden says, "you can have a commission; but this Government does not promise solution."

This special commission has been meeting in the great centres of population, holding their sessions in camera which, doubtless, was desirable, inviting confidential views from the leaders on commerce and making note of the general conditions in the communities they visited.

The other day, Hon. W. T. White, the Minister of Finance, told a deputation of the milling interests that the people of this country did not relish the idea of their charging them more for their domestic flour than they charged for the exported.

That, perhaps, did not arrest the general attention; but an examination of the circumstances of the case stamps the remark with great significance.

Many causes contribute to the high cost of living and these are, for the most part, recondite and elusive. Explanations have been many and ingenious, nor must we forget that it has been stated, that one of the causes of the high cost of living is that Mrs. Brown is too proud to go to Bonsecours market with her basket, or carry her fowls with their heads dangling on the sidewalk. The remark, however, of the Hon. Mr. White led the writer to make inquiries, with the result that it can be shown unequivocally that the milling interests of this country are by their discrimination against our people, furnishing a most potent cause of the high cost of living.

The answer of the milling interests to the charge of the Hon. Mr. White was two-fold; first, the Canadian people would not eat the inferior grades which they exported; second, the export business did not pay, was indeed conducted at a loss. Both statements are untrue. The highest grades of flour are exported to England and sold at from \$1.50 per barrel less than the price charged Canadians for a similar article. Second, The Ogilvy's, the Lake of the Woods, the International Milling Company have, according to their published record, made last year profits from 30 to 60 per cent upon their capital.

In respect to the character of the flour, here are the grades and prices: Top grade, \$4.50 in Winnipeg; \$5.10 in Montreal; \$4.18 in London. Patent, \$4.80 in Winnipeg; \$4.90 in Montreal; \$4.06 in London. Bakers, \$4 in Winnipeg; \$4.10 in Montreal; \$3.60 in London. That is to say, Canadian flour produced at our door, so to say, is

carried across the continent, transported over the Atlantic and sold in London after paying all the freight charges, at \$1.50 per barrel cheaper than a similar brand is sold to the Canadian people themselves. This is surely an extraordinary state of affairs considering that the quality of civilization is bread rather than roots, and that flour is our greatest staple, the seriousness of the discrimination involved is at once apparent. It affects every family in the Dominion. It brings every workingman measurably nearer the ragged edge of poverty over which the implacable rigours of economic science have been holding him. It means to 7,000,000 people that owing to this discrimination they are penalized to suit a business of which the profits are 60 per cent per annum. It is not pretended that this discrimination accounts, by itself, for the high cost of living, but it is a potent factor. It is a contributory cause and that not in any remote way, but directly, immediately, practically.

If we consider to what an extent flour as a staple food enters into the living of every family in the Dominion, one can easily estimate the bearing of this discrimination upon the general conditions of living. We sometimes read in respect of liquor or tobacco, that innocent citizen Brown is credited with so many gallons or pounds per annum, as the case may be. That is illustrative, but Brown does not feel it. It is per capita calculation; but it does not mean that Brown in the concrete knows the taste of Scotch from Bovril.

In this case, however, every family in the Dominion is an immediate sufferer by the discrimination to the extent of every barrel of flour it uses in the year. Unquestionably this, in its totality, would furnish one of the causes contributing to the high cost of living. One wonders if the Royal Commission has considered this matter. It calls for investigation—the more so as the milling interests have denied the plain and incontrovertible facts in the connection.

Even Professor Leacock, keen economist as he is, could not marshal all the contributory causes of the present cost of living; but the simplest can understand that if you make the Canadian people pay \$1.50 per barrel more for a necessity of life than you do other people three thousand miles away you are by that amount making living dearer to every person affected by the added charge.

Here, then, is something plain and unmistakable, which the commission can grasp, without fear that it will elude the pursuit or dissolve in economic ambiguity. This is something which you can put handcuffs on—if necessary.

CANADIAN CONSUMER.

THE MILLERS' SIDE OF THE CASE.

SIR,—In your issue of April 4th you published a letter signed, "Canadian Consumer."

That "Canadian Consumer" was neither competent nor truthful in his statement regarding the price of flour is shown by his own letter and to put it plainly, he was mistaken when he says that the statements made by the milling interests to the Hon. Mr. White "were untrue" and that "the highest grades of flour are exported to England and sold at \$1.50 per barrel less than the price charged Canadians."

His own letter proves that what the millers told Mr. White was true, that the critics were comparing the price of top grade flour in Montreal with low grade flour in London, England; as he says: "Top grade, London, \$4.18, Montreal, \$5.10; Bakers', London, \$3.60," which is the lowest grade he quotes and you will note is just \$1.50 per barrel less than he claims top grade sells for in Montreal. In other words, he is comparing in London the price of the lowest grade he quotes with the price of the highest grades he quotes in Montreal.

"Canadian Consumer" No. 2, whose letter you publish in a subsequent issue, goes the "Canadian Consumer" one better in uttering a libel on the Canadian Mill-

ing Industry when he says that the Canadian people are penalized "to the extent of \$1.71, for that is the exact amount, per barrel, upon every barrel of flour they purchase in the year and that he can corroborate his statement from the official figures."

That you, Mr. Editor, may place before your readers the exact facts concerning this question, I give you herewith the actual average prices at which the flour of one of our largest milling concerns in Canada was sold during the month of January last just before the deputation of millers waited on the Hon. Mr. Borden:—

"Top Patent," \$5.18 Montreal freights; Great Britain, not a barrel.

"2nd Patent," \$4.59 Montreal freights; Great Britain, \$4.39.

"Blended Spring Wheat Flour," \$4.51 Montreal; Great Britain, \$4.26.

"1st Clears," \$3.91 Montreal; Great Britain, \$3.51.

"2nd Clears," \$3.19 Montreal; Great Britain, \$3.51.

Apparently the "2nd Patent" of which only 19½ per cent was exported to Great Britain, sold at 20 cents a barrel there less than in Canada, but, in fairness to the mill, 20 cents per barrel should be deducted from the above price on the flour sold in Canada, being the extra cost of selling in the domestic market over selling for export. A cable costing 50 cents or \$1 sells anywhere from 200 to 20,000 sacks of flour and the miller simply has to load his flour on the car or boat, attach his bill of lading to the draft and the transaction is complete without any additional expense or risk of loss. In selling in Canada, however, it is necessary to keep expensive travellers on the road all the time under heavy expense, the sales run from five bags upwards and the buyers often cancel the orders before the flour is shipped, or refuse the flour when it arrives, or more frequently still ask the miller to hold it for a long time after date for shipment is passed; all of which means additional cost to the miller in selling. But the above are not the worst items, because flour, being sold on time here, bad debts are not infrequent and the miller sometimes has to take 25 cents, 50 cents, or 75 cents on the dollar and occasionally nothing at all, and may lose at times several thousands of dollars on one customer.

More unbusiness-like still is the custom of some millers in selling their flour to guarantee the buyer against any drop in price which occurs before the flour is shipped, sometime in the future, and I have known millers to lose over \$1 per barrel by this one-sided "Heads you win, tails I lose" arrangement.

From the above figures you will see that none of the Top Patent was sold in Great Britain. The net price to the mill of the "Second Patent," after deducting the 20 cents, was \$4.39 Montreal, the same as in Great Britain. On the "Blended" the price is 5 cents less in Great Britain, but on the "1st Clear" it was 31 cents, and on the "2nd Clear" 52 cents higher in Great Britain than Montreal freights.

Of the "Blended" and "1st Clear" flours 73 per cent went to Great Britain, and of the "2nd Clear" 80 per cent was exported, because the Canadian people did not use these qualities of flour. You will note that the "1st Clear" was sold 31 cents cheaper and the "2nd Clear" 52 cents cheaper in Canada than abroad, because Great Britain, being the big consumptive market for these grades, the surplus which could not be sold abroad without breaking the market was sacrificed in Canada and sold largely for feed and similar purposes, just as the surplus of the higher grades are sacrificed abroad when a market can not be found for them here.

The Ontario mills do sell their winter wheat Patents in Great Britain and the prices were \$4.43 in Great Britain as against \$4.30 in Montreal. This, of course, means that the Ontario mills are making a loss on their export flour, but nothing else can be expected when the ocean freight rate to Glasgow all last fall and winter averaged 10 per 100 pounds more on Canadian flour than the Glasgow miller had to pay on the Canadian wheat, and the Canadian mills had to sell their flour in competition with the British mills' flour, which made a saving to them of 20 cents per barrel on ocean freight alone.

As 171,300 tons of mill offal "bran and shorts" were secured from the flour exported by Canadian mills in 1913, it will be seen that the milling of flour in Canada

is of vital importance to our farming community as they will be deprived of this enormous quantity of feed if the export of our flour is killed by discriminating freight rates against it and will result in a further increase in the high price of meat and dairy products.

That Manitoba wheat is sold cheaper abroad than to the Canadian millers is plainly shown by the fact that although the freight on grain was so much lower than on flour at the last annual meeting of the Grain Growers' Grain Company, which is composed entirely of farmers, the president stated that the export end of their business showed a loss of \$200,000 since their last annual meeting. He also reported that after wiping off a loss of over \$300,000 on the elevators leased from the Manitoba Government, that they had made a profit of about \$165,000. This must have been largely made out of the eastern millers and consumers and would be about 25 per cent on the paid up capital of the Grain Growers' Grain Company, and is not an excessive return on the enormous amount of grain they handle.

The statement of "Canadian Consumer No. 2," that the flour mills made from 30 to 60 per cent profit is incorrect, as I have been furnished with the exact profits made by more than one of our big milling companies during the past two or three years, and they figure out as nearly as possible $7\frac{1}{2}$ per cent on the capital invested. The average profit made was about $14\frac{1}{2}$ cents per barrel on their output, which no one would say was an excessive profit, and is in marked contrast to the claim of, "Canadian Consumer No. 2," "that the milling interests are penalizing our Canadian people to the extent of \$1.71 per barrel for every barrel of flour used the year round." It is well known that some of the big milling companies have a large number of interior elevators and do a general grain business, some of them often conducting other lines of business besides flour mills, and it is the profit made on the grain business or in other ways, like the profit made by the Grain Growers' Grain Company on their business, which added to the $7\frac{1}{2}$ per cent profit on the average which the flour milling shows that goes to make up the total percentage of profits which their official statement shows. The buying and selling of grain or speculating in grain is not the business of flour milling.

Not long ago an examination was made of the yearly statements of over fifty Ontario flour mills doing a shipping business covering a period of three years, and it was found that their average profits were only $1\frac{1}{2}$ per cent on their yearly turnover. It is questionable if there is any business in Canada which shows such a small return as the milling business.

CHAS. B. WATTS.

Secretary The Dominion Millers' Association.

Toronto, April 30, 1914.

In a recent issue of the *Gazette* (Montreal), the following letter from Mr. W. A. Black, Managing Director of the Ogilvy Flour Milling Co., Ltd., appeared, answering the one reproduced above from "Canadian Consumer":—

SIR,—Under the above heading a Montreal paper has recently published a number of letters by anonymous writers, and it is not surprising that they have not signed their names to these letters, because their statements are not only untrue, but very ridiculous. It will be sufficient to analyze the statement made by "Canadian Consumer" in an article of April 4th. This writer credits the mills with having made the following statements to the Hon. Mr. White, and characterizes them as untrue:—

1. That the Canadian people would not eat the inferior grades which are exported, and,
2. That the export business did not pay and was conducted at a loss.

In the first place, the statement made to Hon. Mr. White was to the effect that the Canadian trade demanded a higher average quality of flour than the millers were in

the habit of exporting, and that the great bulk of the flour exported was of intermediate and lower grades.

I think the business of this company may be taken to cover the average condition of other spring wheat millers in Canada, and as an offset to this bald statement of untruthfulness on our part, I would simply say that in our business year which ended on August 31st last, of our total exports of flour to Europe in that year less than 10 per cent was of the highest quality that we sell in Canada, and that over 80 per cent of the exports consisted of 4th, 5th and 6th grades, which substantiates the statements made to Hon. Mr. White, and I might add that the higher grades are only sold for the reason of assisting to sell the lower, or for the purpose of keeping the mills running to supply the local trade with offal (bran and shorts) that was required in our own country.

In regard to the second statement, I may say that when this letter was written on the 4th April, No. 2 Northern wheat was worth in store, London, \$1.07 per bushel, which at the average allowance for making a barrel of flour (4½ bushels) would mean \$4.81, so that it can readily be seen that the cost of the wheat alone would be greater by 63 cents than the price quoted by the writer as that for a Top Grade flour in London, namely, \$4.18. By his own statement of prices, therefore, he clearly proves that he is wrong and that the statement of the millers in this connection is correct.

The next statement is that Canadian flour is being carried across the continent and transported over the Atlantic and then sold in London at \$1.50 per barrel less than the same grades are sold for in Canada, and he attempts to prove it by prices which, as far as this company's business is concerned, are absolutely incorrect. But, taking his own figures, observe the serious discrepancy. He describes flour as being carried across the continent, and, although Winnipeg is only half-way across from Montreal, it is the farthest point named, and we will take the price he quotes in Winnipeg as against what he quotes in London, as follows:—

Top Grade—\$4.50 Winnipeg, \$4.18 London. (Note—the difference is 32 cents.)

Patent—\$4.80 Winnipeg, \$4.06 London. (Note—the difference is 74 cents.)

Bakers—\$4.00 Winnipeg, \$3.60 London. (Note—the difference is 40 cents.)

And through these figures he attempts to prove that these grades of flour are being sold in London at \$1.50 per barrel cheaper than the same brands are sold to the Canadian people. He must surely attribute to readers a serious deficiency in the knowledge of mathematics, but even by the prices he has presented (which are quite incorrect) he most effectually disproved his own statement that flour is sold at \$1.50 per barrel cheaper in England.

His fourth and final statement is: "The Ogilvy, Lake of the Woods, and International Milling Companies, according to their published records, made last year, profits from 30 per cent to 60 per cent upon their capital."

I cannot make any statement as far as the International Milling Company is concerned, for their business is a combination of two moderate-sized mills in Canada with some larger mills in the United States, but, as far as the purely Canadian mills are concerned, I fail to find a record of any such profit.

Applying, however, the more modest figure he mentions, namely, 30 per cent to the business of this company with a capital of \$6,250,000, it would mean a profit of \$1,875,000. Any one can consult the published statement of this company for the last year which he quotes as his authority, and they will find the profits for the year to have been \$596,734.80—a trifling difference of \$1,298,265.20, or not one-third of the lowest amount he claims is being made. As a matter of fact, the earnings on the capital invested were a little less than 9½ per cent instead of 30 per cent. Had we used the larger figure of 60 per cent the profits would have amounted to \$3,750,000 in place of the actual earnings of \$576,734.80—a difference of \$3,173,265.20. While on the subject I might further state that the average of the last three years makes the profits some \$50,000 less than they were in 1913, and the average earnings on the capital invested less than 8½ per cent.

I think the foregoing is sufficient to convince any fair-minded person that the earnings of the milling companies are not excessive; and that the writer of the article in question is not qualified to act as a director of public opinion.

That we are forced to sell our flour for export on a basis of lower prices than the highest prices received at home, however, is not denied. In fact, coming back to the statement made to the Hon. Mr. White by the millers, it is exactly what they claimed, and to any one conversant with the export business in many manufacturing lines this condition in the milling business is by no means unique. The fact is that no mill can possibly run exclusively on export business and remain solvent; but the great bulk of the flour exported to the larger markets of the importing countries of the world is of a grade and character for which the miller cannot find a market in his own country; and in order to supply the consumer at home with the flour he desires, he is forced to take the best price he can obtain in such countries in competition with all the surplus shipping countries of the world, such prices in turn, together with that obtained for the offal, regulating the price at which he can sell such of his product as is required in his own country. He is at times forced to sell some of the higher grades in order to supply the extreme demand for offals at certain seasons of the year in his own country, for without a reasonable supply of same he would be unable to secure orders for flour, the preference by the buyer being naturally given to the firm who can give him what he actually requires.

While these writers have kept to the subject of flour, they have not said anything about the by-products, which have been sold steadily at lower prices than they were selling at elsewhere. Take, for instance, the matter of bran: Canadian spring wheat bran has been straight along at as much as \$7.50 per ton, higher in the United States than on the Canadian side of the line, in the same locality, and as each dollar per ton is the equivalent of 3½ cents on the barrel of flour, it really makes a difference in round figures of 25 cents per barrel. This plainly indicates how keen the competition is between the six hundred odd Canadian mills for the home business; otherwise these extraordinary differences would not be evident. The Canadian trade quotations are invariably the extreme prices for small quantities, including delivery, which in many instances involves cartage for many miles from the mills, and in conjunction with such prices there must also be considered the cost of selling, and the not infrequent loss from bad debts. As against this the cable quotations are generally those of cost on vessel at point of quotation for large quantities and for which the terms of payment are cash.

Frequent reference has been made by these writers to the question of ocean freights, and it is quite true that the millers think they are discriminated against in the matter of freight on wheat as compared with flour. Some years ago the difference ran as low as about 1½ cents per 100 pounds more for flour than for wheat, the average for a number of years being in the neighbourhood of 2½ cents. Within the past year or two, however, this difference has greatly widened to from 3 to 8½ cents per 100 pounds, which makes competition on a profitable basis on current values of wheat entirely out of the question. We are quite aware that there is a difference in the cost of handling flour as against wheat, but we feel that the difference charged is more than the actual cost. The mills are indirectly very good customers of the steamship companies on west-bound business, as much of their supplies (notably jute for the manufacture of bags) is imported from the other side, and not unnaturally feel that they are not fairly treated. That the steamship owner is entitled to a profit just as much as the miller, goes without saying, and if the rates on grain do not permit of a profit, then they should be increased, and not kept down at an unprofitable figure, and the loss recouped at the expense of the flour.

It may be of interest to state that the present milling capacity of Canada is 37,500,000 barrels of flour per annum—sufficient to grind the present entire wheat crop of Canada less the wheat used for seed, but that they do not grind one half, and largely for the reason that the difference in freights makes it impossible to do so without loss.

WHY IS CANADIAN FLOUR CHEAPER IN BRITAIN THAN HERE?

By J. A. DAWSON.

Mr. W. Hutchison, Vice-President, and Mr. R. Neilson, Asst. Secretary of the Lake of the Woods Milling Co., Ltd., granted an interview on June 18th, to the *Canadian Miller and Cerealists*.

"What have you to say, Mr. Hutchison, as to the charges brought against the Canadian miller that he sells his product more cheaply in foreign markets in general, and in the British market in particular, than he does to consumers in this country?"

"To answer that question fairly and fully requires a knowledge of several important facts in the export business; and in addition to that an understanding of the demand of the consumer in Canada."

"The Canadian consumer demands a higher average quality of flour than the millers are in the habit of exporting, and the great bulk of our flour that is sent abroad is of an intermediate grade. I may say that taking the business of this company as an indication of the average conditions obtaining in the spring wheat milling industry in Canada, it will be found from a perusal of the data gathered from the business conducted by this company during recent months, that of our total exports of flour to Europe, practically none was of the highest quality that we sell in Canada; while over 80 per cent of the exports consisted of 2nd, 3rd, 4th and intermediate grades. Such higher grades as are sent abroad are exported for the purpose of assisting to sell flour of lower quality, as some dealers demand a certain proportion of several grades. In addition to that, we push our export trade for the purpose of keeping our mills running to full capacity, so that we may reduce the average cost of production per unit of output and in addition supply the local trade with offal, which is so necessary for mixed farming in Canada."

ONLY PARTIALLY TRUE.

"Some statements are appearing in the press to the effect that Canadian flour is being carried from the West and shipped to Europe to be sold at a very much lower figure in London than the same grade brings in Canada. This is true, but not by any means to the extent indicated by recent writers in the press."

"I have compiled the following figures, Mr. Hutchison, and would like to have your opinion as to whether they may be taken as representative of average prices:—

GRADE.	DOMESTIC.		EXPORT.
	Listed.	Return.	
	\$ cts.	\$ cts.	\$ cts.
First Patent.....	5 50	5 30	No. q'n.
Second Patent.....	5 00	4 60	4 10
Mixed Grades.....	4 80	4 50	4 00
First Clear.....	4 00	3 95	3 70
Second Clear.....	3 30	3 25	3 27

"Yes, they are probably as near the mark as you could get, and it will be seen that these various grades of flour were actually sold at a lower price in the United Kingdom than at home. But it must not be forgotten that it costs a great deal more to sell flour in Canada than abroad. A cable costs from 50 cents to \$1, and yet by means of it flour may be sold to the extent of from 200 to 20,000 sacks, and all that the miller has to do is simply to load his flour on the boat, attach his bill of lading

to the draft, deposit all the documents with his banker, and regard this transaction as completed without any additional expense or risk of loss. Practically at that point the foreign buyer has the flour and the Canadian miller has his money. In selling at home, however, it is necessary to keep a force of travellers all the time on the road under heavy expense. Individual sales may range all the way from five bags upwards; and the mills may have extra expense arising from cancelled orders. At times, too, the companies are asked to hold flour for a long time after the date for shipment is passed, all of which plainly means additional selling cost.

"But that is not the worst feature of the situation. While the flour is sold in England for spot cash and the miller does not have to wait a day for his money, once the flour is placed on board the cars, he very often, on the contrary, is obliged to wait for payment in Canada, and sometimes suffer heavy losses from bad debts.

"Practically none of highest quality of flour (Top Patent) is sold in Great Britain. Of the lower grades most of the output of Canadian mills is sold abroad, very little of it being used for home consumption. As a matter of fact, these grades are on the average sold cheaper in the United Kingdom than in this country; but, at times, one or other of them sells for less in Canada than abroad, because Great Britain, being the big consuming market for such flour, the surplus is disposed of in Canada if there is any risk of breaking the market by exporting the flour abroad.

A LEASE OF COMPETITION.

"It should be perfectly clear to every one concerned why such grades of flour must be sold more cheaply abroad than at home. In England, we come in competition with the producers of the world. We must, therefore, compete with these producers on equal terms, and to do so the price must be cut very fine. This export trade is a benefit to both the manufacturer and the consumer at home because it helps to keep the mills running and to reduce the cost of manufacture. Thus the miller sells at a lower price at home than he could otherwise do, and, moreover, the home market is supplied with bran and shorts, which are so necessary for dairying and mixed farming. Without this export trade, the mills could not supply sufficient feed to take care of home requirements. It is estimated that farmers would pay \$7 more per ton for feed if it were not for the export trade in flour. It is easily seen that the milling of export flour in Canada is of vital importance to our farming community. If we were deprived of this export trade, our farmers would lose an enormous quantity of feed, and this would be a very serious matter indeed for the basic industry of this country. If our farmers could not get bran and shorts in such quantities as they require, our cattle industry would decline, with the consequence that higher prices of meat and dairy products would prevail.

"I maintain that, for the reasons stated, our export business, which brings cheap flour to the English consumer, also brings indirectly relatively cheap flour of the highest grade to the homes of Canada.

BEST QUALITY AT REASONABLE PRICE.

"Surely I do not need to emphasize the fact that increased production means lessened cost per unit, and hence also lower prices per unit through the additional competition for the same markets. It is because we can dispose of our cheaper quality of flour that such flour as is wanted in Canada can be sold at a reasonable price here. The Canadian consumer, as I have pointed out, does not seriously compete with Europe for the lower grades, hence we must look abroad for market for these products. But the best quality of flour is offered to the Canadian housewife at a fair and reasonable price. The following statement substantiates the truth of these statements:—

Relative cost of production and saving between running mills half capacity and full capacity with benefits to the public as well as to the miller in the larger production:

Output.	100,000 brls.	200,000 brls.
Cost, manufacturing and selling per barrel	\$0 75	\$0 50
Total cost per barrel	4 80	4 55
Selling price per barrel	5 00	
Profit per barrel	0 20	
Gross profit	\$20,000 00	
Sold as follows:		
	Domestic.	Export.
	130,000 brls.	70,000 brls.
Cost, manufacturing and selling per barrel	\$0 50	\$0 50
Total cost per barrel	4 55	4 55
Selling price per barrel	4 85	4 35
Profit per barrel	0.30	loss 0.20
Gross profit	\$39,000	" 14,000
Net profit	\$25,000	
Gain to mill on increased production	\$ 5,000	
" " public on reduced prices	\$19,500	

"It must not be forgotten that the British miller occupies a strategic position in competing with foreign producers of flour. He does not depend upon Canada alone for his wheat, but brings it from India, Egypt, Russia, Australia, the Argentine Republic, and other countries. He has developed the most remarkable skill in blending various qualities of wheat and flour so that a shortage of supply in one country, unless it makes serious inroads upon the total world's supply, means little to him. On the other hand, in Canada, our millers depend upon wheat of a grade and quality which varies little from year to year. They have educated the consumer to demand a certain standard of flour, a flour which depends for its high qualities upon the careful milling of the superior wheat which is produced in Canada. If, then, the supply falls off in the home production of wheat, Canadian millers cannot make that deficit good by mixing other qualities with the home product.

STILL ANOTHER HANDICAP.

"In addition to these advantages, the British miller pays less for his labour machinery, and less for his capital. In England, capital can be secured as a rule at 4 per cent, while in Canada 6 per cent to 7 per cent is the ordinary rate. Moreover the British miller pays less for his jute, out of which the sacks for the flour are made. And what is more to the point the British miller is right in the centre of the biggest market of the world.

"While critics of the flour milling industry have said a great deal about the price of flour, they have said little or nothing about the by-products which have been selling steadily in Canada at lower prices than obtained elsewhere. Take, for instance the matter of bran: Spring wheat bran has been selling as much as \$7.50 per ton higher in the United States than in Canada. Each dollar per ton increase on bran is equivalent to a reduction of 3½ cents on the barrel of flour, so that this really makes a difference, in round figures, of 25 cents per barrel. This plainly indicates how keen the competition between the 600 odd Canadian millers is for the home business. The Canadian list figures are invariably the extreme prices for small quantities including delivery, which in many instances involves cartage miles from the mills, and do not by any means represent the average price received. For instance the flour listed at \$5 per barrel will give an actual return on the average, say, of \$4.60 in the domestic

market on account of cash discounts, etc. The export return for the same flour is, say \$4.10. But it should be remembered that the cost of marketing an export barrel of flour is 20 cents less than for marketing a barrel of domestic flour.

OCEAN FREIGHT RATES.

"This brings us naturally to the question of ocean freight rates. It is quite true that the millers are discriminated against in the matter of freights on wheat, as compared with flour. Some years ago, the difference ran as low as $1\frac{1}{2}$ cents per 100 pounds, but the average for a number of years has been in the neighbourhood of $2\frac{1}{2}$ cents. Within the past year or two, however, this difference has greatly widened; it has ranged all the way from 3 cents to $8\frac{1}{2}$ cents, and even 12 cents per 100 pounds, which makes competition with British producers on a profitable basis with current value of wheat entirely out of the question.

"It is quite true that there is a difference in the cost of handling flour as against wheat, but we feel that the difference charged by the carriers is disproportionate. However, the mills bring business to the steamship companies for westbound traffic since much of the millers' supplies, notably jute for the manufacture of bags, is imported from Great Britain or India. The steamship owner is entitled to a profit just as much as the miller. If the rates on grain cannot be definitely fixed on account of competition among tramp steamers, and the general exigencies of shipping conditions, then the rates on flour should be made flexible, in order not to discriminate against export flour or grain.

