



APPLICATIONS UNDER EXAMINATION

FLAX

FLAX
(Linum usitatissimum)

Proposed denomination: 'FP2214'
Application number: 09-6646
Application date: 2009/05/08
Applicant: Agriculture & Agri-Food Canada, Morden, Manitoba
Agent in Canada: Agriculture & Agri-Food Canada, Lacombe, Alberta
Breeder: Scott Duguid, Agriculture & Agri-Food Canada, Morden, Manitoba

Varieties used for comparison: 'Shape', 'CDC Bethune', 'CDC Sorrel' and 'Lightning'

Summary: *The plants of 'FP2214' are taller than those of 'Shape' and 'Lightning' whereas they are shorter than those of 'CDC Sorrel'. The colour at the top of the filament of 'FP2214' is white whereas it is blue in 'Shape' and 'CDC Bethune'. The colour at the base of the style of 'FP2214' is white whereas it is blue on the reference varieties. The stigma of 'FP2214' is pale violet whereas it is white on 'CDC Sorrel'. 'FP2214' has no ciliation of the false septa whereas it is present in 'CDC Sorrel'. 'FP2214' matures mid-season whereas 'CDC Bethune' and 'Lightning' are early maturing.*

Description:

HYPOCOTYL: medium intensity of anthocyanin colouration

FLOWER: flattened disk shape, medium sized corolla, no longitudinal folding of the petals, very weak sepal dotting, medium blue petal colour

STAMEN: white filament, blue anthers, clear pollen

PISTIL: white style, pale violet stigma

CAPSULE: medium size, semi-dehiscent, no ciliation of the false septa

SEED: brown, medium size

DISEASE RESISTANCE: immune to flax rust (*Melampsora lini* race 371), resistant to flax wilt (*Fusarium oxysporum* f. sp. *lini*), moderately resistant to Pasm (*Septoria linicola* (imperfect) *Mycosphaerella linorum* (perfect)) and Powdery mildew (*Oidium lini*)

AGRONOMY: matures mid-season, good resistance to shattering, capsule loss and lodging, low number of basal stems

Origin and Breeding: 'FP2214' was developed by Agriculture and Agri-Food Canada at the Morden Research Station, Morden, Manitoba. The original cross between 'FP1096' and 'FP2030' was conducted in 1998. The pedigree method was used to advance the line with selection criteria for oil content, oil quality, lodging resistance and rust resistance. Single plant selections were made in the F3 and F5 generations. An F7 line, designated 'M7471', was selected and evaluated in preliminary yield trials in 2003 and for Fusarium Wilt in the Fusarium wilt nurseries in Manitoba and Saskatchewan. This line, designated as FP2214, was further evaluated from 2004 to 2007 in Manitoba, Saskatchewan and British Columbia.