"The statement that the flour-mills make excessive profits is incorrect. If critics would take the trouble to examine the annual financial statements of the representative flour-milling companies of Canada, they would discover that the average profits made during 1913 on the capital employed were only reasonable. It is a well-known fact that some of our big milling companies have a large number of interior elevators and do a general grain business, some of them even conducting other lines of business besides flour-milling, and it is the profit made in these enterprises which, added to the returns on flour-milling, go to make up the total profits which their official statements show. I am of the opinion that a careful investigation of the facts of the case will disclose that in proportion to the capital invested, the milling industry gives a more moderate return than do many other enterprises in Canada."

APPENDIX No. 21.

MEMORANDUM FOR DIRECTOR DOMINION EXPERIMENTAL FARMS
CONCERNING COST OF PRODUCTION OF CANADIAN
FIELD CROPS, JANUARY 30, 1914.

Until recent years few data on the cost of production of field crops have been gathered at the Branch Experimental Farms and Stations. The information presented below is chiefly from Central Experimental Farm work. All the costs given, except where otherwise indicated, are for products, housed or threshed, ready for hauling to market.

Prince Edward Island.

The 1913 results from our Charlottetown Station not yet being available, only one year's results on the cost of producing oats, wheat, barley, clover hay and timothy hay can be given.

Cost of Production of Field Crops, Charlottetown, P.E.I., 1913.

Crop.	Area.	Yield per Acre.				Cost to Produce.		
						Per Acre.	Per Ton.	Per Bush.
						\$ cts.	\$ cts.	Cents.
	Acres.	Tons.	Lb.	Bush.	Lb.	\$ cts.	\$ cts.	Cents.
Oats.....	.57			58	18	13 75		23.5
Wheat.....	1.00			30	52	11 19		36.2
Barley.....	1.00			46	06	15 18		32.9
Clover hay.....	1.00	2	400			13 78	6 26	
Timothy hay.....	1.00	1	1,660			11 87	6 49	

Nova Scotia.

At the Nappan Experimental Farm the cost of production of field crops was recorded in 1913 only. The following is a summary of the data obtained:

Cost of Production of Field Crops, Nappan, 1913.

Crop.	Yield per Acre.				Cost to Produce.		
					Per Acre.	Per Ton.	Per Bush.
					\$ cts.	\$ cts.	Cts.
	Tons.	Lb.	Bush.	Lb.	\$ cts.	\$ cts.	Cts.
Turnips.....	23	23	767	03	45 57	1 98	5.95
Mangels.....	19	685	644	45	49 51	2 56	7.68
Ensilage Corn.....	12	1,380			39 33	3 10	
Potatoes.....			376	00	49 36		13.13
Oats.....			59	24	17 25		28.9
Wheat.....			29	30	29 05		48.9
Barley.....			33	44	13 83		40.8

New Brunswick.

No data is available for this province from the Experimental Station, Fredericton, as preparatory work only has as yet been accomplished in this direction.

Quebec.

Owing to the very poor rough condition of the soil on which our rotation work of Cap Rouge is being conducted the cost of production data collected to date are not representative of costs under normal average conditions, and it is not therefore deemed advisable to include them in this memorandum.

*Ontario.**Ensilage Corn (Central Farm, Ottawa)—*

The table below gives the cost of producing ensilage corn in a rotation as follows: First year, ensilage corn; second year, grain; third year, clover hay; fourth year, timothy hay; fifth year, grain.

Cost of Production of Ensilage Corn, Central Experimental Farm, Ottawa.

Year.	Area.		Yield per Acre.		Cost per Acre.		Cost per Ton.
	Acres.	Tons.	Lb.	\$	cts.	\$	cts.
1900.....	8.50	20	235	25	09	1.25	
1901.....	20.00	16	1,286	23	71	1.42	
1902.....	29.75	14	1,983	26	30	1.76	
1903.....	34.00	13	500	21	73	1.64	
1904.....	9.63	14	978	21	17	1.47	
1905.....	10.20	19	1,112	26	52	1.36	
1906.....	9.96	14	1,823	23	83	1.59	
1907.....	8.90	13	1,763	23	37	1.68	
1908.....	9.15	14	1,468	24	56	1.68	
1909.....	8.56	14	622	20	26	1.42	
1910.....	10.20	14	1,337	19	14	1.30	
1911.....	9.96	11	1,053	18	32	1.59	
1912.....	1.00	16	1,370	24	68	1.48	
1913.....	1.00	14	1,530	26	58	1.60	

Oats (Central Farm, Ottawa).

The costs tabled below are for oats grown after corn in a five-year rotation, namely:—

First year, corn.

Second year, oats.

Third year, clover hay.

Fourth year, timothy hay.

Fifth year, grain.

Cost of Production of Oats, Central Farm, Ottawa.

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Bush.
	Acres.	Bush. Lb	\$ cts.	Cents.
1900.....	12-00	60 11	13 31	15-6
1901.....	35-00	46 02	11 97	22-7
1902.....	55-00	55 17	11 26	22-3
1903.....	52-00	53 17	11 62	21-7
1904.....	10-20	63 26	13 44	21-0
1905.....	9-96	35 30	14 11	39-2
1906.....	8-90	59 17	18 48	31-0
1907.....	9-96	47 11	12 96	27-4
1908.....	8-90	35 19	11 84	34-8
1909.....	10-2	48 23	15 61	32-0
1910.....	9-96	51 32	14 83	28-3
1911.....	8-90	57 12	15 00	26-2
1912.....	1-00	55 15	17 73	32-0
1913.....	1-00	42 30	16 63	39-0

Timothy hay (Central Farm, Ottawa).

The figures below represent costs of producing timothy hay in a five-year rotation, namely:—

First year, corn.

Second year, grain. Seeded with clover and timothy.

Third year, clover hay.

Fourth year, timothy hay.

Fifth year, grain.

Cost of Production of Timothy Hay, Central Farm, Ottawa.

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Ton.
	Acres.	Tons. Lb.	\$ cts.	\$ cts.
1900.....	32-00	1 1,750	8 32	4 45
1901.....				
1902.....				
1903.....	66-00	2 689	9 21	3 93
1904.....	9-96	2 417	10 75	4 87
1905.....	8-90	3 1,039	12 81	3 66
1906.....	9-15	2 953	10 30	4 16
1907.....	9-63	2 1,369	9 43	3 51
1908.....	10-20	2 1,160	9 95	3 85
1909.....	9-96	1 1,213	9 37	5 83
1910.....	8-90	2 360	9 17	4 20
1911.....	8-85	2 1,033	12 31	4 89
1912.....	1-00	3 175	15 55	5 04
1913.....	1-00	2 650	13 96	6 00

Clover hay (Central Farm, Ottawa).

The clover hay reported in following table was produced in five-year rotation, namely:—

First year, corn.

Second year, grain. Seeded with clover and timothy.

Third year, clover hay.
 Fourth year, timothy hay.
 Fifth year, grain.

Cost of Production of Clover Hay, Central Farm, Ottawa.

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Ton.
	Acres.	Tons. Lb.	\$ cts.	\$ cts.
1900.....	7-00	2 1,714	8 90	3 12
1901.....	37-00	3 484	9 48	2 92
1902.....	63-00	2 1,347	10 29	3 72
1903.....	8-90	4 706	13 17	3 02
1904.....	9-15	3 1,719	13 44	3 48
1905.....	9-63	2 1,193	10 85	4 17
1906.....	10-20	3 1,110	11 01	3 09
1907.....	9-96	3 106	10 47	3 43
1908.....	8-90	2 1,427	9 56	3 52
1909.....	8-89	3 774	10 46	3 08
1910.....	8-56	3 1,570	11 21	2 96
1911.....	1-00	4 1,950	17 59	3 54
1912.....	1-00	2 640	13 97	6 02

Oat hay (Central Farm, Ottawa).

Cost of Production of Oat Hay, Central Farm, Ottawa.

Year.	Area.	Yield per acre.	Cost per Acre.	Cost per Ton.
	Acres.	Tons. Lb.	\$ cts.	\$ cts.
1904.....	2-00	2 766	15 41	6-46
1906.....	2-00	2 1,575	13-32	4-77

Pumpkins (Central Farm, Ottawa).

Cost of Production of Pumpkins, Central Farm, Ottawa.

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Ton.
	Acres.	Tons. Lb.	\$ cts.	\$ cts.
1900.....	0-50	18 250	16 30	0-90
1901.....	0-50	22 940	30 15	1 34
1902.....	0-50	14 1,100	30 06	2 06

BOARD OF INQUIRY INTO

Peas (Central Farm, Ottawa).

Cost of Production of Peas, Central Farm, Ottawa.

Year.	Area.	Yield per Acre.		Cost per Acre.	Cost per Bush.
	Acres.	Bush.	Lb.	\$ cts.	cts.
1900.....	8.00	18	15	12 99	71.2
1901.....	5.00	19	00	12 82	67.5

Barley (Central Farm, Ottawa).

Cost of Production of Barley, Central Farm, Ottawa.

Year.	Area.	Yield per Acre.		Cost per Acre.	Cost per Bush.
	Acres.	Bush.	Lb.	\$ cts.	Cts.
1900.....	5.00	40	04	13 04	32
1901.....	5.00	36	03	12 16	33.7
1904.....	9.15	63	27	13 44	21.1

Mangels (Central Farm, Ottawa).

Cost of Production of Mangels, Central Farm, Ottawa.

Year.	Area.	Yield per Acre.		Cost per Acre.	Cost per Ton.	Cost per Bushel.
	Acres.	Tons.	Lb.	\$ cts.	\$ cts.	Cts.
1900.....	4½	31	1,555	30 52	0 96	2.9
1901.....	6	20	1,260	28 38	1 37	4.1
1902.....	6	26	156	32 15	1 23	3.6
1903.....						
1904.....	2	21	1,622	36 32	1 66	4.9
1905.....	2	27	543	49 51	1 81	5.4
1906.....	2	20	642	38 05	1 87	5.6
1907.....	2	18	1,225	43 45	2 33	7.0
1908.....	2	13	1,750	31 14	2 24	6.8
1909.....	2	26	200	34 63	1 32	3.9
1910.....	1	17	1,950	34 50	1 91	5.7
1911.....	1	14	160	27 72	1 96	5.9
1912.....	1	24	360	34 71	1 44	4.3
1913.....	1	18.....		29 98	1 67	4.9

Turnips (Central Farm, Ottawa).

Cost of Production of Turnips, Ottawa.

Year.	Area.	Yield per Acre.	COST TO PRODUCE.		
			Per Acre.	Per Ton.	Per Bushel.
	Acres.	Tons. Lb.	\$ cts.	\$ cts.	Cts.
1900.....	4 00	17 1,500	28 63	1 63	4.83
1901.....	2 00	17 1,985	26 42	1 47	4.41
1902.....	2 00	18 340	27 42	1 51	4.50

Corn for grain (Southwestern Ontario).

The information here below given has been furnished by Mr. E. L. Shaw, Tilbury, Ontario, a successful corn grower who records carefully the cost of operating his farm. The cost of fertilizer, not included in his estimate, has been calculated at \$6 per acre.

Cost of Production of Corn for Grain (E. L. Shaw).

Year.	Rent and Manure.	Cultivation of land and seed.	Harvesting, husking and use of machinery	Total cost per Acre.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1906.....	8 25	6 65	4 25	19 15
1907.....	8 25	6 65	4 25	19 15
1908.....	8 50	6 95	4 75	20 20
1909.....	8 75	7 55	5 05	21 35
1910.....	8 75	8 00	4 65	21 40
1911.....	9 00	7 95	5 50	22 45
1912.....	9 50	9 00	5 75	24 25
1913.....	10 00	9 00	6 25	25 25

Flax (Brandon, Manitoba).

The flax reported upon was grown on rather dirty land, and yields are not as high as might be expected under fair average conditions. It was grown in the following rotation:—

- First year, flax.
- Second year, oats.
- Third year, summer-fallow.
- Fourth year, wheat. Seeded to rye, red clover and alsike.
- Fifth year, hay.
- Sixth year, pasture.

Cost of production of Flax, Brandon, Manitoba.

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Bushel.
	Acres.	Bush. Lbs.	\$ cts.	\$ cts.
1911.....	4.5	14 37	10 18	0 69
1912.....	4.5	8 50	10 64	1 20

Wheat (Brandon, Manitoba).

The rotation followed in producing the wheat, as reported below, was:—

First year, wheat.

Second year, wheat.

Third year, oats or barley.

Fourth year, summer fallow.

The cost of the summer-fallow is charged equally against the two following wheat crops:—

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Bushel.
	Acres.	Bush. Lb.	\$ cts.	Cts.
1911.....	7-00	27 51	12 34	44-3
1912.....	7-00	27 51	12 66	45-5
1913.....	7-00	22 51	11 49	50-3

Clover hay (Brandon, Man.)

This clover hay has been grown in a five-year rotation:—

First year, wheat.

Second year, wheat.

Third year, hoed crop.

Fourth year, barley. Seeded down with 8 pounds red clover, 3 pounds timothy and 5 pounds western rye grass per acre.

Fifth year, clover hay.

Cost of Production of Clover Hay, Brandon, Man.

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Ton.
	Acres.	Tons. Lb.	\$ cts.	\$ cts.
1912.....	8-00	1 1,521	6 68	8 78
1913.....	8-00	1 1,058	10 57	6 91

Corn (Brandon, Man.).

Corn was grown in following rotation:—

First year, wheat.

Second year, wheat.

Third year, corn.

Fourth year, barley.

Fifth year, clover hay.

Cost of Production of Corn, Brandon, Man.

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Ton.
	Acres.	Tons. Lb.	\$ cts.	\$ cts.
1911.....	8-00	12	19 67	1 64
1912.....	8-00	6 1,750	25 31	3 68
1913.....	8-50	7 1,058	21 68	2 89

Oats (Brandon, Man.).

Oats were grown in following rotation:—

First year, wheat.

Second year, wheat.

Third year, oats.

Fourth year, summer-fallow.

Cost of Production of Oats, Brandon, Man.

Year.	Area.	Yield per acre.		Cost per Acre.	Cost per Bushel.
	Acres.	Bush.	Lb.	\$ cts.	Cts.
1911.....	3.5	37	24	8 84	23
1912.....	3.5	59	14	9 87	17
1913.....	3.5	38	30	8 37	21.6

Barley (Brandon, Man.).

The costs are for barley grown in following rotation:—

First year, wheat.

Second year, wheat.

Third year, hoed crop.

Fourth year, barley; seeded down.

Fifth year, clover hay.

Cost of production of Barley, Brandon, Man.

Year.	Area.	Yield		Cost per Acre.	Cost per Bushel.
	Acres.	Bush.	Lb.	\$ cts.	Cts.
1911.....	8.0	49	36	7 82	16
1912.....	8.0	55	12	10.61	19
1913.....	8.5	55	14	11 56	21

Wheat (Indian Head, Sask.).

The cost of producing wheat as given below refers to wheat grown in a three-year rotation:—

First year,, summer-fallow.

Second year, wheat.

Third year, wheat.

The total yield of the two wheat crops is taken, but the charges include costs of operating the full three years of the rotation. This is only fair, as the summer-fallow should justly be charged against the two crops of wheat following.

Cost of Production of Wheat, Indian Head, Sask.

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Bushel.
	Acres.	Bush.	\$ cts.	Cts.
1911.....	1.00	29 5	13 22	44.8
1912.....	1.00	20.7	12 19	58.9
1913.....	1.00	32.5	13 52	41.6

Oats (Indian Head, Sask.)

The oats reported upon herewith have been grown on the seventh year of a nine-year rotation, as follows:—

First year, summer-fallow.

Second year, hoed crop.

Third year, wheat.

Fourth year, oats.

Fifth year, summer-fallow.

Sixth year, wheat.

Seventh year, oats, seeded down with rye grass, red clover and alfalfa.

Eighth year, hay.

Ninth year, pasture.

Cost of Production of Oats, Indian Head, Sask.

Year.	Area.	Yield per Acre.		Cost per Acre.	Cost per Bushel.
	Acres.	Bush.	Lb.	\$ cts.	Cts.
1911.....	5-52	51	26	14 69	28
1912.....	5-52	44	19	11 60	26
1913.....	5-52	39	09	11 87	30

Hay (Indian Head, Sask.).

The costs below are for hay in the eighth year of the following rotation:—

First year, summer-fallow.

Second year, hoed crop.

Third year, wheat.

Fourth year, oats.

Fifth year, summer-fallow.

Sixth year, wheat.

Seventh year, oats. Seeded down to western rye grass, red clover and alfalfa.

Eighth year, hay.

Ninth year, pasture.

Cost of Production of Hay, Indian Head, Sask.

Year.	Area.	Yield per Acre.		Cost per Acre.	Cost per Ton.
	Acres.	Tons.	Lb.	\$ cts.	\$ cts.
1911.....	5-52	..	1,493	4 57	6 12
1912.....	5-52	..	877	5 81	13 25
1913.....	5-52	1	514	7 14	5 68

Wheat, Oats and Flax (Statistics Branch, Department of Agriculture, Sask.).

The following figures have been supplied by the Saskatchewan Department of Agriculture. In regard thereto the Secretary, Statistics Branch, makes the following explanation:—

“We have collected from our crop correspondents estimates of the cost of producing wheat, oats and flax. As, however, this was our first effort to collect information of this nature, and as many of the returns could not be regarded as reliable, being somewhat arbitrarily made, it was decided not to make public the tables compiled therefrom. If, however, the enclosed, which is the average of over a thousand returns from different parts of this province, are of any value to you, you are at liberty to make use of them.”

COST OF PRODUCTION OF WHEAT IN SASKATCHEWAN.

1911 CROP.

82696-49

Crop District.	Preparation of ground.	Seed.	Planting or seeding.	Cultivation.	Harvesting.	Threshing.	Wear and tear on implements.	Other items of cost.	Total cost per acre.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1. S. Eastern.....	2 95	1 38	0 51	0 56	1 04	1 06	0 45	0 49	9 35
2. S. Central.....	4 56	1 41	0 54	0 58	1 14	2 60	0 53	0 54	11 90
3. S. Western.....	4 17	1 18	0 54	0 54	1 14	2 15	0 47	0 49	10 68
4. E. Central.....	2 93	1 44	0 51	0 49	1 25	1 99	0 53	0 47	9 61
5. Central.....	3 56	1 34	0 53	0 57	1 04	2 39	0 49	0 50	10 41
6. W. Central.....	4 61	1 35	0 53	0 52	1 05	2 44	0 46	0 46	11 42
7. N. Eastern.....	2 35	1 50	0 40	0 34	1 02	1 78	0 42	0 32	8 13
8. N. Central.....	2 42	1 38	0 47	0 52	1 24	2 36	0 45	0 53	9 37
9. N. Western.....	3 78	1 32	0 48	0 63	1 13	1 94	0 54	0 42	10 24
Province.....	3 48	1 37	0 50	0 53	1 12	2 18	0 48	0 47	10 13

Note: This does not include any charge for interest on investment—\$20 at 8%..... \$ 1 60
 Costs have been increasing during past two years (labour, provisions, etc.) 0 60
 \$10 at 6%.....
 \$ 2 20

COST OF LIVING IN CANADA

THE COST OF PRODUCTION OF OATS IN SASKATCHEWAN.

1912 Crop.

District.	Preparation of ground for seed.	Seed.	Planting.	Cultivation.	Harvesting.	Threshing.	Cost of haulage to elevator.	Interest on money invested.	Wear and tear on implements.	Other items of cost.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1. S. E.....	2 56	0 87	0 48	0 35	1 05	3 15	1 40	2 00	0 43	0 31	12 60
2. S. C.....	3 66	0 87	0 51	0 43	1 10	4 00	2 66	2 84	0 50	0 34	16 91
3. S. W.....	3 50	0 90	0 51	0 43	1 14	3 65	2 88	1 95	0 58	0 34	15 88
4. E. C.....	2 62	1 03	0 48	0 49	1 06	2 84	1 61	1 76	0 45	0 36	12 70
5. C.....	2 10	0 90	0 54	0 43	1 03	3 51	1 67	2 15	0 44	0 53	13 30
6. W. C.....	3 80	0 90	0 51	0 60	1 10	4 05	2 97	1 96	0 46	0 30	16 65
7. N. E.....	2 32	0 95	0 50	0 45	1 08	3 51	2 29	2 15	0 34	0 35	13 94
8. N. C.....	2 59	0 97	0 47	0 61	1 20	3 80	1 98	1 51	0 43	0 33	13 89
9. N. W.....	3 29	0 99	0 57	0 55	1 23	3 43	2 09	1 58	0 51	0 27	14 51
Province.....	2 94	0 93	0 50	0 48	1 11	3 54	2 17	1 98	0 46	0 34	14 48

THE COST OF PRODUCTION OF FLAX IN SASKATCHEWAN.

1912 Crop.

1. S. E.....	2 68	1 08	0 46	0 40	0 82	2 88	0 74	1 83	0 36	0 25	11 50
2. S. C.....	3 82	1 02	0 54	0 40	0 84	3 08	1 69	3 28	0 47	0 42	15 56
3. S. W.....	3 64	0 90	0 53	0 50	0 88	2 89	1 32	1 81	0 44	0 32	13 23
4. E. C.....	2 90	1 13	0 50	0 43	0 83	2 77	0 77	1 43	0 36	0 20	11 32
5. C.....	2 86	1 22	0 61	0 77	0 89	3 35	0 86	2 22	0 42	0 41	13 61
6. W. C.....	5 19	1 22	0 51	0 62	0 78	3 85	1 20	1 89	0 34	0 33	15 93
7. N. E.....											
8. N. C.....											
9. N. W.....	3 47	1 01	0 48	0 37	0 88	2 94	1 35	1 41	0 47	0 30	12 68
Province.....	3 50	1 08	0 51	0 49	0 84	3 10	1 13	1 98	0 40	0 31	13 40

Small quantity grown in this district; accurate figures not obtainable.

Small quantity grown in this district; accurate figures not obtainable.

Fall Wheat (Lethbridge, Alberta).

The reference in this case is to wheat grown in a two-year rotation, namely:—

First year, summer-fallow.

Second year, fall wheat.

The cost of the summer-fallow is charged against the crop of wheat.

Cost of Production of Fall Wheat, Lethbridge, Alberta.

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Bush.
	Acres.	Bush. Lb.	\$ cts.	Cents.
1911.....	1.57	35 15	14 30	40.5
1912.....	1.57	26 58	15 89	59.0
1913.....	1.57	22 30	12 00	53.3

Oats (Lethbridge, Alberta).

These oats followed peas and oats for hay, which latter in turn had been preceded by summer-fallow.

Cost of Production of Oats, Lethbridge, Alberta.

Year.	Area.	Yield per Acre.	Cost per Acre.	Cost per Bush.
	Acres.	Bush. Lb.	\$ cts.	Cents.
1912.....	1.25	50 15	10 35	20.5
1913.....	1.25	37 32	10 08	26.6

Sheaf Oats (Lacombe, Alberta).

Cost of Production of Sheaf Oats, Lacombe, Alberta.

Year.	Area.	Yield per Acre.	Cost to Produce.		
			Per Acre.	Per Ton.	Per Bush.
	Acres.	Tons. Lb.	\$ cts.	\$ cts.	Cents.
1911.....	3.909	4 670	14 74	3 43	.....

*Barley (Lacombe, Alberta).**Cost of Production of Barley, Lacombe, Alberta.*

Year.	Area.	Yield per Acre.	COST TO PRODUCE.		
			Per Acre.	Per Ton.	Per Bush.
	Acres.	Bush. Lb.	\$ cts.	\$ cts.	Cents.
1911.....	3-909	27 43	9 72	.....	34-8
1912.....	3-909	24 40	9 40	.....	37-8
1913.....	3-909	28 06	10 44	.....	37-1

*Spring Wheat (Lacombe, Alberta).**Cost of Production of Spring Wheat, Lacombe, Alberta.*

1911.....	3-909	18 20	11 74	64-0
1912.....	3-909	38 02	10 99	28-8
1913.....	3-909	30 27	10 17	33-4

*Oats (Lacombe, Alberta).**Cost of Production of Oats, Lacombe, Alberta.*

1911.....	3-909	38 10	10 23	26-7
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British Columbia.

No reliable data on the cost of production of field crops for this province are available.

(Signed) O. C. WHITE,
Asst. Dominion Field Husbandman.

APPENDIX No. 22.

JOURNAL OF THE BOARD OF AGRICULTURE, MARCH, 1912.
COST OF PRODUCTION IN AGRICULTURE.

One of the objects to which the grant for agricultural research, recently placed at the disposal of the Board of Agriculture and Fisheries, will be devoted is the maintenance of an Institute for the study of Economics of Agriculture, a subject of which little has been heard in Great Britain hitherto. A marked feature of the progress in recent years in the technique of business management has been the prominence given to what are technically known as "costs." The majority of large manufacturing concerns have nowadays a cost department, one of whose functions it is to ascertain and record the cost of each operation that is required to convert the raw material into the finished article ready for the market. Thus, if the manufactured product is worth a sovereign, the costs department ascertains to the fraction of a penny the value of the raw material used, the cost of labour at each successive stage of manufacture, and even such details as, say, the cost of the coal used in producing power for any necessary machinery, the fractional share of management charges properly debitable to the article in question, and so on, in as minute detail as may be considered desirable. It is thus possible to institute comparisons and so check waste, to drop unprofitable "lines" and develop profitable departments.

So far, work of this kind has not been done in relation to agriculture in Great Britain, but a beginning has been made in the United States by the Bureau of Statistics, and some interesting papers on the subject will be found among the publications of that department.

The need for accurate information on the cost of agricultural operations may be illustrated from the recent controversy in the daily press on the subject of the cost of growing sugar beet. No general agreement has been reached on this vital question—vital because on the answer to it the useful employment of many thousand pounds of capital may depend—and estimates differing by 100 per cent from one another, have their advocates, each of whom produces an ostensibly convincing array of figures. A common feature of all these figures is that they are used on arbitrary assumptions as to the cost of such things as, for example, horse labour, a subject which gave rise to an animated and inconclusive discussion of experts at a meeting of the British Association two years ago. Another fruitful subject of conflicting views arises from the question: What is the cost of producing beef or mutton? Some experts say that the profit is nil, others that corn-growing does not pay, but stock-keeping does. The controversy arises because there is no foundation of hard statistical fact on which to build. No one has come forward, for example, to say that he has collated figures from one hundred typical farms, and that the prevailing cost of keeping a horse is so much, and that on the average it works so many hours per diem, two figures which, if obtained, would go far to settling the question. As a rule, farming does pay, but the question as to what description of farming pays best under defined conditions, and why, cannot be answered.

The method adopted by the United States Bureau of Statistics is to place qualified persons on the farms to keep or obtain records of the times spent on each description of agricultural work, the exact weight, and, as far as possible, cost of all materials produced or consumed on the farm. The particulars so obtained are carefully abstracted and tabulated, the precise information as to costs is obtained. The following are typical examples:

BOARD OF INQUIRY INTO

AVERAGE ANNUAL COST per Acre of Farm Machinery in Minnesota.

	Dollars.
Binders.....	0.181
Drills.....	0.075
Ploughs.....	0.335
Threshing outfit.....	0.335

These figures are based on averages for a large number of figures for (1) original cost of machines; (2) number of years in use; (3) depreciation; (4) repairs; (5) acres operated on per year.

AVERAGE ANNUAL COST of maintaining a Farm Horse in Minnesota.

	\$	cts.
Interest on investment.....	5	54
Depreciation of horse.....	5	56
Depreciation of harness.....	2	10
Shoeing.....	1	42
Food.....	63	49
Labour.....	11	88
Miscellaneous.....		40
Total.....	90	40

Average number of hours worked per day, 2½. Cost per working hour 0.0925.

It cannot be suggested that these figures are applicable to Great Britain. The point of interest is that they are based on the average of a large number of actual figures obtained over a series of years on many farms, and consequently represent fact, not opinion.

It is necessary, however, to point out that the issues appear to be simpler in the United States, in so far as agriculture there seems more specialized, and consequently less complex from a book-keeping point of view. A farmer who confines himself to producing wheat or cotton has a much simpler problem of costs to solve than one who takes up mixed farming in this country, and has to combine grain-growing with beef or mutton production, and, perhaps, horse breeding as well. Then, again, intensive farming and its necessary accompaniment, an approved rotation of crops, present a more difficult problem.

APPENDIX No. 23.

DAIRY PRODUCTION IN CANADA.

By J. A. RUDDICK, Dairy Commissioner.

It seems to fall to my lot as a Dominion official to present an annual review of the dairying industry for this and other conventions of dairymen held throughout the year. I suppose it is quite appropriate that I should do this and I do it all the more readily because I believe that it is important for every person connected with the industry to be well informed on the general trend of dairying in Canada, both in its international and domestic aspects. The milk producers of the whole Dominion should never lose sight of what is going on in other parts of the world, now that butter and cheese have become articles of international commerce. There is every reason also why the dairy farmers in Ontario should be just as much interested in the development of the creamery industry of Alberta, for instance, as they are in any movement which is taking place within the limits of their own province.

Until quite recently it was the practice to rely on the figures of the export trade as the index of progress and development, mainly, I suppose, because they were the only figures available. They were never a satisfactory basis even when the home consumption was fairly steady from year to year, for the reason that they failed to indicate in any respect the volume and extent of the whole industry, and now that home consumption is growing so rapidly, partly at the expense of the exports, information based on the export trade alone is decidedly misleading.

I expect to prove, before I finish, that the opinion expressed by many when the exports began to decline, and which still prevails in some quarters, namely, that the dairying industry has not made as much progress of late years as it did at one time is entirely erroneous. I also propose to show that the decrease in the number of cows in Eastern Canada is not an indication of any decrease in total production, because the number of cows is only one of the factors which has to do with the amount of milk produced. In order to get a correct perspective of the whole situation, it will be necessary for us to go back at least to the census of 1901. These somewhat ancient figures are of no particular value in themselves and, of course, we have a greater interest in the future than we have in the past, but it will be necessary to use them for the purpose of comparison in order to show the rate of progress, and thus get a line on what the future has in store for us.

NUMBER OF COWS IN CANADA.

Let us turn for a moment, then, to consider the "cow population" of the Dominion, if I may use such an expression. In 1871 the number of milch cows in Ontario, Quebec, New Brunswick and Nova Scotia was 1,251,209. The Census of 1901 shows that the number for all Canada had practically doubled during the intervening years. The total number of milch cows in Canada, according to the census of 1911, was 2,594,179, distributed as follows:—

BOARD OF INQUIRY INTO

TABLE I.

Milch Cows in Canada.

	1901.	1911.
Ontario.....	1,065,763	1,032,979
Quebec.....	767,825	753,134
New Brunswick.....	111,084	108,532
Nova Scotia.....	138,817	129,302
P. E. Island.....	56,437	52,109
Manitoba.....	141,481	155,337
British Columbia.....	24,535	33,953
Saskatchewan.....	56,634	181,146
Alberta.....	46,101	147,687
Totals for Canada.....	2,408,677	2,594,179
Increase in 10 years.....	185,502	

This table shows a decrease in the number of cows in Eastern Canada and an increase in the western provinces with a net increase for the whole Dominion of 185,502. That is one aspect of the situation which is not as satisfactory as it might be, because all will agree that there is plenty of room for a much greater increase. The number of cows in most counties in Ontario could be doubled without exceeding the number per acre in the counties of Oxford, Middlesex and one or two others.

TOTAL PRODUCTION.

Members of the association will recall the fact that at the last annual convention I estimated that the annual production of milk, butter and cheese in Canada then amounted to about \$120,000,000 in value. It was thought by some that my estimate was rather high. I am glad to be able to show you that it was after all quite a conservative estimate.

The following table gives the value of dairy products by provinces in 1910 as compared with 1900. The values as shown by the census are for the preceding year, but the number of cows given are for the year in which the census was taken.

TABLE II.

Value of Dairy Products in 1910 as compared with 1900.

	1900.	1910.	Increase.
	\$	\$	\$
Ontario.....	34,776,330	43,332,047	8,555,717
Quebec.....	20,207,826	31,663,220	11,455,394
New Brunswick.....	2,260,537	3,998,742	1,738,205
Nova Scotia.....	2,885,997	4,618,108	1,732,111
P. E. Island.....	1,111,614	1,607,672	496,058
Manitoba.....	2,792,606	6,077,982	3,285,376
British Columbia.....	1,159,993	2,620,495	1,460,502
Saskatchewan.....	729,574	7,566,007	6,836,433
Alberta.....	546,476	7,855,751	7,309,275
Totals for Canada.....	66,470,953	109,340,024	42,868,081

The increase in the number of cows during the decade was only 7 per cent, while the value of the total product, that is, milk used for direct consumption with what was used in the manufacture of cheese, butter, condensed milk, etc., shows an increase of 60 per cent. In Ontario with a decrease in the number of cows of 3 per cent, the value of the product increased by 18 per cent. In other words, in 1900 the value of the total product was \$27 per cow for the whole Dominion, while in 1910 it had risen to \$42 per cow. Part of this increase must be attributed to higher prices in the latter year and to the fact that a larger proportion of the total product was sold as market milk. But even after these allowances are made, the showing is a very satisfactory one. Cheese and butter prices in 1900 were less than 10 per cent below those of 1910.

GROWTH OF DAIRY PRODUCTION.

Now let us take a look at the matter from the point of view of quantities, which is readily the fairest basis of comparison. I have had the total production worked out in terms of milk, that is to say, the butter, cheese, condensed milk, cream and ice cream have been converted into their milk equivalents with the following results.

TABLE III.

Comparative statistics of the dairying industry expressed in terms of milk, showing production, exports, imports, and total and per capita consumption in the census years 1901 and 1911.

	CENSUS.		Per Cent of Increase or Decrease.
	1901.	1911.	
Population of Canada.....	5,371,315 Lb.	7,204,838 Lb.	+34.13
Total production of milk.....	6,866,834,000	9,871,178,103	+43.75
Exports of dairy Products as milk.....	2,514,596,967	2,236,663,687	-11.05
Imports of dairy Products as milk.....	34,886,346	39,871,207	+14.28
Per capita consumption as milk.....	816.76	106.517	+30.41
Total consumption as milk.....	4,387,123,379	7,674,385,623	+74.92
Number Milch Cows in Canada.....	2,408,677	2,594,179	+ 7.70
Average pounds Milk per Cow.....	2,850	3,805	+33.50

NOTE.—As milk production was not included in the 1901 census the quantity shown in the 1901 column was arrived at as follows: The total value of all dairy products in 1900 was \$66,470,953 which included the manufactured value of cheese and butter made in factories, and the average gross value of the milk supplied to factories was 96.8 cents per hundred pounds. Taking this figure as a basis the above total value represents a total milk production of 6,866,834,000 pounds.

If we take butter alone, both creamery and home-made, we find much the same result. The percentage of increase in total production is exactly the same as for milk, but both total consumption and per capita consumption show a somewhat smaller gain.

TABLE IV.

Comparative statistics of the butter industry showing production, exports, imports, and total and per capita consumption in the census years 1901 and 1911.

	Census 1901.	Census 1911.	Per Cent of Increase or Decrease.
Population of Canada.....	5,371,315	7,204,838	+34.13
	Lbs.	Lbs.	
Total production of butter.....	141,409,815	202,796,699	+43.41
Exports of butter.....	16,335,528	3,142,682	-80.76
Imports of butter.....	1,146,639	1,227,390	+7.04
Total consumption.....	128,220,926	200,881,407	+59.15
Per capita consumption.....	23.49	27.88	+18.68

INCREASE OF PER CAPITA CONSUMPTION.

The increase in per capita consumption is a very striking fact in tables III and IV. It may be attributed partly to the great prosperity of the country, and consequent increase of purchasing power, and partly to the better quality of milk and its products in recent years. It took about \$17,000,000 worth of dairy products to supply the extra demand arising from the increased per capita consumption in 1910 as compared with 1900, and yet it was hardly thought of as an outlet of any importance. If we had succeeded by some special effort in expanding our foreign trade in dairy products to that extent during these 10 years, it would have been the talk of the country. Then there is the increase in consumption due to the growth in population, which amounted to about \$20,000,000 more during the same period. This shows that the total home consumption in 1910 exceeded that of 1900 by at least \$37,000,000. The decrease in the value of the exports for the same period was less than \$3,000,000.

It will be understood, of course, that if the comparison was based on the last 10 years (1903-1913) the figures in tables III and IV would be somewhat different. For instance, if the exports of 1913 were compared with 1903, in which year they reached the maximum, the decrease in that item would be larger, and both the total and per capita consumption would also be larger than what is given in the tables. Statistics for this period are not available, but those which are quoted will serve to show the trend of both production and consumption during the decade between 1900 and 1910 and from these figures we can estimate very closely the present status of the industry in this respect. If I may be allowed to make an estimate for 1913, I would say that the value of the total production was about \$121,000,000 and as the exports for the year will be approximately \$20,000,000 the home consumption must be around the \$100,000,000 mark.

The different products and the value of each in 1910 will also be of interest.

TABLE V.

Factory cheese.....	\$ 21,587,124
Home made cheese.....	153,036
Creamery butter.....	15,645,845
Home made butter.....	39,889,953
Condensed milk.....	1,813,971
Milk and cream consumed and used for ice cream.....	30,250,005
Total.....	<u>\$109,339,934</u>

I stated at the outset that I hoped to prove certain things. If these figures which I have given prove anything, it is that there has been a greater growth in the

dairy industry since the exports began to decline than during any other similar period in its history. Before I finish I will tell why, at the risk of undue repetition, I have dwelt at some length on that point again this year.

INCREASE IN YIELD PER COW.

Now let me draw special attention to what I consider is, in some respects, the most important fact set forth in the preceding tables. I refer to the increase in the annual yield of milk per cow from 2,850 pounds in 1900 to 3,805 pounds in 1910. Here is where we get our large increase in production with a comparatively small increase in the total number of cows, and it was lack of complete information on this point which caused many to believe that there was a retrograde movement in some of the provinces. It would have required 3,463,571 cows at the average production of 1900 to have produced the quantity of milk shown in the census for 1910—an increase of 1,054,394 instead of the actual increase of 185,502. This increase in yield represents at least \$25,000,000 a year for the number of cows milked in 1910, and it is safe to say that the sum would be larger if it were known for 1913.

RESULTS OF COW TESTING.

Mr. President, it would be absurd to claim that this great improvement in Canadian herds is all due to the cow testing campaign which has been carried on by the Dairy Division at Ottawa for the past nine years; but a very large part of it certainly is due either directly or indirectly to that movement. It is a source of gratification to myself and to my assistants, Mr. Barr, Mr. Whitley, Mr. Burgess and others, to feel that the time and energy which we have spent on this work is now, after some early discouragements, showing tangible results. It must also be satisfactory to the public at large to know that the few thousand dollars spent annually for this purpose is being returned to the farmers in millions. And the end is not yet. It will be easier, now that the movement has acquired such momentum, to make another 1,000 pound increase in the average yield. Just think for a moment what that will mean to the industry. The added profit, and the increase is nearly all clear profit, will give an impetus to the production of milk in this country such as it has never received from any other source.

We must not forget, however, that satisfactory as these big figures and large average increases are, the main thing for individuals to consider is whether they are sharing in this improvement. If the average cow is producing 1,000 pounds of milk more than she did ten years ago, it follows that many cows are yielding less and, of course, others are exceeding that of the average. Are you as individual farmers still lagging behind in these matters? If so, why? There must be some reason. Is there any good reason why you should not be getting as good results as others?

There is just one other fact set forth in the tables which I wish to call attention to, and that is the growth of the industry in Alberta and Saskatchewan. The combined value of dairy production in the two provinces was only \$1,276,050 in 1900, as against \$15,421,758 in 1910. If my information is correct, that rate of increase has been accelerated in the last three years, and it requires no prophetic vision to see this immense territory as an important factor in the Dominion total production in the near future if the present tendency is continued.

THE SEASON OF 1913.

Leaving this part of my subject, I pass on to refer briefly to the season of 1913. The year's operations do not present any very notable features. There has been a further decline in the export of cheese which will probably amount to nearly 200,000 boxes, or 16,000,000 pounds for the season. This is partly due to the dry weather which prevailed in Ontario and Quebec, and partly to the continued diversion of milk from the cheese factories to the creameries and condenseries and to the increased shipment of milk and cream to our own cities as well as to the United States.

THE EFFECT OF THE NEW U.S. TARIFF.

The removal of the United States duty on milk and cream, and the reduction of the duty on butter from 6 cents a pound to 2½ cents, and on cheese from 6 cents a pound to 20 per cent ad valorem, and the renewed activity in the shipment of milk and cream across the border is a familiar story to every dairyman in this part of the country. Just what the development of this trade may be in the future is rather hard to determine. Milk and cream will probably be exported as long as the present tariff remains in force, especially at convenient shipping points, but there does not seem to be any immediate prospect of a large quantity of either cheese or butter being exported. In the present condition of the Canadian market a very small movement in that direction would boost prices to a prohibitive point. The circumstances are such that New Zealand and Australian butter is more likely to supply the demand than Canadian. Having a large surplus for export, both these countries must accept for their surplus the international value, which is lower than the ruling price promises to be in Canada. Heavy shipments of butter have already been made from New Zealand to San Francisco since the new tariff came in force on October 3rd last.

The swarm of Yankee drovers which overran some parts of Ontario and Quebec when the duty on cattle entering the United States was removed, was not an unmixed evil from the standpoint of the dairy industry. They are welcome to the worn out and discredited cows which were picked up in rather large numbers. This is a better way for the progressive farmer to dispose of his unprofitable animals than to sell them to his own neighbours. The only regret we need have over this export of cattle from the dairy point of view is for the young, untried heifers which unprecedented prices induced some farmers to part with, thinking perhaps it was too good a chance to lose. There need be no fear of lost opportunity in this matter. The price of cattle on this continent must rule high for some years to come if the law of supply and demand is to hold good.

IMPORTS OF NEW ZEALAND BUTTER.

Shipments of both cheese and butter from Eastern Canada to points west of the Great Lakes have been less than they were in 1912. It is said that there was an over supply of New Zealand butter at Vancouver last winter, some of which had to be carried into the season of 1913, but it is significant that while the demand for butter from the East has decreased, the direct shipments from New Zealand to Vancouver are expected to be 25 to 30 per cent larger than last year.

The last Australian steamer brought 17,500 boxes of New Zealand butter to Vancouver, a few of which were intended for Seattle. The total imports at Vancouver for the fiscal year ended March 31 last amounted to 6,018,022 pounds. The relatively greater demand for New Zealand butter may possibly be due to the fact that the freshly made New Zealand article can be laid down for less money than stored butter from the East, but there is no doubt that this butter from the Antipodes competes very strongly with Canadian in the matter of quality, and the facts as stated, should give our buttermakers some food for thought.

In conclusion, let me say that I have not taken the trouble to dig up all these figures simply for the sake of making an interesting statement. I desire rather to counteract the harm that has been done by the publication of superficial and erroneous views as to the lack of progress in the dairying industry of late years. Such statements tend to discourage rather than promote its growth. At the same time, I do not wish to give the impression that we should be satisfied with the results which I have outlined, and my chief object in placing these few facts and estimates before you is to stimulate a larger production of milk in this country. It seems absolutely clear to me that there has never been such a good outlook for dairying in Canada as there is at the present time. The markets are assured and prices are bound to be higher than they have been in the past.

(An Address delivered at the Dairymen's Convention at Cornwall, Ont., on January 8, 1914.)

APPENDIX No. 24.

Reports prepared by W. A. Brown, B.S.A., of the Department of Agriculture on the "Canadian Egg Trade,"

"The Development of Co-operative Poultry Work in the Province of Prince Edward Island;" and on "The Relation of the Preservation of Eggs by Cold Storage to the Development of the poultry Industry in the United States and Canada."

CANADIAN EGG TRADE.

The Live Stock Branch of the Dominion Department of Agriculture has been engaged for some months in an investigation of the Canadian egg trade.

At this time when the subject of eggs is being discussed so freely by the press and public generally it may be of interest to cite some of the conclusions reached as a result of this investigation to date.

THE CONSUMPTION OF EGGS IN CANADA.

Canadians are large consumers of eggs, and the consumption per capita of eggs in Canada is steadily increasing. The following table will give some idea of the rate at which consumption is expanding.

TABLE I.

Relation of Consumption to Production in the Canadian Egg Trade.

	Census of 1891.	Census of 1901.	Census of 1911.
Population of Canada.....	4,833,239	5,371,315	7,204,838
Poultry population of Canada.....	12,696,701	16,562,084	29,548,723
Total egg production.....	64,499,241 dz.	84,134,802 dz.	123,002,132dz.
Exports of eggs.....	8,002,935 "	11,363,064 "	92,164 "
Imports of eggs.....	602,533 "	951,745 "	2,378,640 "
Total consumption.....	57,078,839 "	73,723,483 "	125,288,608 "
Average consumption per capita.....	11.8 "	13.72 "	17.39 "

It may be noted that the increased consumption per capita between the years 1901 and 1911 amounts to nearly four dozen. This increase is not by any means confined to the cities. Farmers generally are eating more eggs than ever before. In many rural districts it is practically impossible to secure fresh meat at certain seasons of the year. At such times eggs are usually plentiful and are used freely.

In the cities with the steadily increasing price of meat, even though eggs may be high in proportion, the fact that eggs are such a wholesome and nourishing food, that they can be served in such a variety of ways and prepared with such little labour, keeps them in constant and ever-increasing demand.

CANADA IMPORTS EGGS.

Canada, an agricultural country, is obliged to import eggs for home consumption. Canada once exported eggs. Ten years ago between ten and twelve million dozen were exported to England, and previous to 1900 even greater quantities were shipped annually to the United States. The following table gives the exports and imports of eggs since 1900:—

TABLE 2.

Year.	Exports.	Imports.
	Doz.	Doz.
1900.....	10,187,906	709,829
1901.....	11,363,064	951,745
1902.....	11,635,064	772,572
1903.....	7,404,100	559,236
1904.....	5,780,316	972,242
1905.....	3,601,427	306,567
1906.....	2,921,725	462,669
1907.....	2,591,205	661,104
1908.....	1,365,890	1,149,986
1909.....	552,850	1,136,120
1910.....	160,650	884,073
1911.....	92,164	2,378,640
1912.....	203,231	7,577,826
1913.....	126,854	13,240,111

A few eggs are still exported, and even at times when the export was greatest a considerable quantity was imported. This is accounted for by the nature of the country. The Maritime Provinces still export a few eggs, while British Columbia has always been an importing province.

It is of interest to note that the imports have practically doubled each year during the past four years. The following table shows the imports by provinces during the fiscal year ending March 31, 1913:—

TABLE 3.

IMPORTS of Eggs into Canada from the United States during the fiscal year ending March 31, 1913, by provinces.

	Doz.
British Columbia.....	5,529,414
Manitoba.....	2,664,326
Alberta.....	1,954,110
Ontario.....	1,724,629
Quebec.....	812,201
Saskatchewan.....	414,340
Yukon.....	138,779
Nova Scotia.....	1,996
New Brunswick.....	316
Prince Edward Island.....	0
Total.....	13,240,111

REASONS FOR THE PRESENT SHORTAGE.

From the time that mixed farming became general in the Central States the United States' eggs crop has been able to keep pace with the demand, and heretofore when there was a shortage in Canada eggs have been available on the Chicago and other western markets. This winter, however, increased consumption on the part of the Americans themselves, and through a slightly smaller egg crop this year, the usual surplus is not available. In recent years the Canadian storage crop was sufficient to meet the demand until the middle of December or a little later. After that American eggs were imported to supply the shortage.

In actual receipts possibly the United States' crop was not much smaller than previous years, but, owing to the extremely mild weather, winter production was phenomenally large with a corresponding falling off in spring production. This meant a short crop for storage, as storage eggs are what largely supply the demand during the winter months. This accounts for the fact that the price of eggs is higher in

the United States, and that there is little or no surplus for export to Canada. In fact, since the revision of the tariff, the United States is actually importing, over 8,000 cases of foreign eggs having been received in New York alone during the week ending November 29. It is expected that the availability of foreign eggs for both the United States and Canada will have the effect of averting a serious shortage and of reducing materially the price to the consumer.

THE QUALITY OF CANADIAN EGGS AS MARKETED.

Another point, and one that should not be overlooked before dwelling upon the great opportunity that exists for the Canadian producer at the present time, is the fact that Canadian eggs as marketed at the period of high production are far from being of the high quality that one would expect.

From information in the possession of the Live Stock Branch, it is estimated that in the summer time not over 33 per cent of the eggs received in the large markets grade "select." About 40 per cent grade "stale," approximately 17 per cent "very stale," 5 per cent "dirty" and "broken," and 5 per cent "bad." Some dealers state that as high as 10 to 12 per cent of their receipts prove, upon examination, to be wholly unfit for food. This latter is a feature that those who criticise the present high prices do not seem to have taken into consideration.

In conclusion it is evident that the most salient feature of the whole question is the golden opportunity for the farmers and others to increase their poultry plants and take advantage of the high prices prevailing for poultry and poultry products.

Every farmer should keep at least one hundred hens. The amount of labour entailed is not great, and with reasonable success the revenue obtainable therefrom, in proportion to capital invested, is greater and more readily available than from any other branch of farm work.

(Extract from an address delivered by W. A. Brown, B.S.A., at the Ontario Provincial Winter Fair, Guelph, December 8, 1913.)

Press Notice.

An important part of the poultry work of the Live Stock Branch of the Department of Agriculture during the past year has been the organization of Co-operative Egg Circles. Ten circles in all have been organized under the auspices of the branch, working in conjunction with the Provincial Agricultural College authorities and the Poultry Producers Association of Canada. The preliminary work in connection with a number of others has been done, and from present indications it is apparent that this phase of co-operative work is likely to have a rapid growth in the near future.

Being primarily concerned with the improvement of the Canadian egg trade, the Live Stock Branch has encouraged the formation of these circles because the movement affords a means whereby the quality of eggs can be improved as they leave the farm, and the pernicious practice of holding eggs both on the farm and in the country store largely eliminated. Co-operative effort of this kind also affords a medium whereby the eggs in any given community may be collected and marketed frequently and regularly, and insures to the consumer a new-laid egg of uniform quality at no great increase in cost.

At the time of joining the association the members agree to stamp each egg with a given number designated by the board of directors. This is done so that the eggs of each member may be identified when graded and payment made according to quality.

A manager is appointed by the board of directors whose business it is to collect, grade, sell the eggs and apportion the returns among the members according to the quantity and quality received. In most circles the eggs from each farm are collected

at stated intervals, but in others the members deliver the eggs to some central point such as a creamery, cheese factory, store or house, from which the manager makes the shipment.

It is well known that at certain seasons of the year there is a wide difference between the price received for eggs by the farmer in the country store and the price paid by the consumer in the city. This difference is not nearly so marked in the spring of the year as it is in the late summer, fall and winter. In other words, as the quality of ordinary farm eggs becomes more uncertain the premium placed on new-laid circle eggs increases. While during the spring of the year prices received by circle members may not greatly exceed those paid in the local store, it is a fact that for the eggs produced in the month of December last year the majority of circles in the provinces of Ontario and Quebec received a price of from 45 to 50 cents a dozen.

A limited number of circles will, no doubt, be able to take advantage of the rapidly growing select trade in the larger Canadian cities, but from the fact that the wholesale egg dealers in Ontario and Quebec have recently adopted a new system of buying on a basis of quality, it is likely that the product of the majority of circles will find its way to the consumer through the more recently established channels of trade.

The live stock branch stands ready and willing to help on the Egg Circle movement in every possible way. Officers of this branch are now in the field, and there is available a quantity of literature, including outlines of constitutions, by-laws, etc., dealing with the work, copies of which may be obtained upon request from the Live Stock Commissioner, Ottawa.

DEPARTMENT OF AGRICULTURE,

LIVE STOCK BRANCH,

OTTAWA, March 7, 1914.

THE DEVELOPMENT OF CO-OPERATIVE POULTRY WORK IN THE PROVINCE OF PRINCE EDWARD ISLAND.

The attention of the Live Stock Branch was first drawn to the possibilities of co-operative poultry work in the province of Prince Edward Island in the summer of 1912, when at the request of the Provincial Department of Agriculture the writer addressed a series of special poultry meetings in different parts of the island.

Not only were the people found to be particularly interested in the poultry industry, but also it was apparent that in some sections at least they were especially well informed as to the advantages accruing from co-operative marketing. Statistical information furnished by the Provincial Department of Agriculture also indicated that the exports of poultry products had assumed a foremost place among the various agricultural products exported. More careful investigation brought to light the fact, however, that while average farm flock was large and prices obtainable for dressed poultry fairly high, the export trade in eggs was largely in the hands of a few firms, and that the average yearly price obtained for eggs was low. Early spring and summer prices compared favourably with those in Ontario, but little encouragement had evidently been offered by wholesale firms towards the production of winter eggs. Undoubtedly the difficulties of winter navigation and the uncertainty of transportation at that time had had its effect as well. At any rate the prices prevailing in the winter season were largely governed by the supply and demand for eggs on the Charlottetown and Summerside markets.

From the fact that the greatest returns accruing from co-operative marketing of eggs are mostly apparent in the winter months, it seemed in light of the circumstances prevailing on the Island that it offered a particularly good opportunity for a thorough trial of co-operative marketing of poultry products in Canada, especially in

light of the great interest already taken in poultry keeping by farmers generally. Then again the partial isolation of the island and the spirit of loyalty that exists in that province tended to make the introduction of the movement comparatively easy.

Steps were therefore immediately taken by the Live Stock Branch to secure a competent representative for the Branch in that province. Such a man was secured in the person of Mr. T. A. Benson at that time assistant district representative in Ontario county. Mr. Benson was specially well fitted for this work, having not only a good general knowledge of poultry conditions, but having taken an active part in the development of co-operative work in Ontario county.

He commenced his work about the first of October, 1912, and during the late fall and early winter months thoroughly toured the province in the interest of the poultry industry. A number of egg-circles were organized, but, owing to the scarcity of eggs and the relatively high prices prevailing in the early spring, the first shipment was not made until the month of May.