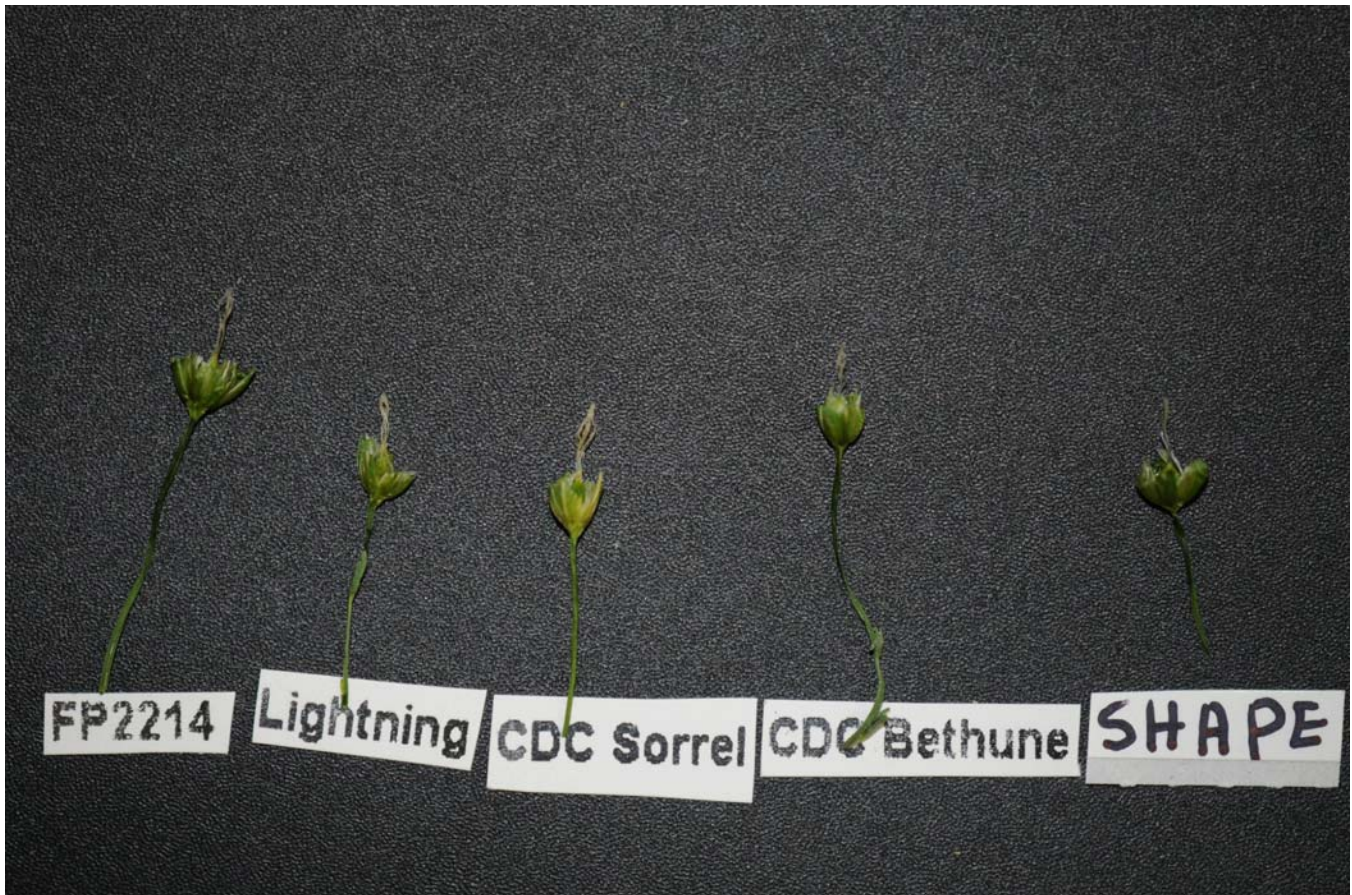
Tests and Trials: Tests and trials for 'FP2214' were conducted during the summers of 2008 and 2009 at the Agriculture and Agri-Food Canada Research Station in Morden, Manitoba. The trial consisted of 2 replicates of 6-row plots that were 5.5 meters in length with a row spacing of 18 centimeters. Data was collected from 20 measurements in each test year.

Comparison table for 'FP2214'

	'FP2214'	'Shape'*	'CDC Bethune'*	'CDC Sorrel'*	'Lightning'*
<i>Plant height (cm)</i>					
mean	69.8	66.3	69.1	73.4	62.3
std. deviation	2.91	3.93	4.43	3.29	3.36

<i>Plant: length of main axis (cm)</i>					
mean	42.8	41.6	49.5	56.5	43.0
std. deviation	6.97	4.48	6.17	3.71	2.82
<i>Flowering date</i>					
days to first bloom	55.0	53.5	54.5	58.0	51.5
<i>Days to capsule maturity</i>					
mean	103.0	101.8	98.8	101.3	99.8

*reference varieties



Flax: 'FP2214' (left) with reference varieties 'Lightning' (centre, left) 'CDC Sorrel' (centre), 'CDC Bethune' (centre, right) and 'Shape' (right)