In all ten circles were organized and commenced shipping at intervals as organized throughout the summer and fall. The following table will give some idea of the financial benefits derived from the operations of the circles during the last seven months of last year.

THE AVERAGE ANNUAL EGG PRODUCTION PER HEN ON SPECIALIZED POULTRY PLANTS AS COMPARED WITH THAT OF THE AVERAGE FARM FLOCK.

Unfortunately the census enumerators in taking the various census have made no attempt to differentiate between the number of hens and the number of chickens on farms. The two have been included in the one estimate, and it has been impossible therefore to estimate the average production per fowl from this source.

Special investigation made by officers of the Poultry Division of the Live Stock Branch would indicate that on farms where the proprietors are making a specialty of poultry, the average annual egg production per hen ranges from 125 to 150. The average on one man's plant was 137.

On two general farms where reasonably accurate records had been kept the production was 93 and 96 eggs per hen respectively. From this and other information at hand it is safe to say that the production per hen on the average farm is less than 100 eggs per year, and that with reasonable care and attention this could easily be increased by at least two dozen per year. Another important point is the fact that very few farm flocks lay in the winter months, and that further it is apparent from results obtained elsewhere it would require no great outlay of time, capital and labour to secure a considerable portion of this increase in the winter months.

and it is evident that the movement has just commenced. Since the first of the year twelve additional circles have been formed and application received for the organization of over fifty more. It is estimated that sixty-five circles properly located will cover the whole island, and it would appear as if with reasonable encouragement it would be possible to arrange within a comparatively short time for the co-operative marketing of a large part of the total poultry and eggs produced in the province of Prince Edward Island.

From present indications it is altogether likely that at an early date a central association, known as the Federated Association of Prince Edward Island Egg Circles, will be formed. The Provincial Government is considering possible legislation to incorporate the various local associations, and it appears as if ways and means will be devised whereby it will be possible for co-operative associations to definitely enter into business undertakings in something of the same manner as that followed by the Danish Co-operative Egg Exchange.

THE RELATION OF THE PRESERVATION OF EGGS BY COLD STORAGE TO THE DEVELOPMENT OF THE POULTRY INDUSTRY IN UNITED STATES AND CANADA.

Probably no-single influence has been more directly accountable for the remarkable development of the poultry industry in the United States and Canada during the past ten years than the preservation of eggs by cold storage.

There is a constant and fairly uniform demand for eggs throughout the entire year. The rate of production, however, is far from constant. The preservation of eggs by cold storage has made possible, however, a uniform supply at all seasons of the year, and it is largely due to this fact that the consumption of eggs at the present time is so much greater than it was some years ago.

Even with the comparatively small production previous to the advent of cold storage, there was a considerable portion of the annual egg crop wasted. The evidence of carelessness on the part of the producing public at that time is still apparent in the antiquated methods that prevail in the handling of eggs at many country points.

Cold storage has been a great leveller of prices, not only to the producer but also to the consumer. Heretofore eggs produced in the season of high production were worth not more than one-half to one-third per dozen what they are to-day, and during the season of scarcity eggs at any price were simply not available. To-day, as the result of preservation of eggs in storage, the price through the greater part of the season of high production has increased considerably but not out of proportion to the increase of prices of other food products. On the other hand, it is estimated that in the months of October to January inclusive, the season of low production, from 70 to 80 per cent of the eggs consumed by the general public are eggs that have been preserved by cold storage.

While the variation between the average price of the eggs in the season of high production, at the present time, and the price paid for strictly new-laid eggs in the season of low production is probably greater than ever before, the price paid by the consumer for cold storage eggs in the season of low production is not greatly in advance of the prices that the same consumer has to pay for fresh gathered eggs at the time of high production.

The following figures are given as approximately average prices for the last five years and will serve to bear out the above contention. Approximate average prices paid by wholesalers during last five years for the months of April and June inclusive: 18 to 22 cents. Approximate selling price of same eggs held in cold storage November to January inclusive, 25 to 33 cents.

Approximate average price by consumers same time, April to June inclusive, 25 to 30 cents; November to January inclusive, 35 to 40 cents.

Eggs are ordinarily held in cold storage about six months. However, owing to the great variation in quality of eggs received by the wholesale dealers, according to the season of the year, it is difficult and even impracticable to attempt to strike an average.

Eggs produced in the months of March and April approximate the ideal which dealers would like to have for storage purposes. The weather is cool, eggs are plentiful, and the farm poultry houses have not become so unsanitary and contaminated with vermin as they are later and with a declining market, farmers, merchants, buyers and all concerned, tend to rush the eggs forward with the greatest possible despatch. The result is, that the eggs received first are placed in storage first and come out last, and owing to their higher quality, actually come out in better condition than those stored in the latter part of May and June. These eggs are taken out of storage from October to January inclusive. The eggs that went in in June, come out in October, a period of four months, and those that went in in March, may not come out till January, a period of nine or nine and a half months, and as stated above, invariably prove of better quality, providing storage conditions are good, than those that went in when the weather conditions were less favourable.

Eggs are one of the most difficult of food products to hold satisfactorily in cold storage. Cold storage operators have undoubtedly lost more money through the depreciation of eggs in badly managed, poorly regulated cold storage warehouses than they have with any other single food product. The chief difficulties encountered have been through the eggs becoming musty and spotted. Successful operators have learned that they must have specially constructed rooms for holding eggs and further, that precautions must be taken to prevent the air that has circulated through rooms containing fish, citrus fruits, and other strong smelling food products from entering the rooms in which the eggs are stored. A uniform temperature of approximately 29 degrees F., relative humidity of approximately 72, clean fillers, new cases, and rooms that are as clean and sanitary as possible, are the essentials in the proper storage of eggs.

The albumen of an egg forms a most excellent culture medium for the growth of mould spores and bacteria, and having in mind the great porosity of the egg shell on the one hand and the extremely unsanitary conditions to which eggs are so frequently exposed on the other, it is not to be wondered at, that even after the most careful candling, a large part of the eggs in storage prove upon examination at the end of the storage period to be unfit for food, if the temperature and humidity have been allowed to run high and variable. Many operators even after taking the best possible precautions in so far as methods of operation are concerned, place pans holding calcium chloride in the egg rooms in order to keep down the humidity.

Unfortunately, either as a result of faulty construction or from other causes, quite a number of the cold storages in Canada are not at all well suited to the preservation of eggs.

APPENDIX No. 25.

MEMORANDUM by Charles W. Peterson, Esq., in regard to the bearing of Australian mutton on the cost of living in Canada.

THOBURN, B.C., March 23, 1914.

The Secretary,
Board of Inquiry into Cost of Living,
Regal Building,
Ottawa, Ont.

SIR,—With reference to your letter of the 8th of January last asking me to submit a memorandum in regard to the bearing of the importation of Australian mutton upon the cost of living in Canada, I may say that I have given the matter considerable thought and do not think that I can do better than to submit to you a copy of a memo, dated the 30th January last addressed to Mr. Arkell of the Live Stock Commissioner's Branch dealing with the general subject of Australian mutton in the Canadian market.

As regards the effect of these importations on the cost of living in Canada, there can, of course, be only one conclusion, namely, that it *should* reduce the price of mutton to the consumer. Generally speaking, however, I received rather more for my mutton fifteen years ago on the hoof than we do to-day, and I pay twice as much for it retail as I did then.

The inference naturally is that the packer takes a larger profit now than then. This, however, may not and probably does not account for more than a fraction of the difference. My observations lead me to believe that the trouble largely lies in the retail end. The retailer to-day, all over Canada, is certainly doing business on a much larger gross profit basis than he did some years ago. Probably from one to two hundred per cent higher. In the first place, he naturally desires and requires a larger net profit. Secondly, his expenses are enormously higher such as complicated delivery systems, higher rent, higher wages, etc., etc. He is merely a link in the endless chain. My theory is that the price of no single commodity entering into the daily consumption or use of society can be advanced without in turn, sooner or later, causing the readjustment of all other values, unless some economic development takes place that upsets the regular routine. This happened in the case of mutton when the improved freezing facilities and transportation became available which enabled packers in Australia to land frozen mutton in America at a low price, which now controls the situation as far as the wholesale market is concerned. The retail trade, being governed by the conditions above set forth, is merely handling this and other mutton on its usual basis. Hence the increased retail prices.

Our concern is interested in getting the highest possible wholesale price for our mutton. Granting that the cost of retail handling is more or less fixed, which I believe it is, the only way in which the Canadian consumer could get cheaper mutton would be through some action which would still further reduce the wholesale price of this commodity, which, in turn, would drive us out of business. We made a large loss on our operations last year, which would seem to indicate that we have reached our limit as far as prices is concerned. In other words, if the consumer must have cheaper mutton, the industry in Canada will have to be eliminated entirely and more Australian mutton substituted to take the place of what is now produced in Canada, or, at least, in Western Canada. In Eastern Canada, of course, the breeder gets the

benefit of the long rail haul, at least until the opening of the Panama canal when whole cargoes of frozen mutton will doubtless be landed in the original bottoms at Atlantic ports and at a very slight cost per hundred over the rate to Pacific ports. We will then be able to enlist the sympathy of our eastern friends in our line of business.

I regret I cannot add anything of special value to the discussion, but I hope that the attached memo. and my somewhat rambling observations on the general situation may lead you to recommendations which will not, at least, do harm to us as producers. Our cross is heavy enough as it is.

Your obedient servant,

(Signed) CHAS. W. PETERSON.

January 30, 1914.

Memorandum:

Replying to list of questions formulated by Mr. Arkell, Asst. Live Stock Commissioner.

(1), (2), (3), and (4). The information asked for affects foreign imports into Canada. The complete statistics are, therefore, available in the records of the Department of Customs at Ottawa, and can be readily obtained by Mr. Arkell as a Government official. Any figures I might quote would be more or less guesswork and not to be relied upon.

(5). There is exactly the same difference between New South Wales and other Australian mutton and that produced in New Zealand as there is between choice Shorthorn or Angus beef and inferior Jersey beef. The New Zealand sheep are reared under ideal conditions and generally on expensive land, with all that signifies. The mutton type is universal almost, although considerable attention is paid to the wool as well, but not at the expense of the former. The Western Canada breeder can easily hold his own against any sort of competition from New Zealand, as sheep are worth as much there as here or very nearly so. If the Canadian consumer at any time chooses to pay a premium for New Zealand mutton, which I am personally prepared to do, the Western breeder has no grievance. He must learn the lesson and improve his breeding and feeding, all of which will in the end be beneficial all around. Speaking for our own concern, I desire no special protection against New Zealand mutton.

The case against New South Wales mutton is entirely different. I mention New South Wales specially as practically all importations into Canada come from this source, but in time no doubt Queensland, South Australia and other portions of Australasia will also contribute; my remarks may, therefore, be taken to embrace the whole of the continent of Australia.

In the first place, we are face to face with this situation, that the production of mutton is by way of being a by-product. The main product from the sheep industry being the wool. Comparatively only a few years ago, the sheep were allowed to die a natural death on the plains and were then skinned and the carcasses left for the dingoes to consume. The next step was, that boiling down stations were erected and the carcasses were boiled and the tallow extracted. This was then the only revenue from the carcass. The final development occurred during quite recent years when refrigerating facilities were provided on the steamships and a trade in frozen mutton inaugurated. The success of this has naturally led to a little more attention being paid to the mutton qualities, but in no case at the expense of the wool. The introduction of the Rambouillet sire is about the limit of this development. The points to remember are (a) in competition with New Zealand we are competing with a legitimate industry against which we must hold our own or fail as the case may be. It will depend on our ability to produce a superior article. This is a fair proposition. (b) Against Australia we are competing purely and simply with a by-product and are, therefore, entitled to whatever protection we can obtain.

(6). Freezing does not impair the flavour and quality of the mutton in any way. In fact, it has a tendency to ripen it. I know good judges of table delicacies in England and who can afford to indulge their preferences who invariably buy New Zealand mutton during the summer time when the home grown article frequently is not satisfactorily ripened.

The important point to remember in connection with this item is, that the term "meat" should never be used in public documents dealing with the restriction, regulation or safeguarding the public interest regarding the importation of food products. Beef cannot be frozen without impairment of quality. Mutton can. Consequently what would fit the one case would be totally out of place or inadequate in the other.

(7) Prices, of course, fluctuate from time to time. The average prices for last year may, however, be regarded as fairly representative:

Victoria.—Has 12 million sheep. Export 1½ million. Some of the latter undoubtedly originated in New South Wales. Values about the same.

New South Wales.—39½ million sheep. Export about 1 million. Value of sheep range from 9 to 14s. per head. Lambs 12 to 14s. per head. Wholesale price in London 4½ to 5½d. per pound wholesale.

South Australia.—5½ million sheep. Export 168,500 head. About same values as above.

Queensland.—20½ million sheep. Export 394,000 carcasses. Average price in Smithfield last year about 3½d. per pound. Average weight of carcasses sheep 40 pounds, lambs, 34 pounds.

As throwing light on the above, it is interesting to note that the wholesale cost of Queensland mutton is made up as follows, according to a good authority:

Adding to the price paid for the sheep all expenses of treatment, and deducting the value of the skin and offal, the cost of a carcass of mutton at one of the southern works is 2d. per pound. Railage to wharf 0.04d. per pound. Freight, insurance and selling charges in London 1.125d. per pound. Total cost 3.165d. per pound. As the average price in Smithfield was 3.25d. per pound, it would show a profit of 0.085d. per pound.

New Zealand.—23½ million sheep. 5½ million sheep and lambs export to Great Britain. This is conceded to be the maximum export the country is capable of, and will doubtless decrease from time to time. The development of dairying as a better paying industry is largely responsible for this situation. Price of crossbred sheep 18s., lambs 15s. 6d. per head there. London prices vary from 3½ to 4½d. per pound for mutton and 5 to 6d. per pound for lamb wholesale.

(8) As nearly as I have been able to estimate, the cost of New South Wales mutton landed in Calgary is about as follows:

Cost of mutton, dressed, landed in Vancouver	6½	cents per pound
Duty	1½	"
Railway rate to Calgary	1	"
	—	
Total	9	"

(9) This is on record.

(10) I do not know the wholesale price of mutton of this description. It varies, of course.

(11) The retail price of New South Wales mutton is precisely the same as the homegrown.

(12) It is *always* sold as homegrown. The consumer knows nothing whatever about the state of the meat market and meat production. Mutton to him or her is mutton. They only know the difference between good mutton and bad mutton, and labour under the distinct impression that the mutton is getting more and more tasteless and tough and woolly. The cause they know nothing about.

(13) Consumers certainly never demand Australian mutton and would probably be exceedingly shocked if they ascertained that they were being fed on nothing else.

(14) My impression is that the Australian mutton is now invading even the Montreal market. It may therefore, be said to cover the whole of Canada. The market opened up in the United States for the high class mutton of Eastern Canada owing to removal of duty, will doubtless have the effect that the bulk of the Ontario mutton will be exported and the consumers there gradually taught to rest satisfied with the Australian imitation of that article.

(15) It is sold and may be sold in any quantity necessary. It will absolutely strangle the local sheep industry in time. No breeder in America can live against this class of competition, unless a public demand for high grade mutton can be stimulated and we can get our prices on the basis of quality.

(16) My personal judgment is, that the packers would be particularly pleased if the whole Canadian sheep industry could be strangled in one grasp, thus leaving them a highly remunerative business in selling Australian mutton at the same price as homegrown mutton. Popularly speaking, they now have a "soft snap." They do not wish to strangle sheep breeding altogether perhaps. It is possible that they are quite satisfied with the present position of affairs, which is, that there is only an infinitesimal quantity of mutton bred in the country, yet sufficient to create the impression that sheep breeding is an important industry, and still the volume of output to be bought at a higher price than the Australian stuff is not large enough to worry the packers, who, through one excuse and another, frequently refuse absolutely to buy on the pretext that they are fully supplied and who naturally have it in their power to discourage any development in Canadian breeding by making the proposition uncertain and consequently unattractive. An attitude entirely at variance with the anxiety exhibited before the Australian importation began, when they would go to any length to induce people to go into sheep.

(17) I would not venture to express any opinion, this being entirely a matter of statistics. The best information would be to estimate consumption on the basis of population, and then ascertain from the freight traffic department on the Canadian Pacific railway the quantity of mutton carried to distributing points in the West, check this with the Customs import statistics, and the remainder will be the local production, which is very small. The Provincial Departments of Agriculture could possibly supply the information.

(18) It would be unreasonable for sheep breeders in Canada to ask for restrictions in regard to the importation of foreign mutton. We must accept that phase of the situation as it is and bow to the maxim of "the greatest good to the greatest number." We are, however, entitled to ask for the same measure of *consideration* (I shall not call it "protection") which is freely accorded the honest manufacturer and packer of other food products. As a food product, I cannot see the difference between a can of tomatoes and a carcase of mutton. In the one case the law steps in and says that the can must bear a label showing *exactly* what it contains. In the other case, the packer or butcher (in the West these terms mean the same thing, as the retail trade in meat is largely and, in most places, entirely in the hands of the wholesaler) may with impunity defraud the consumer and sell him the most inferior mutton the world produces, parading it, brazenly or by inference, as home product.

It may be argued that the consumer will know good mutton from bad and will refuse to purchase an inferior article. This does not by any means follow. It is only when an industry such as this becomes highly organized and the product is graded into a dozen different qualities, and cities become large enough to support retailers catering to different tastes and purses, that it is possible for the consumer to pick and choose. In Western Canada he takes what mutton is given him, and if he does not like it, he either stops buying mutton or gradually forgets what good mutton tastes like and is happy in ignorance. There is no satisfaction in Calgary, for instance, of changing from one Pat Burns shop to another, or even to any other

butcher, knowing that the entire wholesale trade is supplied by one of the two or three large packers. Besides, if such were the case, there would be no necessity for many of the provisions of laws dealing with purity of food products or the marking of merchandise.

This brings me to the remedy, namely, that in some way, which I leave to the proper authorities to design, shops handling foreign mutton should be so designated or the mutton marked with the name of origin, or both. Or the cuts served the consumer might be wrapped in paper having printed on it the origin. The principle should be laid down that the consumer is entitled to know what he is buying. I think that there is ample precedent for such a course, and, knowing how the Government dislike pioneering in legislation, I may mention that, if I am not very much mistaken, the British Board of Agriculture imposed some such restriction in connection with the retail sale of foreign meat some years ago at the instigation of home breeders. If I had time enough to give consideration and investigation to this matter, I think that I could draft a bill which would solve the situation and, at the same time, impose no unreasonable hardship on either packer or consumer.

Respectfully submitted,

(Signed) CHAS. W. PETERSON.

The following is a list of the questions referred to, formulated by Mr. Arkell, Asst. Live Stock Commissioner:—

- (1) Approximately how many carcasses of frozen mutton were received at B.C. ports last year?
- (2) How many for the three succeeding years?
- (3) Do these come mostly from Australia or New Zealand?
- (4) Is any mutton of this nature imported through the United States?
- (5) What is the quality of this mutton, especially compared with the home-grown western product? Can a difference be distinguished between the Australian and the New Zealand?
- (6) In your estimation does freezing impair the flavour and quality of the flesh?
- (7) What is the price per carcass in Australia or New Zealand?
- (8) What is the approximate cost per carcass of transportation to Canada?
- (9) What is the duty?
In your estimation, should it be increased or lowered?
- (10) What is the wholesale price per carcass in British Columbia, Alberta, Saskatchewan and Manitoba?
- (11) What is the retail price? Kindly compare this with the price of home-grown western mutton.
- (12) Is it ever sold under the guise of home-grown?
- (13) Do consumers ever especially demand it? If so, why?
- (14) How far east is it sold extensively?
- (15) Is it sold in sufficient quantities to injure domestic production of sheep in the west?
- (16) Is it imported in quantities merely to cope with consumption or do the packers show a preference for it and in so doing neglect purchasing as freely as they could the home-grown in the west?
- (17) How much below the demand is the supply of home-grown mutton in the western provinces?
- (18) Do you think a restriction should be placed on the importation of frozen mutton? If so, how can you justify such restriction and what remedy would you suggest?

APPENDIX No. 26.

By H. S. ARKELL, Assistant Live Stock Commissioner, Department of Agriculture.
In regard to the Shipments of Meat within the Provinces of Canada.

ONTARIO TO BRITISH COLUMBIA.

Date.	Bacon and Pork.	Beef.	Mutton and Lamb.	Miscel- laneous.
	Lb.	Lb.	Lb.	Lb.
Feb. 1.....		126,840		
" 3.....		79,110		
" 5.....		35,960		
" 6.....		34,400	2,290	
" 12.....		24,200		32,350
" 13.....		34,770		32,530
" 14.....		32,070		
" 15.....		185,120		24,329
" 22.....		50,670		
" 24.....		89,810		
" 25.....		32,060		
Total.....		725,010	2,290	89,209

ALBERTA TO BRITISH COLUMBIA.

	Lb.	Lb.	Lb.	Lb.
Feb. 1.....		7,641		
" 2.....	5,271	35,989	545	305
" 3.....	14,512	51,905		
" 4.....	8,470	43,304	1,235	1,273
" 12.....	3,505	26,126	2,686	
" 13.....	767	11,434	221	173
" 17.....	18,062	50,317		
" 27.....	5,567	38,894	39	1,067
" 28.....		22,390		
Total.....	56,154	288,000	4,726	2,818

QUEBEC TO BRITISH COLUMBIA.

	Lb.	Lb.	Lb.	Lb.
Feb. 1.....	25,306			7,250
Grand Total.....	81,460	1,013,010	7,016	99,277

Amount of meat shipped into British Columbia from Ontario, Alberta and Quebec..... 1,200,763

SHIPMENTS of Meat within the Provinces of Canada—Continued.

ONTARIO TO ALBERTA.

Date.	Bacon and Pork.	Beef.	Mutton and Lamb.	Miscellaneous.
1913.	Lb.	Lb.	Lb.	Lb.
February 15.....		24,910		
" 25.....		24,050		
Total.....		48,960		

QUEBEC TO MANITOBA.

1913.	Lb.			
February 1.....	25,000			
Total.....	25,000			

MANITOBA TO SASKATCHEWAN.

1913.	Lb.	Lb.	Lb.	Lb.
February 1.....		412		
" 2.....	5,579	4,511	5,718	15,923
" 3.....	545			2,676
" 4.....	1,125			
" 5.....				180
" 6.....	229			119
" 7.....	5,044	5,556	2,100	2,182
" 8.....	337			529
" 10.....	255			1,930
" 11.....	2,354	520	300	4,914
" 12.....	250			
" 13.....	104			298
" 14.....	4,629	15,511	1,450	5,988
" 15.....	736			406
" 17.....	1,191	166	49	3,190
" 19.....	3,838	1,108	101	5,049
" 20.....	968			1,292
" 22.....	5,569	11,942	210	3,654
" 24.....	50			
" 25.....				288
" 26.....	895	274	212	880
" 27.....	991	217	78	1,304
" 28.....	3,457	7,664	1,054	1,109
Total.....	39,146	47,881	11,332	51,911

ONTARIO TO SASKATCHEWAN.

	Lb.	Lb.	Lb.	Lb.
February 15.....		29,840		39,540
" 21.....				22,460
Total.....		29,840		62,000

BOARD OF INQUIRY INTO

SHIPMENTS of Meat within the Provinces of Canada—Continued.

ALBERTA TO SASKATCHEWAN.

Date.	Bacon and Pork.	Beef.	Mutton and Lamb.	Miscellaneous.
1913	Lb.	Lb.	Lb.	Lb.
February 8.....	469	218	.....	266
Grand Total.....	39,615	77,937	11,332	114,177

Amount of meat shipped to Saskatchewan from the Provinces of Ontario, Manitoba, and Alberta..... 243,063^{AD}

ONTARIO TO NEW BRUNSWICK.

1912		Lbs.	Lbs.	Lbs.	Lbs.
December	2.....	8,525	430	.....	8,104
"	3.....	591	.....	.....	3,261
"	5.....	1,190	1,130	.....	9,349
"	4.....	.....	.....	.....	263
"	6.....	.....	3,270	.....	41,926
"	7.....	1,678	5,025	.....	2,766
"	9.....	.....	506	.....	7,815
"	10.....	.....	680	.....	25
"	11.....	.....	.....	.....	2,440
"	12.....	.....	.....	.....	18,515
"	13.....	.....	3,000	.....	6,940
"	14.....	2,946	10,494	.....	2,631
"	16.....	.....	1,096	.....	2,049
"	17.....	.....	.....	.....	730
"	18.....	.....	.....	.....	3,496
"	19.....	385	.....	.....	32,555
"	21.....	850	8,647	.....	12,77
"	23.....	550	6,785	.....	6,505
"	24.....	.....	.....	.....	1,045
"	26.....	335	.....	.....	2,810
"	27.....	.....	1,250	.....	30,000
"	28.....	1,070	3,516	.....	2,025
"	30.....	.....	21,900	.....	6,500
Total.....	.....	18,120	67,729	.....	204,027

ONTARIO TO NOVA SCOTIA.

1912		Lbs.	Lbs.	Lbs.	Lbs.
December	1.....	.....	.....	.....	1,760
"	2.....	2,971	25,870	.....	3,190
"	5.....	530	.....	.....	27,155
"	6.....	.....	13,745	.....	30,710
"	7.....	1,681	1,820	.....	5,631
"	9.....	1,100	5,530	.....	2,500
"	10.....	30,600	3,250	.....	5,690
"	11.....	.....	.....	.....	244
"	12.....	.....	31,690	.....	30,880
"	13.....	.....	330	.....	.....
"	14.....	795	.....	.....	7,495
"	16.....	555	420	.....	31,666
"	17.....	.....	.....	.....	520
"	18.....	151	16,600	.....	46,245
"	19.....	1,160	50	.....	5,340
"	21.....	1,195	.....	.....	391

SHIPMENTS of Meat within the Provinces of Canada—Continued.

ONTARIO TO NOVA SCOTIA—Continued.

Date.	Bacon and Pork.	Beef.	Mutton and Lamb.	Miscellaneous.
1912				
December 23	1,180	1,300		3,181
" 24	1,230			18,670
" 26	6,932	2,850		37,070
" 27				1,000
" 28	796	214		50
" 30	100			350
" 31				8,199
Sydney	50,976	103,669		267,927
	4,019	32,905		271,900
Total	54,995	136,574		539,827

ONTARIO TO SYDNEY, NORTH SYDNEY AND SYDNEY MINES.

1912		Lbs.	Lbs.	Lbs.	Lbs.
December 2					20,000
" 5					21,350
" 7		1,630	3,625		27,100
" 9			1,250		
" 12			5,000		
" 13		449	7,200		54,540
" 16			7,000		30,140
" 21		630	3,350		33,435
" 23			700		
" 24					25,200
" 26					30,000
" 27					29,870
" 28		1,310	4,780		265
		4,019	32,905		271,900

ONTARIO TO PRINCE EDWARD ISLAND.

Date.	Bacon and Pork	Beef.	Mutton and Lamb.	Miscellaneous.
1912.				
December 5	660 lbs.			685 lbs.
" 2				140 "
" 23		1,600 lbs.		
" 31	323 lbs.			
	983 lbs.	1,600 lbs.		825 lbs.

Movements of Meat from Maritime Provinces—West, 1912.

December 3.—From Charlottetown, P.E.I., to Hull, P.Q.: Number of packages, 131; weight, 2,400 pounds dressed hogs.

December 4.—From Charlottetown, P.E.I., to Montreal, P.Q.: Number of packages 3; weight, 695 pounds lambs and tongues.

December 5.—From St. John, N.B., to Winnipeg, Man.: Number of packages, 657; weight, 20,000 pounds frozen lamb and mutton.

December 5.—From Summerside, P.E.I., to Lac au Saumon, P.Q.: Number of packages, 2; weight, 700 pounds dressed hogs.

December 5.—From Charlottetown, P.E.I., to Hull, P.Q.: Number of packages: 144; weight, 24,500 pounds dressed hogs.

December 7.—From St. John, N.B., to Winnipeg, Man.: Number of packages, 530 carcasses lamb and mutton, 4 barrels hearts, 1 barrel tongue; weight 20,000 pounds all frozen.

December 10.—From Sussex, N.B., to Winnipeg, Man.: Number of packages, 877; weight, 30,000 pounds lamb and mutton.

December 11.—From Charlottetown, P.E.I., to Montreal, P.Q.: Number of packages, 5; weight, 820 pounds leaf lard.

December 12.—From Charlottetown, P.E.I., to Hull, P.Q.: Number of packages, 127; weight, 24,000 pounds dressed hogs.

December 16.—From Charlottetown, P.E.I., to Montreal, P.Q.: Number of packages, 2; weight, 300 pounds beef and lamb tongues.

December 16.—From Charlottetown, P.E.I., to Hull, P.Q.: Number of packages, 145; weight, 24,500 pounds dressed hogs.

December 19.—From Charlottetown, P.E.I., to Hull, P.Q.: Number of packages, 131; weight, 24,000 pounds dressed hogs.

December 21.—From Charlottetown, P.E.I., to Hull, P.Q.: Number of packages, 129; weight, 24,300 pounds dressed hogs.

December 21.—From Charlottetown, P.E.I., to Salmon Lake, P.Q.: Number of packages, 3; weight, 980 pounds dressed hogs.

December 24.—From Charlottetown, P.E.I., to Hull, P.Q.: Number of packages, 156; weight, 24,000 pounds dressed hogs.

December 27.—From Charlottetown, P.E.I., to Montreal, P.Q.: Number of packages, 1; weight, 80 pounds pigs' hearts.

December 27.—From Charlottetown, P.E.I., to Hull, P.Q.: Number of packages, 145; weight, 24,000 pounds dressed hogs.

December 28.—From Charlottetown, P.E.I., to Calgary, Alta.: Number of packages, 228; weight, 14,820 pounds canned chicken.

December 31.—From Charlottetown, P.E.I., to Montreal, P.Q.: Number of packages, 664; weight, 24,500 pounds dressed lambs.

Total for month of December, 1912, 284,595 pounds.

From the Maritime Provinces to Liverpool, England.

December 6.—From Charlottetown, P.E.I., to Liverpool, England: Number of packages, 400; weight, 19,200 pounds canned mutton.

December 6.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 238; weight, 11,424 pounds canned beef.

December 7.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 300; weight, 14,400 pounds canned beef.

December 12.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 438; weight, 30,660 pounds canned beef and mutton.

London, England.

December 14.—From Charlottetown, P.E.I., to London, Eng.: Number of packages, 250; weight, 17,500 pounds canned mutton.

Liverpool, England.

December 16.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 200; weight, 17,000 pounds canned mutton.

December 16.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 200; weight, 14,000 pounds canned beef.

December 21.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 217; weight, 8,416 pounds canned beef and mutton.

December 24.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 862; weight, 41,368 pounds canned mutton and beef.

December 24.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 438; weight, 21,024 pounds canned mutton.

December 26.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 191; weight, 9,169 pounds canned beef and mutton.

December 27.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 270; weight, 18,900 pounds canned beef.

December 31.—From Charlottetown, P.E.I., to Liverpool, Eng.: Number of packages, 148; weight, 7,104 pounds canned beef and mutton.

Total for month of December 1912, 230,182 pounds.

APPENDIX No. 27.

COST OF BEEF PRODUCTION.

CENTRAL EXPERIMENTAL FARM, OTTAWA.

Year.	Total No. of steers.	No. days fed.	Daily gain per steer	Cost per cwt.	Selling price per cwt.	Cost of feed per steer.	Profit per steer.	Loss per steer.	Cost of 1 lb. gain.
				\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	Cents.
1905-6.....	96	177	2.03	3 88	4 96	17 03	9 03		5.19
1907-8.....	51	259	2.06	4 68	5 03	21 57	3 41		5.52
1908-9.....	32	169	1.98	3 70	4 89	20 13	3 41		6.82
1909-10.....	32	425	1.59	5 06	6 16	30 70	4 24		6.81
1910-11.....	38	188	1.76	5 40	6 90	21 87	6 55		7.32
1911-12.....	15	259	1.31	6 62	8 06	40 56		1 68	11.99
1912-13.....	26	356	1.54	6 17	7 75	42 42	4 11		7.69

NAPPAN, N.S.

1908-9.....	50	165	1.80	4 49	5 55	13 10	3 50		7.83
1909-10.....	64	165	1.46	4 32	5 65	23 92	3 87		9.90
1911-12.....	64	121	1.64	4 65	6 50	26 40	9 58		9.74
1912-13.....	65	106	2.04	4 70	6 56	19 97	14 50		9.44

BRANDON, MAN.

1909-10.....	36	155	1.28	3 50	5 50	23 90	5 09		13.13
1910-11.....	40	154	1.19	3 25	4 97	17 81	5 35		10.58
1911-12.....	21	167	1.30	3 00	6 30	19 57	23 50		8.9
1912-13.....	19	167	1.22	4 25	6 75	23 51	13 20		11.7

LACOMBE, ALTA.

1909-10.....	20	157	1.48	3 66	5 00	26 26	28 93		11.25
1910-11.....	18	109	1.72	3 65	5 75	14 00	14 35		7.42
1911-12.....	20	155	1.80	4 00	7 00	26 44	18 12		9.93
1912-13.....	12	109	1.52	4 75	7 50	18 57	11 72		11.09

EXPLANATORY NOTES RE BEEF PRODUCTION.

CENTRAL EXPERIMENTAL FARM, OTTAWA.

1905-6.—The total number of 96 steers were carried on in six experiments, composed as follows: 25 steers into three lots, choice, medium and poor; 20 steers into two lots, heavy *vs.* light feeding; 14 steers, two lots, choice *vs.* poor feeders; 15 steers, two lots, long *vs.* short keep; 22 steers baby beef, four lots, limited *vs.* full ration.

1907-8.—Fifty-one steers were divided into two experiments, as follows:—12 steers, baby beef, limited *vs.* full ration; the rest of the steers on a frozen wheat test.

1908-9.—Thirty-two steers were divided into two experiments, namely, 11 steers for baby beef, limited *vs.* full ration; and 21 steers for the testing of corn, oil cake and gluten on short keep steers.

1909-10.—Thirty-two steers, ten of which were on a long *vs.* short keep experiment and the remainder on baby beef experiment.

1910-11.—Thirty-eight steers, all testing baby beef.

1911-12.—Fifteen steers, long *vs.* short keep.

1912-13.—Twenty-six steers, testing grades of four breeds in the feeding of yearling steers.

N.B.—In the selling price of all beef for all the farms there is 5 per cent shrinkage on above quoted figures.

N.B.A.—In the column, "Cost to produce 1 lb. Gain," no account has been taken on labour, interest, depreciation, etc., but the above calculation made altogether on the cost price of the foodstuffs.

COST OF PORK PRODUCTION.

CENTRAL EXPERIMENTAL FARM.

Year.	No. Head.	Days fed.	Daily gain pr. hd.	Value at start cwt.	Value sold cwt.	Cost feed pr. hd.	Profit pr. hd.	Loss pr. hd.	Cost pr. 1 lb. gain.
1905-6.....	16	85	.61			3 19			5.9
1907-8.....	70	56	.86			2 14			4.4
1908-9.....	150	23	1.31			1 16			4.9
1909-10.....	120	39	.52			2 31			3.59
1911-12.....	75	58	.65			1 74			4.7
1912-13.....	64	69	1.06			3 99			4.91

NAPPAN, N.S.

1912-13.....	10	132	.92			6 73			5.4
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BRANDON, MAN.

1910-11.....	28	86	.97			3 24			3.75
1912-13.....	8	60	.69			2 50			5.83

EXPLANATORY NOTES *RE* PORK PRODUCTION.

CENTRAL EXPERIMENTAL FARM.

1905-6.—The sixteen pigs on experiment were for the testing of mangels *vs.* sugar beets *vs.* meal *vs.* herbageum. In this year, as in all subsequent years, no valuation of the pigs was set at the commencement of experiment, nor were they sold in block immediately from the experiment. Consequently the above figures are all that are available.

1907-8.—The 70 head of swine in the series of experiments for this year were for the testing of frozen wheat against the regular meal mixture.

1908-9.—The 150 head of swine used in experiment were carried over three experiments for the testing of different meal mixtures against the standard.

1909-10.—The 120 head of swine for this year were for the testing of different meal mixtures against the standard.

1911-12.—The 75 hogs for this year were divided into five lots, testing meal *vs.* meal and milk *vs.* turnips raw *vs.* turnips cooked *vs.* mangels raw.

1912-13.—Sixty-four head of swine were divided as follows:—14 for summer feeding in the testing of green feed, and 50 for winter feeding in the testing of chop (barley and oats) *vs.* turnip *vs.* milk *vs.* middlings *vs.* feed flour.

NAPPAN, N.S.

The only experiment worth reporting was that of 1912-13, when 10 pigs were divided so as to give one lot double the amount of skim milk which the other lot received. The most economic gains were made where six pounds of milk (the double lot) was fed.

BRANDON, MAN.

1910-11.—Twenty-eight head were divided into five lots for the testing of tank-age *vs.* mixture of pease, oats and barley, *vs.* chopped barley.

1912-13.—This was a test of barley *vs.* feed flour, both fed on the middlings foundation.

AGASSIZ, B.C.

A very good experiment at Agassiz, carried on in 1912-13 was not reported in such detail as to be able to give all the above figures. This was a test of rice meal *vs.* the regular grain mixture.

COST OF MUTTON PRODUCTION.

CENTRAL EXPERIMENTAL FARM, OTTAWA.

Year.	No. Lambs	No. days fed.	Daily gain per Lamb	Cost per cwt.	Selling price per cwt.	Cost feed pr. lb.	Profit per Lamb.	Loss per Lamb.	Cost pr. 1lb. gain.
			Lb.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	Cents.
1909-10.....	27	124	.27	6 25	7 50	2 60	1 22	.....	7-86
1910-11.....	27	90	.23	5 00	7 25	2 09	1 58	.....	9-09
1911-12.....	29	114	.28	5 75	7 25	2 53	1 38	.....	7-75

Charlottetown, P.E.I.

1911-12.....	30	90	.119	4 50	5 66	1 30	0-28	.....	14-05
1912-13.....	83	88	.074	4 50	6 25	1 44	0-48	24-00

Nappan, N.S.

1912-13.....	40	76	.28	5 75	7 50	1 99	1-43	9-14
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Brandon, Man.

1911-12.....	112	126	.17	5 80	2 18	12-00
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Lethbridge, Alta.

1911-12.....	250	112	.262	3 80	6 25	2 07	1-34	7-05
1912-13.....	285	117	.213	3 75	6 50	2 19	0-56	9-28

EXPLANATORY NOTES RE MUTTON PRODUCTION.

The above figures pertain to lamb feeding experiments only, as no figures are available as to the cost of rearing lambs year after year.

For the Central Experimental Farm, during the three years, Lot I in each case was fed on turnips as the basic succulent, Lot II on ensilage, and Lot III on a mixture of turnips and ensilage.

At Charlottetown, a series of tests comparing alfalfa hay, timothy hay, corn stover, roots, in conjunction with grain, was carried on in 1912. Only the first three mentioned were carried on in the previous year.

The figures quoted from Nappan represent a test of clover hay *vs.* timothy hay with and without roots.

The test at Brandon was a comparison of feeding inside *vs.* outside, and included a test of alfalfa hay, timothy hay and straw.

The tests at Lethbridge include a comparison of alfalfa hay with other roughages and include also the value of roots, grain and elevator screenings.

COSTS OF MILK PRODUCTION (C. E. F., OTTAWA).

Best 3 Cows of Breeds.

Breed..	Days in Milk.	Daily yield.	Lbs. milk.	Per cent fat.	Cost of feed.	Cost 100 lbs. milk.	Cost 1 lb. butter.	Profit on cow.	Year.
		Lbs.			\$ cts.	Cents.	Cents.	\$ cts.	
Canadians.....	228	30-0	6,404	4-6	33 73	51-9	9-9	41 71	1905
	280	20-9	5,918	4-6	46 71	78-9	14-5	30 14	1906
	309	23-8	7,359	4-3	44 92	61-8	12-	57 00	1908
	336	20-4	6,887	4-4	50 78	75-5	14-	56 24	1909
	339	21-7	7,465	4-6	63 42	84-6	15-6	55 73	1910
	310	21-5	6,611	4-75	61 42	93-8	16-8	46 28	1911
	298	25-2	7,508	4-60	49 90	66-8	13-1	71 50	1912
	327	21-2	6,813	4-50	53 33	78-8	14-9	76 66	1913
Average.....	303	23-1	6,871	4-54	50 53	74-0	13-9	54 41	
Ayrshires.....	287	28-7	8,942	3-75	44 17	49-2	11-1	47 47	1905
	259	28-8	7,256	4-1	46 13	65-8	13-1	41 73	1906
	290	29-1	8,466	3-86	42 39	49-9	10-9	63 31	1908
	318	26-3	8,280	3-9	52 79	64-	13-8	62 31	1909
	307	28-8	8,801	3-8	66 71	75-3	16-6	54 43	1910
	279	28-9	8,091	3-98	65 25	80-9	17-2	48 45	1911
	324	29-4	9,427	4-22	60 94	64-8	13-1	87 53	1912
	467	26-6	11,833	3-89	80 00	66-9	14-6	107 66	1913
Average.....	317	28-3	8,887	3-94	57 30	64-6	13-8	64 11	
Guernseys.....	296	24-8	7,348	4-62	40 33	55-6	10-2	49-20	1905
	288	22-8	6,716	4-9	45 30	67-9	11-8	49 37	1906
	349	21-1	6,504	4-9	42 80	69-1	11-5	58 44	1908
	307	13-9	4,498	5-06	39 14	87-4	14-5	42 52	1909
	249	25-0	5,288	4-7	50 82	93-3	16-8	35 63	1910
	322	15-8	5,045	5-21	57 23	115-3	18-8	32 48	1911
	302	20-4	6,193	5-04	51 93	85-4	14-5	63 30	1912
	462	18-1	7,741	5-01	67 91	87-0	14-3	85 32	1913
Average.....	322	20-2	6,167	4-93	49 43	82-6	14-1	52 03	

COSTS OF MILK PRODUCTION (C. E. F., OTTAWA)—Continued.

Best 3 Cows of Breeds—Continued.

Breed.	Days in milk.	Daily yield.	Lbs. milk.	Per cent fat.	Cost of feed	Cost 100 lbs. milk.	Cost 1 lb. butter.	Profit on cow.	Year.
		Lb.			\$ cts.	cents.	cents.	\$ cts.	
Shorthorns.....	259	20.8	5,834	3.81	39 08	75.	16.5	16 54	1905
	291	17.5	4,825	3.8	38 77	76.6	16.8	20 63	1906
	305	21.5	6,616	3.9	43 32	68.6	15.	39 38	1908
	307	23.9	7,383	3.9	52 00	73.3	16.0	47 82	1909
	320	22.7	7,170	3.8	65 51	91.3	20.6	31 77	1910
	319	21.8	6,898	3.89	63 93	94.9	20.7	28 21	1911
Average.....	300	21.4	6,454	3.9	50 44	80.	17.6	30 73	
Holsteins.....	429	31.8	14,125	3.48	84 41	60.8	14.8	115 81	1913
Grades.....	261	25.8	6,676	3.51	37 96	56.7	13.5	27 00	1905
	348	21.1	7,316	5.1	60 60	68.1	10.9	58 11	1906
	287	22.2	6,413	5.0	41 95	67.9	11.5	56 66	1908
	325	19.8	6,297	4.5	46 10	76.6	14.4	47 60	1909
	319	22.8	7,165	4.5	65 47	87.6	17.0	47 73	1910
	319	19.4	6,060	5.32	63 70	102.2	16.3	48 15	1911
Average.....	310	21.9	6,655	4.66	52 63	76.5	13.9	47 54	

All Breeds.

No. of cows.									
35.....	254	23.2	6,015	4.04	37 89	63.1	13.5	27 72	1905
50.....	224	18.2	4,143	4.2	34 78	91.8	18.4	17 98	1906
38.....	275	19.6	5,347	4.4	38 61	78.7	15.5	35 10	1908
50.....	267	17.6	4,699	4.3	39 98	90.7	18.0	29 56	1909
65.....	276	19.1	5,174	4.2	54 03	109.6	21.9	22 92	1910
54.....	269	20.7	5,413	4.29	53 37	99.3	19.9	26 90	1911
36.....	311	20.5	6,297	4.51	51 27	84.9	16.7	50 01	1912
40.....	360	20.6	7,433	4.15	58 02	78.0	15.9	65 12	1913
46 Average.....	280	19.9	5,565	4.26	45 99	87.0	17.5	34 41	

COST OF MILK PRODUCTION.

CENTRAL EXPERIMENTAL FARM, OTTAWA.

The calculations of above table are based on the cost of foodstuffs alone, labour, interest, depreciation, etc., not being considered. According to close calculations these other items, including cost of handling the milk until it is ready for the consumer, would about double the cost per hundred pounds as calculated on foodstuffs only.

APPENDIX No. 28.

SUMMARY OF INFORMATION COMPILED FROM THE ANSWERS
RECEIVED FROM MUNICIPAL OFFICIALS IN RESPECT
OF PUBLIC MARKETS IN CANADA.

NEW BRUNSWICK.

Moncton (February 2, 1914).—There is one market building in the city of Moncton, covering about 11,000 square feet. It is about a quarter-mile from the Inter-colonial depot and the street railway passes its door. The market is used both by producers and traders; part being set aside for the use of producers and traders occupying three stalls.

St. John (February 2, 1914).—St. John's market is 150 x 400 feet, the market building being entirely enclosed and occupying the full area of the land. It is situated a quarter-mile from railway station and 30 feet from street railway. It is used exclusively for the sale of meats, vegetables, fish and fowl. The annual rentals thereof from all sources are \$16,201.34. The market building and lot are valued at \$150,000.

QUEBEC.

Montreal (February 5, 1914).—There are in Montreal five markets, exclusively reserved for the sale of meat, fish, fruits, vegetables, provisions and farm products, which same are known as the Bonsecours, St. Antoine, St. Lawrence, St. James and St. Jean Baptiste markets, including one hay and two cattle markets. The area of land of each market and the size of buildings thereon are as follows, the Bonsecours market including the Central fish market and the following grounds adjacent, viz., Le Royer and Jacques Cartier squares:—

	Area of Land.	Size of Buildings.
Bonsecours Market	72,198 sq. ft.	35,002 sq. ft.
Central Fish Market	12,230 "	6,034 "
Le Royer Square	13,801 "	Platforms.
Jacques Cartier Square	37,993 "	"
St. Lawrence Market	18,839 "	17,268 sq. ft.
St. Antoine Market	60,022 "	15,893 "
St. James Market	22,493 "	8,048 "
St. Jean Baptiste	11,250 "	8,320 "
Hay Market	35,661 "	1,100 "
Eastern Cattle Market	3 acres.	
Western Cattle Market		

The Bonsecours market is situated in the centre of the city, fronting the river St. Lawrence, in proximity to market boats and Canadian Pacific Railway freight and passenger depots. The St. Antoine market is situated close to the Grand Trunk Railway freight and passenger depots. All the other markets are scattered throughout the city, with every facility of connection with tramway lines running in all directions. The five meat markets are exclusively reserved for farmers and gardeners coming to the city to sell their produce, "excepting butchers and fruit merchants occupying stalls in said markets." There have been accommodated at the Bonsecours market, which is the most extensive, up to 1,500 gardeners and farmers' wagons in one market day, which is generally held every Friday, and the approximate value of produce contained in each wagon was estimated to be between \$35 and \$40. No statistics are available as to the amount of business done at these markets.

Sherbrooke (January 30, 1914).—In Sherbrooke there is one market, with the following buildings: One main building, 60 feet x 100 feet; one meat market building, 80 feet x 40 feet. The total land area of the market is 150,000 square feet. The market is located 300 feet from railway station and 30 feet from the street railway. The market is used for the sale of commodities both by producers and traders (traders about 10 per cent). Average weekly business done, \$5,000.

Three Rivers (April 9, 1914).—There are two markets in Three Rivers: a produce market, which has a land area of 200 x 200 and a building 130 x 150 feet; and a hay market, 370 x 100 feet, without any building. These markets are situated a mile from the railroad and are utilized by farmers who come in to sell their products. In the produce market there are two shops for butchers and hucksters, who can buy on the market only during certain hours. No statistics available as to the extent of business done.

ONTARIO.

Berlin (February 3, 1914).—There is one market in Berlin, with an area of 4 acres and a building 66 x 250 feet. The market is located about 3,000 feet from the railway station and on the street railway line. This is a producers' market only. There is one market a week in the winter time, being held on Saturday mornings; in the summer there are two markets a week—on Wednesday and Saturday mornings. The extent of the business done is between \$3,500 and \$4,000 weekly.

Brantford (January 29, 1914).—In Brantford there is one market, about 60 feet square, located on the street car lines and quite close to the Grand Trunk railway and about half-a-mile from the T. H. & B. railway and H. and B. electric railway. The market is used for the sale of commodities both by producers and traders. No statistics are available as to the amount of business done.

Chatham (May 26, 1914).—There is one market in Chatham, located about an eighth of a mile from the Canadian Pacific railway station and three-quarters of a mile from Grand Trunk railway station, and fronts on the street railway. The area of the market grounds is about 1½ acres, and there is one market building, 350 feet x 40 feet. The market is open principally on Wednesdays and Saturdays, and is used for the sale of commodities by producers only. The market building is furnished with good lavatories and is heated and lighted when necessary. The market service is considered satisfactory.

Fort William (February 9, 1914).—There is no regular market building in Fort William, but instead during the summer months the skating rink building is used; this is admirably situated and adapted for the purpose of a summer market. This building is located only a few hundred yards from the three Transcontinental railroads, viz., the Canadian Pacific, Grand Trunk Pacific, and Canadian Northern railways, and about 1,000 feet from the electric street railway line. Land has been purchased and it is the intention to erect a suitable market building in the near future. As to the extent of business done at the summer market there are no statistics, but only a few farmers have taken advantage of it.

Galt (May 26, 1914).—In Galt there is one market, of an area of about two acres, and it is located about a quarter-mile from the railroad and an eighth of a mile from the street railway. It is used for the sale of commodities to the extent of about ninety per cent. No statistics are available as to the amount of business done.

Guelph (February 18, 1914).—There is one market in Guelph. Its location is adjacent to the Grand Trunk Railway station and the street railway. It is used for the sale of commodities both by producers and traders, but in what proportion cannot be stated, nor is there any information available as to the amount of business done on this market.

Hamilton (February 14, 1914).—In Hamilton there are two markets, viz., Central market, with a land area of 138,254 square feet, and John street market, with an area of 41,625 square feet. The size and description of the buildings situated on the Central market place are as follows:—Butter, egg and poultry market building (for farmers, their wives and relatives), 44 x 62 feet—1 storey, brick; wholesale butchers' pavilion, 43 x 268 feet—1 storey, steel structure, equipped with overhead tracking for carrying meat to scale house situated at one end; weigh scale building and office, at end of butchers' pavilion, 22 x 32 feet—1 storey, brick, equipped with platform scales and 10-ton scale; lavatory, 20 x 27 feet—2 storey brick building, for the accommodation of those attending the market and the general public; Central market sheds, situated at east end of market, containing 2 double stalls, of 17 feet and 18 feet fronts, by 12 feet deep, and 9 single stalls, with 8 feet and 9 feet fronts, by 12 feet deep; Central market hall, 300 feet long, 57 feet wide and 75 feet high, containing 72 single stalls, 16 feet deep and 16 feet high. The building at the John street market is an office and scale building for weighing hay, straw, etc., and coal, being of brick and 1 storey high, and equipped with two 10-ton platform scales. The Central market is located in the centre of the city, two-thirds of a mile from the Grand Trunk railway station, four city blocks from Canadian Pacific railway, Michigan Central railway, and Toronto, Hamilton and Buffalo station, and four city blocks from terminal station of the Electric railway, while the city electric street railway runs along two sides of the market square. The location of the John street market is in the centre of the south portion of the city, being distant one mile from the Grand Trunk station, one block from Toronto, Hamilton and Buffalo station, four blocks from Electric Terminal station, and two blocks from street railway. The Central market is used—the open market by producers to the extent of 90 per cent, and by hucksters 10 per cent; the butter market, by producers only; the butchers' pavilion, by producers only; the Central market sheds and Central market hall, by retailers. The John street market is used by producers only. At the Central market the extent of business done is from \$5,000 to \$25,000 on winter market days, and from \$20,000 to \$35,000 on summer market days, the market being held three days a week. At the John street market the business done amounts to about \$1,000 daily. In 1913, the fees collected at the Central market amounted to \$7,902.96, and at the John street market to \$1,275.70. The value of the Central market hall is \$30,000, and of the land on which it is situated, \$60,000. The butter, egg and poultry market building is valued at \$10,000, and the wholesale butchers' pavilion at \$20,000, the value of the building on the John street market being \$2,000.

Kingston (February 12, 1914).—There are two markets in Kingston, one a hay market and the other a general commodity market, three-eighths of an acre in extent, with a covered building 52 x 62 feet. The uncovered portion of this market is used for selling farm produce of all kinds, and the covered portion mainly for a market for the islands (Wolfe, Howe and Amherst), the produce from which is brought to market by boat in summer and by sleigh in winter. The market is situated a few yards from the railway station, and is used for exchange between producer and consumer. No statistics are available as to the amount of business done.

London (February 12, 1914).—There is a city market in London, covering an area of 12,000 square yards, and accommodating 600 waggons in the open market, 200 women in the butter and egg pavilion, and 40 waggons in the butcher pavilion. The egg and butter pavilion is a frame structure having a floor area of 3,080 square feet. This building is 140 feet long, and has seats along the inside for 200 women who come with baskets of butter, fruit, etc., for sale. The butcher pavilion is an iron structure, shed type, open at sides and ends, having a floor area of 3,900 square feet, and is capable of taking 40 waggons, backed in along the sides, a 10-foot wide walk running down the centre. The main market building is of brick, with ground floor and basement, having a floor area of 14,870 square feet. The ground floor has 18

stalls, which are rented to the retail butchers for \$15 per month each; the basement has 20 stalls, rented to the butter and egg dealers for \$7 per month each. The weigh scale building is of brick, with a floor area of 1,000 square feet, and forms housing for three sets of scales, one for waggons, one for bags of grain, and one for small articles. The new comfort station is a brick and cement building of substantial design, with ground floor and basement well fitted up. The floor area is 1,760 square feet. The ground floor is set aside for women and the basement for men. This building was opened this year; the other buildings have been up several years. The total cost of buildings on the market square approximates \$25,700. The city owned the greater part of the area now used, but portions were given by private owners, conditionally that the land was used for market purposes only, for all time. There is no record of any payment. The cost of operation and maintenance amounted to \$2,875, including repairs, etc., last year, and will cost about \$4,000 next year on account of the new comfort station with its attendants. The market clerk's salary is \$750 per year, and the weigh scales clerk's salary is \$800 per year. Last year (1912) the revenue amounted to \$6,530, made up as follows, viz.: Rent of stalls, \$4,920; fees from weigh scales, \$1,130; rent of spaces, \$480. The market is central to the business area, and half a block from the main thoroughfare.

Ottawa (February 6, 1914).—There is only one public market in Ottawa. The market square, with the streets used for market purposes, cover an area of 38,601 square yards. On this ground there is one building, 60 feet x 200 feet, which is occupied by butchers; one building, 55 feet x 150 feet, in which there is a public office, public weigh scales, with the balance of the ground floor rented to butchers and fish dealers. Over this there is a large public hall. Adjoining this building there is a modern lavatory, 10 feet x 40 feet, and six small buildings, 25 feet by 25 feet each, used for the sale of dairy produce, poultry and fruit. The market is centrally located, being 1,100 feet from the Grand Trunk central passenger depot and 500 feet from the Grand Trunk railway freight shed. Street cars pass three sides of the market. The market is used exclusively for the sale of farm produce and fish. About one-fourth of those doing business on the market are hucksters and traders, the balance being farmers and gardeners. Figures relating to the amount of business done on the market are not available, but the market inspector estimates that there is a greater quantity of produce sold on this market direct from the producer to the consumer than on any other market in Canada.

Owen Sound (February 2, 1914).—There is one open market in Owen Sound and it is located about the centre of the town, a quarter of a mile from the railway stations. The market is used by producers only. No statistics are available as to the amount of business done in this market.

Peterborough (February 12, 1914).—In Peterborough there is one public market. The area of land used for the open market is about 290 x 150 feet, besides the land occupied by the market building, which is approximately 125 x 60 feet, with an extension of about 45 x 30 feet. The market is centrally located, being about 500 yards from one railway station and about 350 from the other. The street railway runs past it. The market is used almost entirely by producers. No statistics are available as to the amount of business done.

Sault Ste. Marie (May 26, 1914).—There is in Sault Ste. Marie one market, with a market hall, on King street, being located a quarter mile from railway station. The market is used for the sale of commodities by producers. Everything is sold out on market day.

St. Catharines (June 3, 1914).—In St. Catharines, there is one market, the ground area of which is 320 x 400 feet, with one building 30 x 40 feet, situate on King and

Church streets, about fifty yards from the street railway. The market is used by producers only; about 400 wagons attending each week. No other figures are available as to the amount of business done.

Toronto (January 31, 1914).—The city operates one produce market, viz., St. Lawrence, which is divided into two sections, being approximately 1,500 feet x 300 feet over all. The market is located on Front street, half a mile from railway station, but directly on street car line. The large proportion of produce offered for sale is by farmers, who express goods to the market, coming on same train to dispose of them. The market is well heated and equipped with baskets for the convenience of selling. The space occupied by farmers is absolutely free; notwithstanding this, Saturday is about the only day they take advantage of this privilege. The goods sold in this section of the market consist chiefly of butter, eggs, poultry, etc. The other portion of the premises is occupied by those within easy access who make it a practice to drive in with produce, which they sell from their wagons. The year 1913 was the best numerically in the history of the market, but no statistics are available as to the amount of business done.

MANITOBA.

Brandon (February 10, 1914).—In Brandon there is one market, consisting of one building 135 x 75 feet and an open area in the rear 100 x 120 feet. The market is located 2,500 feet from the Canadian Pacific Railway depot, 3,000 feet from the Great Northern depot and 7,500 feet from the Canadian Northern depot, while the street railway runs past the building. The market is used for commodities both by producers and traders in about equal proportions. The extent of business done is about \$5,500 monthly.

Winnipeg (February 16, 1914).—There are five public markets in Winnipeg under the jurisdiction of the city, four of these being used mostly by farmers for the sale of hay, straw, wood, etc. The area of these four markets is as follows, respectively: Ward 1, 25,437 square feet; Ward 4, 30,330 square feet; Ward 5, 20,890 square feet; Ward 7, 25,440 square feet. There are no buildings on these four markets other than the weighmaster's buildings, containing weigh scales and office accommodation. They are located about one mile from a railway station and are very conveniently situated in regard to street cars. The Central market, the fifth, is situated at the rear of the city hall, being 31,383 square feet in extent. The size of the building thereon is 60 by 162 feet and it contains 18 stalls, which are rented by the city to retail butchers and produce merchants. Farmers and market gardeners can also sell, wholesale or retail, their produce at the curb of the sidewalk surrounding the market. No vegetables are sold outside the market building during the winter season but frozen meat and fish are sold thereon. No statistics are available as to the amount of business done.

ALBERTA.

Calgary (February 19, 1914).—Calgary has two retail markets, viz., the hay and grain market and the public market. The area of the hay and grain market is approximately 1½ acres. The inside dimensions of the market building are 70 by 225 feet. The public market, which has only been in operation about one year, is located on the corner of Third avenue and Fourth street east, about equal distance between the new Grand Trunk Railway station and the Canadian Pacific Railway station (about six blocks from each). This market is used jointly by dealers and producers; at the present time about 65 per cent of the business being handled by the dealers.

Edmonton (April 21, 1914).—There are three markets in Edmonton, as follows: Rice Street market, covering an area of about three acres; First Street market, covering an area of about three acres; South Side General Produce market, covering an area of one acre. These markets are all centrally located and are close to the railway stations and the street railway—one has direct street car service, the other two being within two minutes of the street cars. The Rice Street market is the principal one and is used extensively by farmers, producers and others. The bulk of the produce is sold through commission men, who have consignments shipped to them from the agricultural towns of the district. The producer is charged a toll of ten cents per day while the trader is charged one dollar per day. Practically all local producers make use of the market. There are no permanent buildings yet connected with these markets but there is under construction a large market building which will cost in the neighbourhood of \$50,000. The front portion of this building, with full basement, will be three stories high, 64 feet wide and 34 feet deep, with a one-storey attachment with full basement which will be 48 feet wide by 104 feet long. This building is located on the First Street market, is served by the street railway and is within a quarter of a mile of a railway station. It is estimated that fully \$20,000 per week is turned over on these markets.

SASKATCHEWAN.

Regina (February 2, 1914).—Regina possesses one market, the land area of which consists of a quarter of a block, the market building being approximately 200 x 60 feet. The market is situated some four blocks from and on the same avenue as the post office, the street cars stopping at the corner on which the market is located. Ample accommodation has been provided for stalls, tables, etc., for the sale of commodities of producers and traders. Weigh scales have also been installed for the weighing of coal, firewood, hay and straw. No statistics are available as to the amount of business done on this market.

Saskatoon (February 5, 1914).—For the past three or four years a market has been in operation in Saskatoon, but with very little attendant benefit to either the producer or consumer. It is with the object of having the market put on a better basis that at present an investigation is being held by a special committee of the council which is going thoroughly into all matters affecting the marketing of farm produce in Saskatoon. The market building is situated on a site of an area of about two acres. The location is close to the centre of population and is on the street railway, being distant from the Canadian Pacific railway station about three blocks.

BRITISH COLUMBIA.

New Westminster (February 9, 1914).—In the city of New Westminster there is one market, situated on the water front on the banks of the Fraser river and almost in the centre of the town. The main building is 80 feet wide by 360 feet long, with a wharf 15 feet wide the full length of the building on one side. The market is situated about four blocks from the transportation depots of the Canadian Pacific, the Great Northern, the B. C. Electric, Interurban and the Canadian Northern railways, although their lines pass alongside. There is in connection with the market free stabling accommodation for the *bona fide* farmer; the building used for this purpose being 40 x 200 feet, divided into stalls for horses and cattle; and this together with the driving and stock yards occupies in the neighbourhood of an acre of ground. The street railway line is about 150 feet from the market. The market is used exclusively for the sale of agricultural commodities by the producer direct to the

consumer. The market charges are purely nominal and are figured out simply to carry the cost of maintenance. The estimated amount of the business transacted on the market during 1913 is \$250,000.

Vancouver (February 6, 1914).—There is one market in the city of Vancouver, the area of the land being 400 feet by 420 feet, and the size of the building 180 feet by 150 feet. The market is located on Main street, three-quarters of a mile from railway station, while the street railway passes the market. The market is used for the sale of all products of the farm. Producers consign their produce to the market manager, and the produce is sold by him on a ten per cent commission direct to the consumer. Ten stalls are rented to traders. As to the extent of business done, commissions for 1913 on produce sold for farmers amounted to \$6,994.02, rents of stalls to dealers to \$741.65; the number of packages sold by the market manager being 50,647 of a net value of \$66,706.26.

Victoria (February 4, 1914).—There is no public market in Victoria at the present time. However, there is a private market, recently established for the sale of the usual commodities, principally foodstuffs, such as butter, eggs, meat, bacon, etc. No statistics are available as to the amount of business done on this private market.

APPENDIX No. 29.

REPORT BY MR. R. H. COATS, EDITOR OF *THE LABOUR GAZETTE*.

OTTAWA, March 13, 1914.

*Memorandum for Mr. McDougald, Chairman of the Cost of Living Commission.
Re Cattle Loaning Companies.*

Following your suggestion, I paid a visit while in Minneapolis to the South St. Paul stock yards for the purpose of obtaining further information as to the operations of cattle loaning associations. Mr. Briggs, whose name had been suggested by Mr. Sanford Evans, was out of the city, but I spent some time with Mr. Flanigan, who is closely associated with Mr. Briggs, both being officers of the "Stock Yards National Bank of South St. Paul," which does a large cattle loaning business, and also of the "St. Paul Cattle Loan Company," whose business, as its name implies, is confined to lending money on cattle as security.

While in St. Paul, I learned that the Swift Company in the previous year had sent their solicitor and Mr. Briggs to Toronto for the purpose of interviewing the managers of the leading Canadian banks and securing their help in the establishment of cattle loaning companies in Western Canada. The Swift Company are keenly interested in this form of enterprise, as they believe it to be the best means of encouraging the raising of stock by farmers. Mr. Flanagan gave me a letter to Mr. Carton, treasurer of the Swift Company, whom I duly called upon in Chicago, and who in turn gave me a letter to the firm's solicitor, with full instruction to the latter to supply all information at his disposal.

The method of the cattle loaning company is as follows: A farmer applies for a loan to enable him to purchase stockers and feeders. The company looks into his affairs—including his business reputation, general financial standing, buildings, fodder supplies, etc. If these are found satisfactory, sufficient money is advanced to enable him to purchase cattle—not exceeding the number which, in the company's opinion, he is best able to handle. The company secures itself by a chattel mortgage on the cattle, which are branded and handed over to the farmer, the mortgage being registered in the county registry office. As a rule, loans are not made on cattle on the range, but only on farms. The security is considered excellent, even to the full value of the cattle at the time of purchase, seeing that the animals improve rapidly in value from that moment, and are not as a rule subject to epidemic disease. High rates of interest are therefore possible.

The loaning company having made its loan, disposes of the paper either directly through a bank or through a bill broker. I found that the American banks regard this paper very favourably. I met several independent bankers who assured me of this, notably Mr. Van Wechten, who is vice-president of the Continental and Commercial National Bank of Chicago, the second largest bank in the United States. Minnesota cattle paper is traded in at points as far away as New York, and is as universally sought as "gilt-edge." The reason is that the paper represents the judgment of specialists, the loaning companies having a staff of cattle experts who examine the cattle, appraise their value, visit the farms, etc. On account of the need for this expert knowledge, only a comparatively few of the banks themselves

engage directly in cattle loaning. The "Stock Yards National Bank of South St. Paul" above mentioned, is an instance to the contrary, the location of the bank and the nature of its general business qualifying it to safely engage in cattle loaning.

I found both the banks and the packing companies of St. Paul and Chicago very critical of the lack of facilities under our law for carrying on a similar business in Canada. Every one I saw attributed to this machinery the rapidity with which the farmers of the American Northwest have been able to turn to mixed farming. I do not think the Swifts have any other interest in the matter except that as packers they are anxious to maintain production, and are alarmed at the present outlook in the Canadian West.

The Canadian Bank Act does not allow the banks to lend money on a chattel mortgage except in the case of standing timber, and threshed grain and ships (Statutes 1913, chapter 9, section 76, subsection 2 and sections 84, 85, and 88). They may take a lien on goods in warehouses, but this does not apply to goods in the hands of the producer. Accordingly, our banks are estopped from loaning to farmers on cattle as security either directly or indirectly. It may further be pointed out that they are not engaged in the practice common among banks of the United States of dealing in miscellaneous paper.

Mr. Carton, the solicitor of the Swift Company, stated that he saw no way out of the difficulty except by an amendment of the Bank Act which would place cattle in the same category as standing timber and ships. A letter from him suggesting such amendment is appended hereto. A second letter of Mr. Carton of a more general nature is also appended. Mr. Carton's amendment would not apply to Quebec, where, under the Civil Code, chattels cannot be mortgaged. On this whole question, see Proceedings and Evidence before Banking Committee on the Bank Act of 1913, especially evidence of Mr. Fargon.

I might add that while in Toronto I called on Mr. Richardson, general manager of the Bank of Nova Scotia, which was one of the banks interviewed by Mr. Carton in 1912. Mr. Richardson is interested in the matter, but is not sanguine as to the feasibility of an amendment to the Bank Act. He stated that if a cattle loaning company were started in the West, the Bank of Nova Scotia would be glad to have its business. Such a company, however, would not obtain from the bank the same degree of support that similar concerns obtain in the United States. The St. Paul Cattle Loan Company, for instance, with a capital of \$100,000 and a reserve of \$100,000, issues loans exceeding \$1,500,000. They are able to do this by the ready acceptance of their paper by the banks. Such would not be possible in Canada. Yet the business is universally admitted to be perfectly sound, so much so that Mr. Van Wechten, whose experience as a country and city banker extends over twenty-five years, told me that in all that time, in handling millions of dollars worth of cattle paper from all over the country, he had never lost a single dollar.

I enclose sample copy of forms used by the St. Paul Cattle Loan Company and the Stock Yards National Bank of St. Paul in making loans in the states of Minnesota, North Dakota, and Montana.

BOARD OF INQUIRY INTO

ADDENDUM I.

FORMS USED BY CATTLE LOAN COMPANIES.

\$..... South St. Paul, Minn.....19....
after date (without grace) we jointly and
 severally promise to pay to.....or order
Dollars
 for Value received at THE STOCK YARDS NATIONAL BANK, SOUTH ST.
 PAUL, MINN. with interest at the rate of.....per cent per annum from.....
 until paid P.O.....
 No.....Due.....

The endorsers hereof hereby severally waive presentment, demand, protest, and notice of non-payment of, and each hereby agrees that any holder may extend the time of payment for any or all the makers or endorsers hereof.

ST. PAUL CATTLE LOAN CO.
 LIVE STOCK EXCHANGE BUILDING,
 SOUTH ST. PAUL, MINN.

Register of Deeds.....County.

Dear Sir: We are desirous of receiving an abstract of all chattel mortgages filed on record in your office against..... which have not been released.

The form given below will divulge the information sought.

Will you kindly fill out the same, returning this sheet at the earliest possible moment. If no mortgages are now in force against the party in question, please write "NONE" below. Assuring you that your prompt attention will be greatly appreciated, and that we will remit your fee for trouble upon advice of amount, I am,

Respectfully,
 W. E. BRIGGS,
 Secretary.

Mortgage Dated.	When Filed.	When Due.	Amount.	To Whom Given.	Description of Property Covered.	Location of Property.

Remarks:.....

No other than above listed this day of 191
 (SEAL) Signed.....

N.B.—We would appreciate and hold in confidence any information given under "Remarks," in what would be of interest or value in assisting us to ascertain his reputation both morally and financially.

CHATTEL MORTGAGE.

This Mortgage, made the.....day of.....in the year 191.., by..... of the County of State of Montana, and whose post office address isMontana, to the St. Paul Cattle Loan Company, of South St. Paul, Minnesota, a corporation.

Witnesseth: That the said..... hereby mortgages to the said St. Paul Cattle Loan Company the following described personal property, to-wit:

It being the intention of the mortgagor herein to hereby mortgage and convey unto the mortgagee herein, all of by h.... owned, of every kind, nature, sex and brand, and the foregoing description shall be construed as describing all of said livestock even though the numbers thereof be greater than herein set forth, with the same force and effect as if each of said animals were herein specifically set forth and described, together with the wool growing or to be grown upon said described sheep, during the life of this mortgage.

Also all property of like kind, hereafter and during the life of this mortgage, acquired by the said mortgagor, by either increase, purchase, or by exchange or substitution for property herein described. The property specifically described above is now in the possession of the mortgagor....in the County of..... and State of Montana, and at the following described location:

This mortgage is given as security to the St. Paul Cattle Loan Company, or its assigns, for the payment of Dollars according to the terms of.....promissory note....bearing even date herewith, payable to the order of the mortgagee, and described as follows:

- One note for.....Dollars, payable.....after date.
One note for.....Dollars, payable.....after date.
One note for.....Dollars, payable.....after date.
One note for.....Dollars, payable.....after date.
the said note....bear interest from date at the rate of.....per cent per annum until paid. The makers and endorsers and guarantors agree to pay a reasonable attorney fee if the note.....not paid at maturity and if placed in the hands of an attorney for collection.

Said mortgage is also given as security for such further and additional sums of money as may hereafter, from time to time, and during the life of this instrument, be advanced and loaned by said mortgagee to said mortgagor...., or which may be paid out by the mortgagee to preserve or protect the lien of this mortgage or the property described herein, together with interest thereon at the rate of.....per cent per annum, which said future advances or payments when made are to be evidenced by

notes executed and delivered by the said mortgagor... to the said mortgagee; and are to be as fully secured hereby as though the same were specifically described and set forth herein.

And this mortgage shall be void if such payment be made.

But in case default be made in the payment of the principle or interest as provided in said promissory note....., then the said mortgagee, its agent, attorney, successors or assigns are, or the Sheriff of any County in which the above described property or any part thereof may be, is hereby empowered and authorized to sell the said goods and chattels, with all and every of the appurtenances, or any part thereof in the manner prescribed by law; and out of the money arising from such sale to retain the principal and interest, together with the costs of taking and caring for said property and the costs and charges of making such sale and reasonable attorney's fees, and the overplus, if any there be, shall be paid by the party making such sale, on demand, to the said mortgagor.....heirs or assigns. In case the said power of sale be executed by a Sheriff as above authorized, then such sale shall be advertised by such Sheriff, by posting notices in three public places in said County at least five days prior to such sale, and such sale may be either public or private.

It is further provided, That the said mortgagor....., heirs or assigns, shall have the right to remain in possession of the above described property until default be made herein by the said mortgagor(s), but the said mortgagor.....shall not have the right to sell or otherwise dispose of the same without the written consent of the mortgagee; provided expressly, however, that if default be made in the payment of the principal or interest, as provided in said promissory note....., or if prior to the maturity of said indebtedness, said described property, or any part thereof, shall be attached, seized or levied upon by or at the instance of any creditor or creditors of the said mortgagor... or be claimed by any other person or persons, or if the said mortgagor... shall place or suffer any other person or persons to procure a lien thereon, or if said mortgagor... or any other person or persons shall remove, or attempt to remove, said property, or any part thereof, from the said County of.....State of Montana, or shall conceal, make away with, sell, or in any manner dispose of said described property, or any part thereof, or shall attempt to do so without the written consent of the mortgagee, or if the said mortgagee shall at any time consider the possession of said property, or any part thereof, essential to the security of the payment of said promissory note., then and in such event, or in either of such events, the said mortgagee, its agent or attorney, successors or assigns, or such Sheriff, shall have the right to the immediate possession of said described property and the whole or any part thereof, and shall have the right at its option to take and recover such possession from any person or persons having or claiming the same, with or without suit or process, and for that purpose may enter upon any premises where said property, or any part thereof, may be found, and may at its option, regard the debt secured by this mortgage due and payable and may thereon proceed to sell such property as above provided, and apply the proceeds of sale to the satisfaction of said debt as above provided. The exhibition of this mortgage, or a copy thereof, shall be sufficient proof that any person claiming to act for the mortgagee is duly made, constituted and appointed agent or attorney, as the case may be, to do whatsoever is herein authorized to be done by or on behalf of the mortgagee, its agent, attorney, successors or assigns.

It is further agreed that the lien of this mortgage shall extend to the proceeds derived from the sale of the mortgaged chattels or to any property substituted or exchanged for said chattels, and that in the event of a sale thereof by the mortgagor... or by the mortgagee under the provisions of this paragraph, the purchaser thereof is authorized to pay to the mortgagee the purchase price, and the presentation of this mortgage, or a true copy thereof, will be sufficient evidence of the authority of the said mortgagee to receive the same, and that until such property is so sold and disposed of by said mortgagor... or mortgagee or their respective assigns, the lien of this mortgage upon said property, wherever the same may be, shall continue and remain in full force

and effect, it being understood that any moneys received by said mortgagee, or its assigns, upon the sale of said property, less the amounts secured by these presents, shall be returned to the said mortgagor....., heirs or assigns.

The mortgagor(s) hereby declare(s) and represent(s) to the mortgagee that the mortgagor(s) own(s) said property, and possess...lawful right and authority to sell, mortgage and dispose of the same, and that the same is free and clear of all liens and incumbrances, and the loan secured by this mortgage is obtained by virtue of these representations

IN WITNESS WHEREOF, the said mortgagor... hereunto affix.....signature and seal, the day and year in this instrument first above written.

.....(SEAL)
.....(SEAL)
.....(SEAL)

STATE OF MONTANA,

County of.....} SS

On this.....day of.....in the year 191...., before me,, a Notary Public for the State of Montana, personally appeared known to me to be the same person...whose name.....subscribed to the within instrument, and acknowledged to me that...he.....executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Notary Public for the State of Montana;

My commission expires.....191.. Residing at.....Montana.

STATE OF MONTANA

County of.....} SSthe mortgagor...in the foregoing mortgage of personal property, being severally sworn, say....: That the said mortgage is made in good faith, to secure the amount named therein, and without any design to hinder, delay or defraud creditors.

Subscribed and sworn to before me this.....day of.....191..

Notary Public for the State of Montana

My commission expires.....191.. Residing at.....Montana.

STATE OF MINNESOTA,

County of.....} SSbeing first duly sworn deposes and says: That he is an officer and managing agent of the ST. PAUL CATTLE LOAN COMPANY, the corporation named in the foregoing mortgage as mortgagee, and makes this affidavit for and on behalf of said corporation. That the said mortgage is made in good faith to secure the amount named therein, and without any design to hinder, delay or defraud creditors.

Subscribed and sworn to before me this.....day of.....191..

Notary Public for the State of Minnesota;

My commission expires.....191.. Residing at South St. Paul, Minnesota.

Section No.....in Township No.....Range No.....in the town of.....
 County of. in the State of North Dakota.

To HAVE AND TO HOLD all and singular the said live stock, personal property and chattels unto the said mortgagee, party of the second part herein, its successors and assigns forever.

And the said first party hereby covenants to and with the said second party, its successors and assigns, that.....he.....now the lawful owner and in possession of said live stock and chattels and has full power to mortgage and convey the same and that they are free from all encumbrances, and said first party will warrant and defend the title to the same against all persons whomsoever.

Provided, nevertheless, that if the said mortgagor, party of the first part shall well and truly pay unto the said mortgagee, party of the second part, its successors or assigns, at the place designated in the notes secured hereby, the sum of..... Dollars, payable as follows: \$.on the.day of191., \$.on theday of191., with interest on each of said sums at the rate ofper cent per annum from.until paid, which amounts are evidenced bynotes of even date herewith, executed and delivered with this instrument, by the said mortgagor, payable to the order of said mortgagee, then these presents and everything herein contained shall be void, otherwise to remain in full force and effect.

It is mutually agreed that this mortgage and the lien thereof shall cover and secure said indebtedness until fully paid, and all extensions and renewals of the note or notes above described.

And the said party of the first part hereby covenants and agrees that in case default shall be made in the payment of any of the notes aforesaid, when they shall be due, or if the mortgagee herein, its successors or assigns, shall at any time in good faith deem themselves insecure, or in case the said mortgagor shall remove or attempt to remove from the said premises, or dispose of, or attempt to dispose of, the said property, or any part thereof, or reasonable and proper care be not taken thereof, or if any of the statements made herein by the said mortgagor shall prove false, in whole or in part, or if the said mortgagor shall fail to keep and perform any of the covenants or agreements herein contained then, and in either of such cases, all of said notes and said sums of money aforesaid, both principal and interest, shall, at the option of the said mortgagee, its successors or assigns, without notice of said option to any one, become at once due and payable, and the said mortgagee, its successors or assigns, officers, agents or attorneys, or any of them, shall thereupon have the right to take immediate possession of said property, and for that purpose to enter upon the premises of said mortgagor or any other place or places where said property or any of the same may be, and remove and sell the same at public auction in the manner provided by law, and at such sale the said mortgagee may become the purchaser, or at private sale, with or without notice, for cash or on credit, as the said mortgagee, its successors or assigns, may elect, and out of the moneys arising from such sale to retain all costs, charges and expenses for taking, removing, keeping, feeding and caring for said livestock and personal property, including \$50 attorney's fees, rendering to said first party the surplus money, if any. And the said party of the first part hereby authorizes the person conducting said sale to give bill of sale to the purchaser thereof, which shall be conclusive as to the regularity of all the proceedings connected herewith, and convey absolutely all the right and title of the said first party in and to said property, if any so sold, and if from any causes the proceeds of the sale of said property shall be insufficient to satisfy and pay said indebtedness, interest, costs, charges and attorney's fees, the said first party hereby covenants and agrees to pay any deficiency there may be.

And the party of the first part hereby further covenants and agrees with the said party of the second part, that this mortgage is intended and shall stand as and for the

security of the party of the second part so long as it may be in any manner interested in the payment of any part of the notes and indebtedness above described, whether as payee, endorser, guarantor or otherwise, as well as for the security of any assignee or endorsee of said notes, and in the absence of an express agreement between the said party of the second part and any such assignee or transferee of said indebtedness or notes to the contrary, the said party of the second part, whether its liability as such endorser or guarantor shall have become fixed and absolute or not, and whether it has responded and paid upon such liability or not, shall have the same right to enforce the covenants and conditions of this mortgage and to exercise the power of sale contained in it after the assignment and transfer of such indebtedness, as it would have had if no such assignment or transfer had been made, but such assignee or endorsee shall also have and be vested with the same right.

IN WITNESS WHEREOF, the part of the first part ha hereunto set.hand and seal this day of 191...

In presence of

. [Seal]

County of.

On this day of A.D. 191., before me, a notary public, in and for said County, personally appeared. known to me to be the person described in and who executed the within instrument and acknowledged the same to be free act and deed, and being duly and severally sworn by me did severally depose and say that each and all of the matters, facts and things set forth in said instrument are true.

Notary Public.

This is to certify that the party of the second part, named in the within instrument, has surrendered to me, the party of the first part named therein, at the time of the execution thereof, a correct copy of said original signed instrument with the signatures of the witnesses and the certificate of acknowledgment thereto shown thereon.

In presence of

.

No.

CHATTEL MORTGAGE.

.

TO

.

OFFICE OF REGISTER OF DEEDS.

State of North Dakota

County of. } ss.

I herby certify that the within instrument was filed in this office on the. day of. 191., at. o'clock m, and was duly entered in Chattel Mortgage Book.

Register of Deeds.

By. Deputy.

OFFICE OF REGISTER OF DEEDS.

State of North Dakota }
County of } ss.

I hereby certify that I have carefully compared the within instrument with the original instrument No. now on file in my office and that it is a full, true and correct copy of the same, and that the above is a true copy of the filing endorsed thereon.

Dated. 191..

Register of Deeds.

By. Deputy.

CHATTEL MORTGAGE. Leader Blank Department, Long Prairie, Minn.

This Indenture, made this day of A.D. 191.. between of the town of County of and State of Minnesota, party of the first part, and

STOCK YARDS NATIONAL BANK of South St. Paul, Minnesota, party of the second part:

Witnesseth, That the said party of the first part, in consideration of the sum of Dollars, paid by the said party of the second part, and to secure the payment of the sum of money hereinafter mentioned, does hereby grant, sell and convey to the said party of the second part, the goods, chattels, and property hereinafter described, viz.:

.
.
.
now in possession of the said in the town of in county, Minnesota, to have and to hold, all and singular, the aforesaid Goods, chattels and Property, with the appurtenances, and all the estate, right, title and interest of the said party of the first part therein, unto the said party of the second part, and its assigns, forever.

And the said party of the first part for himself, his heirs, executors and administrators, does covenant and agree to and with the said party of the second part, and its assigns that he is lawfully possessed of the said goods and chattels as of his own property; that he has good right to sell and convey the same in a manner aforesaid; that the same are free from all encumbrances, and that all and singular goods, chattels and property above bargained and sold, in quiet and peaceable possession of the said party of the second part, and its assigns, he shall and will Forever Warrant and Defend:

Provided, That if the said party of the first part shall well and truly pay, or cause to be paid, unto the party of second part or its assigns, the sum of \$. according to the conditions of certain promissory note as follows:

- One note for \$. due One Note for \$ due
- One note for \$. due One Note for \$ due
- One note for \$. due One Note for \$ due

bearing even date herewith, executed by the said
..... payable to

STOCK YARDS NATIONAL BANK of South St. Paul, Minnesota,
with interest at per cent per annum till paid, then
these presents to be void.

But if default shall be made in the payment of said sum or sums of money, or
the interest thereon, at the time the said note or notes shall become due, or if any
attempt shall be made by the said mortgagor, or any other person, to dispose of or
injure said property; or to remove said property, or any part thereof, from said
county, or if said mortgagor does not take proper care of said property or if said
mortgagee shall at any time deem itself insecure, or in default of any of the covenants
or conditions herein contained, then, thereupon and thereafter, it shall be lawful,
and the said mortgagor hereby authorizes said mortgagee, or its assigns, or its
authorized agent, to take said property, wherever the same may be found, and hold
or sell and dispose of the same and all equity of redemption, at public auction, on
such terms as said mortgagee or its agent may see fit, retaining such amount as shall
pay the aforesaid note or notes and interest thereon, and an attorney's fee of ten
dollars, and such other expenses as may have been incurred, returning the surplus
money if any there may be, to the said mortgagor or his assigns, and the said mort-
gagor hereby waives demand and personal notice of the time and place of sale. And
as long as the conditions of this mortgage are fulfilled, the said mortgagor to remain
in peaceful possession of said property, and in consideration thereof, he agrees to
keep said property in as good condition as it now is, at his own cost and expense.

In Testimony Whereof, the said party of the first part hereunto sets his hand
and seal the day and year first above written.

Signed, Sealed and Delivered in presence of

..... } (Seal)
..... } (Seal)

State of Minnesota, }
County of } ss

Be it Known, That on this day of,
191...., personally came before me
..... to me personally known to be the same person
described in, and who executed the foregoing instrument,
and acknowledged that he executed the same freely and
voluntarily.

.....
Notary Public Minnesota.

My Commission expires

No. Mortgage No.

CHATTEL MORTGAGE.

.....
.....

To

STOCK YARDS NATIONAL BANK, South St. Paul, Minn.

Office of Register of Deeds, State of Minnesota.

County of {
..... } ss

I hereby certify that the within Mortgage was filed in this office for record on the day of, A.D. 191... at o'clock ...M., and was duly entered in Chattel Mortgage book page

.....

Register of Deeds.

Office of Register of Deeds, State of Minnesota.

County of {
..... } ss

I hereby certify that I have compared the within instrument with the original Mortgage No. now on file in my office and that it is a true and correct copy of the same and of the whole thereof, and that the above is a true copy of the filing thereon.

Dated, 191...

.....

Register of Deeds.

BOARD OF INQUIRY INTO

CONFIDENTIAL.

STOCKYARDS NATIONAL BANK,
 South St. Paul, Minn.

Gentlemen,—As a basis for a loan or for credit which may now or hereafter ask of your Bank make the following statement of present financial condition and responsibility.

Name of firm, corporation or individual
 Town.....County.....Date.....

General Statement.

ASSETS.	Dollars.		LIABILITIES.	Dollars.	
		Cts.			Cts.
Personal Property.....			Chattel mortgages—upon what property given—when due.		
			Borrowed money,		
			When due.....		
			Rate of interest.....		
			Security.....		
Real Estate, title to which is in,			Are you surety on notes or bonds?		
Acres,			Confidential and other debts not included in above.....		
Cash value			Total liabilities.....		
Less encumbrance, if any.....			Total assets.....		
Total assets.....					

Remarks

The above statement, both printed and written, has been carefully read by and is a full, true and correct statement of financial condition.

Witness: Signed

Subscribed and sworn to before me this day of, 191..
 My Commission expires, 191..

.....
 Notary Public in and
 for County

CHATTEL MORTGAGE.

KNOW ALL MEN BY THESE PRESENTS: That..... of.....in the County of.....and State of South Dakota party of the first part, in consideration of the sum of.....Dollars in hand paid by..... party of the second part, the receipt whereof is hereby acknowledged, does hereby grant, bargain, sell, mortgage and convey unto the said party of the second part, its successors and assigns, the following described personal property, to wit:

..... and also all the natural increase thereof, and substitutes therefor (no substitutes however shall be made without the consent of the mortgagee, thereto in writing previously had and obtained) which now are or hereafter until the indebtedness hereinafter mentioned shall be fully paid, may be on and about the premises herein described.

The above described live stock is all of the kind now owned by the party of the first part, whether in excess of above numbers or not, and is in his possession on Section No.....in Township No..... Range No..... in the town of..... County of.....in the State of South Dakota.

To HAVE AND TO HOLD all and singular the said live stock, personal property and chattels under the said mortgagee, party of the second part herein its successors and assigns forever.

And the said party hereby covenants to and with the said second party, its successors and assigns, that...he.....now the lawful owner and in possession of said live stock and chattels and has full power to mortgage and convey the same and that they are free from all encumbrances, and said first party will warrant and defend the title to the same against all persons whomsoever.

Provided, nevertheless that if the said mortgagor, party of the first part shall well and truly pay unto the said mortgagee, party of the second part its successors or assigns, at the place designated in the notes secured hereby, the sum of..... Dollars, payable as follows:

\$......on the.....day of.....191...\$......on the.....day of.....191...with interest on each of said sums at the rate of.....per cent per annum from.....until paid, which amounts are evidenced by.....notes of even date herewith, executed and delivered with this instrument, by the said mortgagor, payable to the order of the said mortgagee, then these presents and everything herein contained shall be void, otherwise to remain in full force and effect.

It is mutually agreed that this mortgage and the lien thereof shall cover and secure said indebtedness until fully paid, and all extensions and renewals of the note or notes above described.

And the said party of the first part hereby covenants and agrees that in case default shall be made in the payment of any of the notes aforesaid, when they shall be due, or if the mortgagee herein, its successors or assigns shall at any time in good faith deem themselves insecure, or in case the said mortgagor shall remove or attempt to remove, from the said premises or dispose of, or attempt to dispose of, the said property, or any part thereof, or reasonable and proper care be not taken thereof, or if any of the statements made herein by the said mortgagor shall prove false, in whole or in part, or if the said mortgagor shall fail to keep and perform any of the covenants or agreements herein contained then, and in either of such cases, all of said notes and said sums, of money aforesaid, both principal and interest, shall, at the option of said mortgagee, its successors or assigns, without notice of said option to any one, become at once due and payable, and the said mortgagee, its successors, or assigns, officers, agents or attorneys or any of them, shall thereupon have the right to take

immediate possession of said property, and for that purpose to enter upon the premises of said mortgagor, or any other place or places where said property or any of the same may be, and remove and sell the same at public auction in the manner provided by law, and at such sale the said mortgagee may become the purchaser, or at private sale, with or without notice for cash or on credit, as the said mortgagee, its successors or assigns may elect, and out of the moneys arising from such sale to retain all costs, charges and expenses for taking, removing, keeping, feeding and caring for said live stock and personal property, including \$50 attorney's fees, rendering to said first party the surplus money, if any. And the said party of the first part hereby authorizes the person conducting said sale to give bill of sale to the purchaser thereof, which shall be conclusive as to the regularity of all the proceedings connected herewith, and convey absolutely all the right and title of the said first party in and to said property, if any so sold, and if from any causes the proceeds of the sale of said property shall be insufficient to satisfy and pay said indebtedness, interest, costs, charges and attorney's fees, the said first party hereby covenants and agrees to pay any deficiency there may be.

And the party of the first part hereby further covenants and agrees with the said party of the second part, that this mortgage is intended and shall stand as and for the security of the party of the second part so long as it may be in any manner interested in the payment of any part of the notes and indebtedness above described, whether as payee, endorser, guarantor or otherwise, as well as for the security of any assignee or endorsee of said notes, and in the absence of and express agreement between the said party of the second part and any such assignee or transferee of said indebtedness or notes to the contrary, the said party of the second part whether its liability as such endorser or guarantor shall have become fixed and absolute or not, and whether it has responded and paid upon such liability or not, shall have the same right to enforce the covenants and conditions of this mortgage and to exercise the power of sale contained in it after the assignment and transfer of such indebtedness, as it would have had if no such assignment or transfer had been made but such assignee or endorsee shall also have and be vested with the same right.

I hereby acknowledge receipt of a true and correct copy of the within and foregoing mortgage at the time of signing the same, without additional cost to me.

IN WITNESS WHEREOF, the part of the first part ha hereunto set.....hand and seal this.....day of.....191....

In presence of

.....(Seal)
(Seal)

No.....

CHATTEL MORTGAGE.

.....

To

.....

OFFICE OF REGISTER OF DEEDS.

State of South Dakota }
 County of..... } ss

I hereby certify that the within instrument was filed in this office on the..... day of.....191....at.....o'clock...M., and was duly entered in Chattel Mortgage Book.....

Register of Deeds.

By.....Deputy.

OFFICE OF REGISTER OF DEEDS.

State of South Dakota }
County of..... } ss

I hereby certify that I have carefully compared the within instrument with the original instrument No.....now on file in my office and that it is a full, true and correct copy of the same, and that the above is a true copy of the filing endorsed thereon.

Date 191

Register of Deeds.

By.....Deputy.

ADDENDUM II.

LETTER FROM MR. CARTON WITH ENCLOSURES.

Gardner, Carton and Thomson
Attorneys and Counsellors,

CHICAGO, March 6, 1914.

R. H. COATS, Esq.,
Department of Labour,
Ottawa, Canada.

DEAR SIR,—Referring again to our talk yesterday, I enclose herewith, with Mr. L. A. Carton's consent, copy of a letter, dated December 11, 1913, to him from Mr. W. P. Dickey, President of the Portland Cattle Loan Company, Portland, Oregon.

It is my understanding that the climate in the western states, where the Portland Cattle Loan Company lends money, is in many respects similar to that of the western Canadian range country, where the chinook winds prevail, dissipating snow and frost during the winter months.

Respectfully yours,

(Sgd.) ALFRED T. CARTON.

PORTLAND CATTLE LOAN COMPANY.

North Portland, Oregon, December 11, 1913.

Mr. L. A. CARTON,
C/o Swift & Company,
Union Stock Yards, Chicago, Ill.

DEAR SIR,—Complying with your request of the 4th, we shall be very pleased to furnish you with the information, and trust you will be successful in persuading Canadian banks to become purchasers of Cattle Loan paper.

We answer your questions as follows:

1. We have loaned in volume, in twenty-six months, approximately \$9,000,000, and have retired paper sold to banks approximately \$7,000,000. This should give one an idea of the liquidity of the paper.

2. Our security has been a chattel mortgage on cattle and sheep. In the fall of the year we adhere strictly to loaning on the class of stock going into feed lots. In the spring of the year our loans are always lower, but we make loans to the best and most responsible parties for cattle going on grass, mostly within fence and when on the range insist that riders are with them. It is understood that this class of cattle, in the fall, with

very few exceptions, either come to the market as beef or go into the feed lots. We have never taken security other than chattel mortgage on the live stock; have not asked for real estate security.

3. To assure ourselves that the security is as stated, will say that this is passed on by our inspectors when the loan is made direct and when coming through the country bank (from whom we get a great deal of our paper) the security is inspected by the banker and we have advice from him to the effect that they have the cattle and we can tell from the condition of their financial statement whether they are substantial men.

4. The instrument taken as evidence of the loan are notes secured by chattel mortgage, and out of the vast amount of loans we have made we have only had one fore-closure and that just recently. Of course, our chattel mortgage covers that we could seize or take the property at any time, but we believe it much better to proceed through a Court of Equity in the regular manner as then we could get a deficiency judgment in case there was a loss.

5. The result of my experience with this class of security is that I consider it the safest, most liquid and reliable loan that a banker or an investor could buy if he were in the market for paper that would absolutely turn to cash.

I am also of the opinion that there is a higher regard for cattle paper each year, and it is my prediction before many years that cattle will be fed the year round. I do not see where there is any hazard whatever in loans of this character, providing the lender knows his man well and the borrower has a sufficient amount of feed for fattening purposes.

It is a great mistake to overstock an individual, and we generally consider that a ton of good alfalfa hay will feed an animal in this territory sixty days.

Cattle paper is not known to bankers as well as it might be, and when they find out that this class of security appreciates each day you hold it, owing to the gain made in weight of the live stock, I am certain they would become ready buyers.

I find the territory tributary to our market a most desirable country in which to loan as there is an abundance of feed, plenty of water and no droughts, and the climate is mild in winter.

Trusting that this information will be of some assistance, I am,

Yours very truly,

(Sgd.) W. P. DICKEY,
President.

PARTIAL LIST OF STOCKHOLDERS.

Estate G. F. Swift, deceased	Chicago
Louis F. Swift, President Swift & Co.	Chicago
Edward F. Swift, Vice-President Swift & Co.	Chicago
L. A. Carton, Treasurer Swift & Co.	Chicago
A. H. Veeder, Attorney	Chicago
E. H. Bailey, President First National Bank.	St. Paul
Geo. H. Prince, Chairman Board Merchants National Bank, St. Paul	
Kenneth Clark, Capitalist.	St. Paul
J. W. Lusk, Capitalist.	St. Paul
A. B. Stickney, Capitalist.	St. Paul
John S. Bangs, Manager Swift & Co.	South St. Paul
J. J. Flanagan, President Stock Yards National Bank. South St. Paul	
W. E. Briggs, Cashier Stock Yards National Bank.	South St. Paul

Kenneth Clark, Prest.
J. J. Flanagan, Vice Prest.

W. E. Briggs,
Secy. & Treas

ST. PAUL CATTLE LOAN CO.

INCORPORATED

Cash Capital. \$200,000 00

Surplus.

Loans Placed on Live Stock Exclusively.

DIRECTORS

Kenneth Clark, J. W. Lusk, E. H. Bailey, J. J. Flanagan, John S. Bangs, Geo. H. Prince, W. E. Briggs, South St. Paul, Minn.

APPENDIX No. 30.

THE PROBLEM OF AGRICULTURAL CREDIT IN CANADA.

Few questions in relation to economic agriculture have attracted so much attention as has the problem of supplying loans and advances to farmers at low rates of interest, and no question apart from the tariff—which is ever with us—is so agitating the minds of the Western Canadian farmer at the present moment.

Ever since, and doubtless even before Louis XIV in one of those pleasing *bons mots* which so distinguished that otherwise amiable monarch, remarked that credit supports agriculture as the cord does the hanged, it has been recognized that credit facilities are of the utmost importance to farmers, even more so perhaps than to other business men. That this is so may very readily be seen on reflecting that a farmer, especially if he be a grain farmer, receives far the greater amount of his money in one lump sum when he sells his product. His greatest outgoings have been immediately before he markets his crop; help has had to be hired and paid in cash; machinery has had to be repaired or replaced; the threshing gang has had to be paid either in cash or by a lien note on the crop, and in many other ways the greatest expense has been incurred immediately before his returns come in. In addition to that, nature makes haste slowly and agriculture is not susceptible to a whirlwind campaign; although the returns from good farming land may be reasonably sure, they are also undoubtedly slow. A farmer is not in the position of a merchant with a large and quick turnover, with money coming in every day over the counter, who can discount a bill of lading and obtain advances from the bank if his credit be good, readily and at reasonable rates. What is more, the banks are prohibited by law from advancing money on mortgage, and can only make loans on personal security, thereby cutting off the farmer's chief asset.

We find the farmer, therefore, in peculiar need of credit facilities, and also peculiarly handicapped in his ability to obtain them.

The question has indeed come before us with redoubled vigour of late owing to the rising tide of feeling, principally in the States and the western provinces of the Dominion, that some form of co-operation might be introduced to benefit the farming community in the matter of obtaining loans at a cheap rate. For some years now there has been a growing feeling in the West that the banks have treated the farmer harshly and unconscionably. Among other charges that have been laid at the door of the banks, to quote the Saskatchewan Commission's report, it is said that they have tried to dominate business policy; have sought to pay dividends first and serve their clients second; that they are controlled outside the province and at times of stress leave the province to its fate; that their charges for transferring funds are unreasonably high, and the rate of interest they charge unnecessarily large; that the interest allowed on deposits is too low, and that, finally, their sympathies lie rather with the commercial than with the agricultural class.

This is indeed a formidable indictment and if proved would show a lamentable absence of public spirit on the part of the banks.¹ So great has been the agitation in the States that in May, 1913, a large commission consisting of two members from every

¹ In this connection the evidence of Sir Edmund Walker before the Committee on Banking and Commerce which investigated the revision of the Bank Act, 1913, should be given due weight. He stated that it was the policy of the Bank of Commerce to go into any new place with the railway, practically along with the first store-keeper. On the average a new branch does not pay its expenses till the third year, and it takes six or seven years at least before it has made enough money to cover the losses of the first three years. Sir Edmund Walker's evidence throughout is a striking defence of the Canadian Chartered Banks.

State in the Union sailed for Europe, charged with the duty of inquiring into the facilities offered in different countries of Europe to the farmers to obtain loans at low rates of interest. Along with them went several representatives from the western provinces, the province of Saskatchewan sending two delegates. In that province the agitation against the banks and loan and mortgage companies has been particularly insistent, thanks largely to the enthusiasm of the Grain Growers' Associations, and the Provincial Government took this opportunity to make an inquiry into the whole subject. With this report and recommendations we will deal later.

The Saskatchewan Royal Agricultural Credit Commission.

On the return of the delegates of the province of Saskatchewan from their European tour with the United States Commission, the Government of the province appointed a commission to tour the province and inquire into the actual state of affairs in agricultural districts. Their procedure was to select some county town (they visited fifteen centres in all) and invite any farmers, bankers, loan company agents, or anyone interested in the question to meet them in a more or less informal discussion of the needs of the farmers of the district for better credit facilities; the general state of agriculture in the vicinity; the ease or difficulty with which money could be raised on good security, and the willingness of the farmers to try a co-operative system of raising money on mortgage. The commission possessed the right to subpoena but does not appear to have exercised it. The sittings held were exceedingly interesting and much valuable and significant evidence was collected. Great interest was evinced and farmers would drive in from all the adjacent districts to attend the sessions of the commission.

In analysing the evidence given,¹ the first salient fact to be noted is that over eighty per cent of all the farm lands in the province are mortgaged. It may be noted that those districts in which the farmers did not give a very hopeful account of farming conditions were exactly the districts (as indeed might be expected) where the percentage of mortgaged farms is highest. For instance at Fillmore, a district which seemingly suffers from lack of good water, it was reported that ninety-nine per cent of the farms were mortgaged; in the Scott district one farmer reported that every farm in the district was mortgaged. A notable exception is to be noticed at Prince Albert where only twenty per cent were reported as mortgaged, this latter district appearing to be exceptionally prosperous.

As to the question whether it was difficult to raise money from banks or mortgage companies, the evidence is practically unanimous that it has always been difficult but that this year it has been practically impossible or at the best extremely difficult.

With regard to the prevailing rate of interest in only one single instance, at Wolseley, did evidence show that as low a rate as 7 per cent was charged by a mortgage company for loans. Rates at 9, 10, 12 and 14 were common, and even fifteen per cent was spoken of. There was also some interesting evidence given as to the "preliminary fees" charged before a farmer can obtain a loan from a mortgage company. Here again evidence was unanimous in showing them to be very high, in some cases excessive and extortionate. For instance, one farmer at Yorkton spoke of preliminary fees of \$38 being paid on a loan of \$650, another at Moosejaw of \$25 having to be paid to obtain a loan of \$400.

Perhaps the most interesting evidence of all was given on the question whether farmers would be willing to try some form of co-operative credit, possibly the Landschaft system, among themselves. Out of fifteen districts in which the question was asked, two replied in the negative, five answered in the affirmative without imposing any conditions, four were ready for the experiment if the Government backed it, and three most emphatically qualified their assent to such a scheme by stipulating that no

¹ Cf. daily reports of the *Regina Leader*, Aug. 7-24, 1913, for a verbatim report of each meeting; also Report of the Royal Commission.

Government aid should be given whatever, the fear of party politics entering into the granting of loans being freely expressed. In neither of the two communities where unwillingness was found to try a co-operative scheme, do the farmers speak optimistically of the outlook in agriculture, nor do the districts appear to be very prosperous. It would, therefore, not be an unjust inference to suppose that the desire for co-operation finds its keenest supporters in the very districts where its assistance to struggling farmers would be least needed and the greatest apathy towards it in those localities where presumably its benefits would be most valuable. Comment on this fact is surely needless.

Besides the evidence given by the farmers, the Commission has produced some remarkable figures with regard to the indebtedness of the agricultural community of the province. . . . They estimate that the average indebtedness of the farmers is close on \$1,500, the average farm being one of 295 acres, that is, an average indebtedness, of \$5 per acre.¹ Even more grave than this is the statement that during the fifteen months ended August 15th, 1913, there were no fewer than 1,723 sale and mortgage proceedings in the province of Saskatchewan.²

This is most undoubtedly a very serious state of affairs, and, whatever may be the cause from which it has arisen, it must be admitted that the western farmer is bearing a heavy burden of debt. To what means of alleviation shall he then turn? On the continent of Europe systems have been founded for helping farmers by co-operation or state assistance, and now, owing largely to the agitation carried on by the Grain Growers' Associations in the Western Provinces of the Dominion and by a group of Democrats from the south led by Senator Duncan U. Fletcher in the United States, great interest has been aroused in the West, more particularly in the province of Saskatchewan, while both political parties in Manitoba have adroitly incorporated the cause of co-operation into their respective platforms. A great many forms of co-operative enterprise and systems of obtaining cheap credit for farmers have been instituted in different countries of the world. All differ as the exigencies of temperament, locality and financial conditions demand, yet a careful study will reveal the fact that all systems, however they may vary in form and detail, may be classed under three principal groups or types:

First, the system of raising loans on mortgages procured for the borrower by a society of landowners, who issue their own bonds secured by the land of the borrowers: under this heading we will consider the German *Landschaften*.

Second, Societies which found banks for receiving deposits and lending on short time loan to members, instances of this being the Schultz-Delitsch and Raiffeisen in Germany and the Desjardins banks in Quebec: this type will be considered with reference to the last instance.

Third, the direct state mortgage loans without any co-operative character at all, as in the Australian system.

THE GERMAN LANDSCHAFTEN.³

The story of the work of the German Land Mortgage Credit Associations, commonly called *Landschaften*, since their founding by Frederick the Great in 1770 is an oft told tale. Designed to help the landowners of Prussia in the financial crisis which followed the Seven Years' War, these Associations at first were compulsorily imposed

¹ Statistics of mortgage indebtedness of farms in U.S.A., show that in the States immediately to the south the percentage of mortgaged farms range from 38 in S. Dakota to 51 in Iowa. The average for seven west north centre States is 45.4 per cent. Thirteenth Census of U. S. A.

² This is a startling figure when compared with the evidence from the State of Victoria where, under State Government loans, only 28 farms were sold up in fifteen years.

³ The report of Mr. J. R. Cahill to the British Board of Agriculture, "An Inquiry into Agricultural Credit and Agricultural Co-operation in Germany," issued as a Blue Book (cd. 6626), is by far the most thorough and exhaustive treatment of the subject in English. Mr. Henry Wolff's "People's Banks" is a mine of useful information. There are numerous descriptions of the system in economic literature.

on all the landowners of the districts in which they were formed, although this compulsory character was modified somewhat later.

These institutions are not, in the ordinary sense, co-operative credit associations at all, that is to say in the sense that the Raiffeisen and Schulze-Delitsch systems are co-operative, seeing that they are non-profit seeking, have no share capital and the accumulated assets are utilized not in lending, but in covering any deficit. These associations may therefore be regarded as very highly organized associations of borrowers, with collective guarantee, for obtaining capital from third persons; by issuing bonds secured by mortgages on the properties of all the members they create a security realisable at any time, and far superior therefore to a mere individual mortgage security.¹

As originally instituted, mortgage bonds were issued secured by mortgage upon specific property with the guarantee of the Associations to back them, but of late years this system has been changed, and now the bonds represent legal claims upon the associations which are founded upon mortgage claims for similar amounts.

The system of working is a simple one. The individual borrower goes to the Landschaft officials who, after his land has been appraised,² give a bond in exchange for his mortgage; the borrower then sells the bond in the open market. The Landschaft pays the interest on its bonds itself, and looks to the borrower to pay a slightly higher rate of interest and amortization to the association direct. If the borrower fail to keep up his payments the Landschaft forecloses (having statutory powers to do so without recourse to a lawsuit), has the land sold to the highest bidder and returns to the borrower any balance left over after the debt and costs have been paid.

All the associations are supervised by the state, and rank as public corporations, their officers ranking as semi-state officials.

In order to obtain a wider market for the bonds of the Prussian provincial associations, eight of these in 1873 combined to form the Central Association, retaining, however, the right to issue their own provincial bonds as well. It was thought that by obtaining a wider market outside of Germany if possible, the bonds would be less liable to fluctuations "as bad harvest and other possible evils are usually only local, and their occurrence, while it might affect seriously bonds of provincial associations, would not affect those resting upon a broader basis." But this central association has not met with any striking success and the value of the central association bonds does not stand higher than those of the provincial associations.³

The business of an association is carried out under the supervision of (a) the Royal Commissioner (b) a Board of Directors, (c) the Council of Administration, (d) the General Assembly. The Royal Commissioner usually the Governor of the Province is a state official nominated by the Government and is president of the whole association.

The board of directors consists of a director general, other members chosen to represent different districts, and other non-voting legal members called syndics. The latter are permanent paid civil servants who conduct the whole business, arranging the legal formalities, adjusting claims, cancelling mortgages, etc. The other members are property owners within the district, and are unpaid. Besides the central board of directors, local directors are elected for the various divisions of the area of the association. They are members of the valuation revision committee, and are charged with the duty of keeping a watch on the conduct of the mortgages in their vicinity which might in any way impair the value of the property mortgaged.

The Council of Administration is a body designed to stand between the directorate and the general assembly. As the latter does not meet regularly, the Council of Administration is intended to represent the general body of members and to exercise supervision over the directorate. The council meets once a year, and before it is laid a gen-

¹ Cahill, *op. cit.*, I.

² Most of the Associations will lend up to $\frac{1}{2}$ of the value of the land tax assessment, but a few only up to $\frac{1}{4}$, none less. Small holders can, however, get slightly better terms.

³ Cahill, *op. cit.*, p. 4.

eral report of the year's work by the directorate, the valuations and loans made, the bonds issued, what properties have been compulsorily administered, and the general state of the funds; it also determines the rates at which bonds shall be issued within certain periods. Members are all mortgage debtors to the association of at least \$7,500 each.¹

The General Assembly is a body composed not of the entire body of members, but consists of the different directors of the various districts, the officers of the association, and certain deputies chosen by all the members; but the personnel of the assembly varies in different associations. In the majority of cases, the general assembly does not meet annually but is called into session by the state commissioner, the council of administration or the directorate. Membership of the *Landschaft* is obtained when any individual becomes a mortgagor of the association and ceases when he has redeemed his mortgage. Some associations charge a small entrance fee, but it is not generally done.

A very small charge (varying from $\frac{1}{4}$ to 1-12 per cent of the amount of the loan) is usually charged for general administrative purposes. The *Landschaften* have no power to refuse loans to landowners who fulfil all the necessary requirements and whose properties are good for the money, or else the association must show good cause for their refusal. Amortization of loans is not general, and various regulations exist in different associations. In most cases the contributions towards redemption of the mortgage are not applied to the immediate reduction of the debt but are accumulated in a special sinking fund. In some associations, however, borrowers are allowed to withdraw their accumulated contributions or take out fresh mortgages.

Bonds have held a very strong position in the money market, and the majority are quoted at, from under 1 to about 2 per cent lower than Government stock bearing the same rates of interest. Indeed it is interesting to note that in 1808, in Prussia's darkest hour, when the land lay crushed by Napoleon after the disaster of Auerstadt and Jena, while Prussian stock was quoted at 20 the bonds of the Silesian Association never fell below 50.

Mr. Cahill sums up the special merits of the *Landschaften* as follows:—

1. Mobilization of credit.
2. Non-liability to recall of loans.
3. Low rate of interest.
4. No possibility of the rate of interest being raised since the bonds are irredeemable by the holder.
5. Right to reduce the debt at borrower's convenience.
6. Low valuation charges.
7. Administration inexpensive and high qualifications for their work of the office holders.

Many of the *Landschaften* have instituted loan banks in connection with themselves, not only to carry on a general banking business, but also to grant advances to borrowers on the security of the bonds of their associations, and also finally to grant short term non-mortgage loans to members who obtain from them more favourable terms than they can elsewhere. These banks have realized very considerable profits, and after appropriations to reserve have turned over to their respective associations substantial sums which are applied to the reduction of the mortgage indebtedness of members.

Besides their principal activities most of the *Landschaften* have established fire and life assurance societies, and one interesting movement in the East Prussia Association may be noted. Here an independent association has been set up to carry on all kinds of life insurance. Instead of paying to the sinking fund the payments were made into premiums on life insurance policies the value of which are to be devoted to paying

¹ It is impossible to state one figure for all Germany: some of the associations elect members with a minimum indebtedness of \$5,000, actual or potential. Cf. Cahill, op. cit., p. 7.

off the mortgage at the death of the mortgagor, any profits of the subsidiary association being devoted to the benefit of the parent Landschaft for the removal of indebtedness of members.

In considering the feasibility of inaugurating in another land and under very different conditions an organization of a similar character, it would be well to keep the following points very carefully in view:—

First, the old established and well developed character both of the associations and of the estates on which they grant their mortgages.

Second, they are completely under Government control and their officers are permanent civil servants, specialists in their own line and trained to their duties.

Third, the principal of amortization is not at all one of their chief points.

THE CAISSES POPULAIRE OF QUEBEC.¹

It is not in the older countries alone that we find successful efforts to supply cheap money to farmers and others who are willing to co-operate for the purpose of securing the benefits arising from community of interests, efforts and liabilities, but a most interesting and highly successful organization is being carried on in our very midst.

M. Alphonse Desjardins, a public spirited French-Canadian gentleman of Levis, P.Q., founded in December, 1900, a co-operative bank. At that time there was no law providing for such an institution, and until the passing in 1906 of the Quebec Syndicates Act, it remained simply a voluntary association, kept together and managed by its founder. During those six early years only two similar banks were founded. The Quebec Act was designated to regularize the formation of co-operative societies, in the form of production, consumption and credit associations; the territory within which such an association was empowered to operate being the limits of a provincial electoral district. The responsibility of members is limited to the amount of their respective shares, and only persons within the electoral area can become members. All efforts to pass a similar bill to apply to the whole Dominion have failed, in spite of favour from high quarters.

The system has certainly flourished, and at the end of 1913 no less than 141 banks had been established in Canada, of which 122 were in the Province of Quebec, and 19 in Ontario, with 65,700 members. The movement has also spread to the United States and there are 23 such banks in Massachusetts and New Hampshire organized by Mr. Desjardins.

These banks are, of course, comparatively small affairs and yet the volume of business done is a striking one. A conservative estimate of the amount of loans made yearly would be over \$3,560,000; the general turnover has now reached \$8,700,000 per annum, and since the inception of the scheme, 15,000 loans have been made.

The Levis Bank, after an existence of thirteen years had on November 15, 1913, a general turnover of \$1,830,211, with a total asset of \$242,055. It had loaned out during the course of its existence a total sum of \$1,197,049 in 6,200 loans, without one single cent of loss, nor has any other of the banks lost anything to date, a very remarkable fact.

The system on which the Desjardin banks are worked marks a further evolution of the type created in the first instance by Schulze in the town of Delitsch. Schulze's system was founded, like Raiffeisen's, on unlimited liability of all members; Luzzatti, who founded the wonderfully successful "Banche Popolari" in Italy, limited the liability; while Mr. Desjardins has gone another step forward in practically abolishing any form of liability at all, and adopting what is known in France as the "capital variable," which is withdrawable almost at will, with 30 days' notice. This is practically the counterpart of the system in vogue in the uncapitalized savings banks of the New England States, where it has been eminently successful for three-quarters

¹ I am indebted to the courtesy of M. Desjardins for the verification of all details and statistics. The information given here may, therefore, be regarded as authoritative.

of a century. Mr. Desjardins states that he was forced to adopt that system as the people in Quebec would never have accepted the unlimited liability nor even the limited liability of Luzzatti.

Mr. Desjardins in the evidence he gave before the Committee appointed to inquire into the Bill before the House of Commons in 1907 has described his system.¹ Put briefly, his banks aim at lending small sums to members on personal security and the honesty of the borrower is considered, not his holding in the bank. The banks work within a very small area where everyone is known to all the shareholders and where every shareholder is interested in the repayment of the loans. The average rate of interest works out at about 6½ per cent.

The banks are never connected with any other Co-operative Society as, in M. Desjardins' view there is a great danger of the banks getting under the control of a few individuals, while control of the whole body through their nominees is, of course, the very essence of the system.

Each association is carried on by three committees, the Council of Administration with from five to nine members; the Credit Committee of three members; and the Supervisory Committee of three; all these committees are appointed by the vote of the shareholders and hold office for two years. The Council of Administration controls the admission of new members, transference or withdrawal of stock, and sees to the general running of the business. By them is chosen the manager—the only salaried official of the concern.

The Credit Committee determine the credit to be allowed to each member and pass on all applications for loans, although the right of appeal to the Council of Administration is granted to the applicant.²

The Committee of Supervision, elected by the shareholders, forms a permanent board of supervision and audit, and if necessary, they have the right of suspending the operations of the association until the situation is revised by a general meeting of shareholders.

The capital of each association varies in amount and is raised by selling shares and by receiving deposits. The shares of \$5 each may be paid for by small installments. Every applicant for membership must come before the Council of Administration, and in the words of the association's by-laws, every applicant, "must be honest, punctual in his payments, sober, of good habits, industrious and laborious." Bankruptcy or abuse of the privileges of the society renders a member liable to expulsion. Savings are received, and the general rate of savings bank interest is given.

Twenty per cent of the net profits of each year, as well as ten cents on each share paid as an entrance fee, is put in the reserve fund, and each association has a Providence Fund raised by means of a ten per cent assessment on the yearly profits, until the fund attains a maximum of one-half the yearly profits distributed on the paid-up stock. This fund is formed as an outer bulwark to the reserve, and is designed to meet the first onslaught of any disaster which might threaten the stability of the Credit Union.

There are several exceedingly interesting and significant points to be noticed about the working of the Caisse Populaires.

First, the success of the whole project has been brought about solely through the devotion and public spirit of M. Desjardins. It is not too much to say that without him they would never have existed at all. Just as Raiffeisen and Schulze carried through their schemes almost unaided, and in the face of opposition, Mr. Desjardins by his own enthusiasm, faith, administrative ability and faculty for inspiring confidence has carried it through on his own shoulders. And it would seem that this must always

¹ Appendix to the Journals of the House of Commons, Vol. XLII, 1906-7. Part I, appendix 3. The evidence of Prof. Shortt is also most interesting, as is also the evidence of Mr. E. M. Townern, Dominion Secretary to the Retail Merchants' Association of Canada, as showing the point of view of the retail storekeeper.

² The Board of Credit must be unanimous in granting any loan, and they are themselves precluded from borrowing.

be so. Where the great state-aided credit institutions of France went to ruin, the tiny spark lit by one man's faith in Germany has never been extinguished and has indeed revolutionized rural life in that country. It seems to be a natural law that such projects flourish under private guidance, and languish and die under state patronage. Where all the remedial measures of successive British Governments for forty-five years have failed to satisfy Ireland, the wonderful success of Sir Horace Plunkett and the Irish Agricultural Organization Society has transformed many districts. Such a reflection is very pertinent when considering such a scheme as has been advocated in Saskatchewan.

Second, the Banks work within a purposely-constricted area, and among a very humble clientele, eighty per cent farmers and twenty per cent wage earners, the average loan being between \$40 and \$100, although, of course, larger loans are made.

Third, the Banks are doing missionary work in teaching the people the very rudiments of banking. Distrusting banks and banking, the French-Canadian kept his money in his stocking. The Caisses are rapidly changing that, and the people are beginning to deposit their little hoards in the bank. Instances are known where old people have brought in a thousand dollars in notes, the savings of a life-time, to deposit in the bank, this experience being closely similar to that found in Germany. The comparison between such conditions and the widespread banking facilities and activities in the hoards in the western provinces is a striking one. It is interesting to note that M. Desjardins has never met any opposition from any of the chartered banks, but on the contrary help and sympathetic regard. Nor have the chartered banks lost ground, but instead have benefitted through the educative influence of the Caisses, breaking down prejudice against banking in general.

Fourth, the Banks of the Caisses Populaires type have been of the greatest assistance to the farming community. In the Levis district several long standing mortgages have been paid off by loans from the Caisse, which loans bear a lower rate of interest than was formerly paid by the mortgagees.

Fifth, it must not be forgotten that the stability of the population is very great. Families live in the same village, often in the same house for generations, a very different state of affairs to the fluid, shifting population of the provinces farther west.

A significant point to notice is M. Desjardins's declaration that state assistance in any shape or form other than the protection the law provides is utterly repugnant to his organization. To quote his own words, "I do not believe in state spoon-feeding; there is nothing to be gained from such a weakening regime, except that it tends to kill that all-powerful stimulus of self-help, so strong an educator in a young democracy such as ours. The movement has never and will never receive, while I am living and enjoy any influence, one solitary cent of either direct or indirect help from any Government or public authority."

And lastly may be mentioned a point which M. Desjardins regards as a very satisfactory achievement, namely, that the Caisses Populaires have almost entirely broken up the easy payment system of buying goods, and introduced an era of "spot cash" dealing with the stores.¹

Such are, very briefly, the main outlines of perhaps the most interesting and successful experiment in co-operation on the American continent.²

*State Government Loans in Australia.*³

There can be no question that in every country this problem of agricultural credit is a pressing one, and each country must do what it can to solve the riddle in its own

¹ Cf. Mr. W. L. Smith's statement with regard to the Grange co-operation.

² M. Desjardins, unlike to many would-be-co-operators, has preferred to expend his energies on organization instead of advertisement. Little has been written about it, the best a small pamphlet by M. Desjardins himself, "La Caisse Populaire," published by l'Ecole Sociale Populaire, 1075 Rue Rachel, Montreal; price 20 cents.

³ Cf. Official Year Book of the Commonwealth of Australia, 1913, pp. 416-525. Also report of Canadian Trade Commissioner to Australia, Mr. D. H. Ross, published in No. 49 of the weekly Reports of the Dept. of Trade and Commerce.

way: Australia and New Zealand have done it by instituting a system of state loans to farmers—the very antithesis to the purely voluntary systems of self help and co-operation that have done so much good in other lands.

The system is closely akin to the Credit Foncier of France. In a word, the state has gone into the mortgage and loan business, lending at a lower rate than the mortgage companies and saving the borrower as much as possible in fees and preliminary expenses. There is no form of co-operation or mutual liability, each farmer is liable for his own borrowing alone.

While the details differ slightly in the different states of the Commonwealth, yet the broad outlines are sufficiently alike to warrant general statements being made.

The funds for making the advances are raised by the different states generally issuing mortgage bonds at four per cent and this money is lent out at a uniform rate of five per cent to the farmers, the security for advances being from one-half to three-quarters of the estimated value of the property offered as security.

One of the most interesting and significant features of the scheme is the schedule of amortization of the loans. Payments of principal and interest are spread over periods ranging from 20 to 36½ years in half-yearly instalments.¹ In the majority of the states the borrowers must begin to pay off the principal five years after the loan has been made, but at the option of the borrower advances may be repaid at any time.

The primary reason for the establishment of the system was, to quote Mr. Ross, "the high rates of interest charged by companies and private lenders. In all the states the chief object was to enable applicants to pay off existing encumbrances on their properties, and to obviate the frequent renewal of mortgages with coincident expenditure."²

The system came into operation in the state of Victoria in 1896, and in fifteen years the trustees of the Loan Fund (in this case the State Savings Bank) foreclosed on and sold twenty-eight farm properties. Out of these twenty-eight farms, only in one instance was there a loss, and that a very small amount on the principal advanced by the state.

In June, 1912, the total amount of mortgages to farmers in the State of Victoria was \$14,773,000, and the amount repaid was \$8,053,900. At that date only ten farmers were in arrears for a total sum of \$468. When the land upon which a loan is asked is accessible by rail the inspection fee charged is \$12.17, if situated further away a pro rata increase is made in the fee. The total additional charge to the borrower for the registration and preparation of the mortgage deed is \$3.65, total expense \$15.82.

"The chief contributing factors to the success achieved," says Mr. Ross, "have been the economical expenditure on management and the effective inspection of all properties upon which loans are made. Many applications for loans are rejected, after careful examination of the securities offered, and the character and industry of the applicant are obviously important points towards influencing a loan being made."

The most important point to be observed in this system is the entire lack of any form of co-operation. The state assumes the functions of a mortgage company, and asks no more than sufficient security from its borrowers giving them in return a long term and low interest charges. Could the ordinary mortgage companies do the same there would be nothing to choose between them. The same result might be very easily accomplished in Saskatchewan were the Provincial Government to enter the field and loan at six per cent. But how many would seriously advocate such a scheme under present political conditions?

¹ The Saskatchewan Commission states that the period is 42 years in South Australia. As far as I can ascertain it is 25 years.

² With regard to this the evidence of a writer on New Zealand is of interest. G. H. Scholefield in "New Zealand in Evolution," p. 254, speaking of the introduction of the system into the colony, says: "The effect was instant. Hundreds of struggling men transferred their mortgages to the easier conditions of the state mortgages."

RECOMMENDATIONS OF THE AGRICULTURAL CREDIT COMMISSION.

It will be superfluous to go into the recommendations of the Saskatchewan Commission in any great detail, since in their broad outlines they follow on the lines of the German *Landschaft*.¹ The Commission proposes to organize under Government supervision an association to be known as the Saskatchewan Co-operative Farm Mortgage Association, subdivided into local associations: with an advisory board of 15 members, the members to be appointed "part by the Association acting through its annual general meeting and the remainder by such organizations and institutions in the province as exist to promote agricultural betterment" which is a sufficiently loose and vague phrase to permit of any one being made a member, whether a member of the Mortgage Association or not.²

At the head of the whole association is to be placed a central commission of three members appointed by the Government, one to be a managing commissioner on a salary, who will devote his whole time to the business of the association, and is to be apparently the only paid expert in the whole organization. It will be well to compare this proposal with the system of highly trained experts (*Syndics*) who manage the business of the German *Landschaften*. In Saskatchewan with no previous experience, and under admittedly difficult circumstances, it would appear that the running of the local associations is to be left to the individual members, while in Germany with all the traditions of nearly a century and a half behind them trained civil servants are still required to keep the associations off financial rocks.

But it is when we come to the recommendations with regard to the local associations that the real difficulty arises. Local associations are to be set up, the members of which are to be mutually approved by one another, each association to consist of at least ten members, all borrowers with a minimum combined mortgage loan of \$5,000, united on the basis of joint and several liability. The liability of the individual as member of a local association or of the central association is to be fixed at not more than 50 per cent greater than the amount of his loan.

In considering these points the following objections may be raised:—

1. There is no counterpart in the German *Landschaft* system for this joint and several liability. In that system the liability is collective for the whole association and the small groups of members in different localities are not liable for the debts of their immediate neighbours.

2. In the *Landschaft* system there is no mutual consent of other members necessary. Once having established that his land is worth so much the prospective borrower can claim a loan. What need is there for mutual consent? If the loans are going to be limited to 40 per cent of the estimated value of the land there can be no doubt as to the adequacy of the security. The commissioners have evidently been led away by their desire to invest the scheme with a co-operative character into introducing a form of mutual assent which is entirely unnecessary.

3. Will it be practicable to introduce such local associations? Who will become members and who will be kept out? It is quite possible that the men who will be blackballed for membership will be the very men who are most in need of assistance. Those who have lived in a farming community know that personal feeling may sway such elections, to say nothing of political prejudices. What farmer, who has perhaps only just got his own head above water, will assume a liability for a loan to another farmer whom he may regard as financially unsound, a poor farmer, and a probable failure? The local associations will become hotbeds of intrigue

¹ It is curious to note Senator Duncan U. Fletcher has introduced a Bill into the United States Senate (No. 2909), to set up a system of "national rural banking" in the United States, his proposals following closely on the *Raiffeisen* system and rejecting the *Landchaft*.

² The Commission suggests, such organizations as the Grain Growers' Association, the Convention of Agricultural Societies, the Union of Rural Municipalities, the Provincial Winter Fair Board and the University of Saskatchewan.

and jealousy. One can easily imagine the state of local feeling when a certain farmer has been blackballed for membership and proceeds to "kick" in consequence.

Indeed this point as to co-operative action raises a very serious question. Are farmers of the West ready and willing to undertake what are most undoubtedly the very serious and onerous responsibilities of co-operation? It may be said that co-operation is already flourishing, witness the Co-operative Elevators in Saskatchewan. But the Co-operative Elevator Company is scarcely more co-operative in character than any joint stock company, and the name "co-operative" is something of a misnomer, when scarcely twenty per cent of the paid-up capital has been subscribed by members, and eighty per cent put up by the Provincial Government.

It is true that certain co-operative enterprises are afoot in the West. We hear of carloads of binder twine, coal, etc., being purchased, but such affairs are mere bagatelles when compared with such a great undertaking as is proposed here.

Indeed this point opens up a very serious consideration as to the willingness of the Western Farmers to co-operate at all. In the evidence before the commission several witnesses alluded to this and doubted whether the farmers would ever stand by the spirit of co-operation. The history of co-operation in Canada and the United States is not inspiring, in fact it is a record of failure. The History of Co-operation in the U.S.A., issued by the Johns Hopkin University, tells a tale of disaster, bad management, embezzlement, internal dissensions, and lack of business acumen, and the small pamphlet on "Agricultural Co-operation in Ontario," by S. E. Todd, issued by the Ontario Department of Agriculture, is little better.¹

An investigation carried on by the United States Department of Agriculture in which over nine thousand replies were sent in by men in touch with agricultural matters, to the query as to whether the farming class would be willing to try some form of co-operative action in obtaining loans, elicited a remarkable result. Thirty-two per cent of the replies stated that no farmers would be willing to form such an organization, and the remaining correspondents reported that barely 40 per cent of the farmers stood ready to organize such co-operative associations. The sturdy independence of the farmer would seem to breed a certain lack of the gregarious instinct and without it co-operation cannot exist. A great deal of missionary work would doubtless be necessary before the idea spread to any appreciable extent.²

First, the very freely and generally voiced fear of the organization becoming the object of party politics, the spectacle of candidates for the legislature outbidding each other in promises of large loans being a not too remote possibility.

Second, the asserted lack of business acumen on the part of the farmers. An interesting comment on this was provided in the evidence given at Wolseley where it was averred that the root of the trouble lay in the fact that in the past it was only too easy for farmers to obtain loans at high rates of interest "for expenditures which were quite unjustified in an economic sense." It was, however, agreed that lower rates of interest and rigid supervision of expenditure would raise the level of business practice.

But indeed the whole question of the practicability of introducing any form of co-operation in the west is a very serious one, and it may be well to cite a few more objections that were raised against such a scheme by witnesses before the Commission.

Third, the assertion that mixed farming would prove the salvation of agriculture

¹ It is but fair to add that I was favoured by a letter from Mr. W. L. Smith, Editor of the *Weekly Sun* of Toronto, a leader in the "Grange" Movement in Ontario, in which he claimed that the co-operative activities of the Grange and Patrons of Industry having achieved their object in having broken down the bad system of long credits at the country stores, died down, their work finished.

² "In Canada there is no co-operative spirit. This country is full of individualism, the farmer in Canada won't become security for his fellow." Evidence of Sir Edmund Walker before the Committee on Banking and Commerce, 1913.

A similar statement by Mr. J. E. Bradshaw, M.P.P. for Prince Albert in the Saskatchewan Legislature, in the debate on the second reading of the Co-operative Mortgage Bill, Dec. 15, 1913, was met by angry protests from all over the House, one member giving the Co-operative Elevator Company as an instance, which Mr. Bradshaw acknowledged. He would have done better to have stuck to his guns.

rather than any artificial, extraneous assistance was freely and very generally expressed. Indeed, the reiteration of the importance of mixed farming for the West is a most significant piece of evidence, showing that the efforts of the agricultural colleges to impress this fact on farmers are not fruitless.

Fourth, the unhomogeneous character of the settlements and the migratory tendencies of the population. One farmer at Saskatoon declared that he had been for twenty-two years a settler of the Nutana district, that to-day he was the only man left in the settlement who had been resident there when he came in, and that ninety per cent of the people who are there now are anxious to leave.

And lastly, as one witness at Melville said, the absence in the Canadian West of that sentiment of thrift which prevails elsewhere. It is curious to note how this point is reiterated through the evidence. More than one witness mentions trips back home as one reason for mortgages, others speak of farmers buying high-power automobiles, while several mention the most significant fact of all, namely, the raising of mortgages for real estate speculation. Let it be remembered that this is the evidence of farmers themselves and such evidence must be judged on its own merits.

Only one more consideration remains to be mentioned on this point. It is common knowledge in the West that hundreds of farmers are working more land than they can manage, buying more machinery than they can afford (and letting it rust to pieces in the winter to boot), and borrowing more money than they can repay. Would the proviso in the Committee's report that all applications for loans should be investigated and the purpose for which they are required specified, be a popular one in Saskatchewan? Perhaps there would be a little less real estate speculation.

CONCLUSION.

When there is poured into a land which, though marvellously fertile, yet demands great efforts, abstinence and risks, an unhomogeneous mass of all kinds and conditions rich and poor, experienced and ignorant, industrious and idle, there will assuredly be a period of stress, a time of settling and shaking down into place. That time the Province of Saskatchewan has reached. Strong in the faith of her wonderful resources and the richness of her soil, the province has freely discounted the future and credit has outrun production. And now the pinch is being felt. Money is scarce, and the implement companies are pressing for payment. Some of the farms are not producing so many bushels to the acre as they they used to, machinery has to be renewed and live-stock bought.

How shall these problems be met? It is easy to preach mixed farming but harder to put it into practice, and it is equally easy to clamour for cheaper credit and harder to procure it. The commissioners in their report are a trifle dubious as to the marketing of the bonds of the prospective association, in fact they admit the task of finding purchasers would be much simplified were the provinces of the Dominion admitted to the privileges of the British Trustee List, a contingency which is somewhat remote.¹

What then shall we say as to the probable success of this scheme? Except for a few things which are open to amendment it is modelled more or less on a system that has flourished for over a century. Wisely rejecting the Raiffeisen alternative as being impossible, and adopting the Landschaft type as being more in accord with local conditions and the character of the people, the Commissioners are at the very least justified in recommending to their government proposals for a scheme which may very possibly prove to be effective. That the recommendations will be modified is certain; the mutual liability of members cannot hold, the genius of the people is against it.

¹ So difficult is the problem of raising money for the scheme, that Premier Scott, in the debate in the Saskatchewan Legislature on Dec. 15, 1913, announced that the Bill would be passed but not put into operation, being kept, as it were, in cold storage until a more favourable opportunity arises for selling the bonds in the foreign market. The Saskatchewan Government evidently does not anticipate that the bonds will sell in the Province.

The problem of agricultural credit has been solved by different countries in different ways, but it has been solved by every country that has faced it. To suppose that Western Canada is incapable of finding a way out of the difficulty is absurd, the only question is, will the recommendations of the Royal Commission prove the right ones? To this we must answer that the co-operative bank system of the Raiffeisen and Desjardins' type is utterly foreign to western ideals; that the Australian state loans system is impossible from political reasons; the Landschaft system, modified to suit the local conditions is the only thing left. To the province of Saskatchewan belongs the honour of making the attempt to inaugurate it in Western Canada.

H. MICHELL.