OAT
(Avena sativa)

Proposed denomination: **'Prescott'**
Application number: 04-4176
Application date: 2004/04/23
Applicant: Agriculture & Agri-Food Canada, Ottawa, Ontario
Agent in Canada: Agriculture & Agri-Food Canada, Lacombe, Alberta
Breeder: Art McElroy, Agriculture & Agri-Food Canada, Ottawa, Ontario

Varieties used for comparison: 'Sherwood', 'Aylmer' and 'Goslin'

Summary: *The density of pubescence on the lower leaf sheath and blades of 'Prescott' is medium whereas it is absent to very sparse on 'Sherwood', 'Aylmer' and 'Goslin'. The density of pubescence on the leaf margins of 'Prescott' is sparse whereas it is absent or very weak on the reference varieties. The flag leaves of 'Prescott' are narrower than those of the reference varieties. The branches of the panicle of 'Prescott' are semi-erect whereas they are horizontal on the reference varieties.*

Description:
SEEDLING (5-9 tiller stage): semi-erect juvenile growth habit, medium pubescence of lower leaf sheath and blade

LEAF (at booting stage): medium green, sparse pubescence of the margins, medium intensity of glaucosity, medium frequency of plants with recurved flag leaves, medium pubescence/hairiness above and below upper culm node

PANICLE (just after heading): equilateral/symmertical to intermediate orientation, medium density
PANICLE BRANCHES: semi-erect attitude, more than 45 degree angle between the rachis and dominant side branch
SPIKELET: medium glaucosity of glumes, semi-abscission separation of spikelet with semi-nodding attitude
RACHILLA: medium length between primary and secondary florets, absent to very short grooves, sparse pubescence
LEMMA: medium glaucosity, small lateral overlap on palea, white to yellow at maturity, absent to very sparse pubescence on the lateral and dorsal surfaces, absent to very weak tendency to be awned

KERNEL (primary kernels from upper spikelets): hulled, short to medium length basal hairs, white, two grains per spikelet, rounded medium-sized scutellum, medium density of groat pubescence

AGRONOMIC CHARACTERISTICS: fair lodging and shattering resistance, relatively daylength insensitive

DISEASE RESISTANCE: highly susceptible to Crown Rust (*Puccinia coronata*) and resistant to Septoria (*Septoria avenae f. sp. avenae*)

Origin and Breeding: 'Prescott' (experimental designation OA1021-1) arose from the cross 'OA973-1/ 'Aylmer' made in 1996 at the Agriculture and Agri-Food Canada Eastern Cereal and Oilseed Research Centre in Ottawa, Ontario using a modified single seed descent method. Segregating progenies were evaluated for crown rust resistance, using specific isolates to test for the presence of both *Puccinia coronata* races 48 and 68. Seven lines of the F6 were evaluated for agronomic traits in a single row nursery and superior lines were tested for quality parameters. Those with the highest groat content, and acceptable groat oil and groat protein levels for milling use were advanced to yield testing.

Tests and Trials: Tests and trials for 'Prescott' were conducted by Agriculture and Agri-Food Canada at the Eastern Cereal and Oilseed Research Centre, Ottawa, Ontario during the summers of 2007 and 2008. Plots consisted of 4 replicates/variety with 4 rows/replicate, 3 meters in length, spaced approximately 0.25 metres apart between replicates.

Comparison table for 'Prescott'

	'Prescott'	'Sherwood'*	'Aylmer'*	'Goslin'*
Flag leaf width (mm)				
mean	15.4	17.7	18.7	20.2
std. deviation	1.2	1.0	1.2	0.9
Number of days to heading (from planting to 50% of panicles fully emerged from boot)				
	63	64	63	65

*reference varieties

Oat: 'Prescott' (left) with reference varieties 'Sherwood' (centre, left), 'Goslin' (centre, right) and 'Aylmer' (right)

Proposed denomination: **'Sherwood'**
Application number: 04-4174
Application date: 2004/04/23
Applicant: Agriculture & Agri-Food Canada, Ottawa, Ontario
Agent in Canada: Agriculture & Agri-Food Canada, Lacombe, Alberta
Breeder: Art McElroy, Agriculture & Agri-Food Canada, Ottawa, Ontario

Varieties used for comparison: 'Prescott', 'Aylmer' and 'Goslin'

Summary: *The density of pubescence on the lower leaf sheath and blade of 'Sherwood' is absent or very sparse whereas it is medium density on 'Prescott'. The leaves of 'Sherwood' are medium green whereas they are light green on 'Goslin'. The flag leaves of 'Sherwood' are wider than those of 'Prescott' and narrower than those of 'Aylmer' and 'Goslin'. The panicle of 'Sherwood' is shorter than that of 'Aylmer'. The angle between the rachis and the dominant side branch of the panicle of 'Sherwood' is less than 30 degrees to 30 to 45 degrees whereas it is more than 45 degrees on 'Prescott' and 'Goslin'. The spikelet attitude of 'Sherwood' is nodding whereas it is semi-nodding on 'Prescott' and 'Aylmer'.*

Description:
SEEDLING (5-9 tiller stage): semi-erect juvenile growth habit, absent to very sparse pubescence of lower leaf sheath and blade

LEAF (at booting stage): medium green, absent to very sparse pubescence of the margins, medium intensity of glaucosity, medium frequency of plants with recurved flag leaves, medium pubescence/hairiness below upper culm node

PANICLE (just after heading): intermediate orientation, medium density
PANICLE BRANCHES: horizontal attitude, less than 30 degrees to 30 to 45 degree angle between the rachis and dominant side branch
SPIKELET: medium glaucosity of glumes, fracture separation of spikelet with nodding attitude
RACHILLA: medium length between primary and secondary florets, absent to very short grooves, sparse pubescence
LEMMA: medium glaucosity, small lateral overlap on palea, white at maturity, absent to very sparse pubescence on the lateral and dorsal surfaces, absent to very weak tendency to be awned

KERNEL (primary kernels from upper spikelets): hulled, short to medium length basal hairs, white, two grains per spikelet, rounded medium-sized scutellum, medium density of groat pubescence

AGRONOMIC CHARACTERISTICS: fair to good lodging resistance, fair shattering resistance, relatively daylength insensitive

DISEASE RESISTANCE: highly susceptible to Crown Rust (*Puccinia coronata*) and Septoria (*Septoria avenae f. sp. avenae*)

Origin and Breeding: 'Sherwood' (experimental designation OA1019-1) arose from the cross 'Goslin'/'Aylmer' made in 1996 at the Agriculture and Agri-Food Canada Eastern Cereal and Oilseed Research Centre in Ottawa, Ontario using a modified single seed descent method. Segregating progenies were evaluated for crown rust resistance, using specific isolates to test for the presence of both *Puccinia coronata* races 48 and 68. Seven lines of the F6 were evaluated for agronomic traits in a single row nursery and superior lines were tested for quality parameters. Those with the highest groat content, and acceptable groat oil and groat protein levels for milling use were advanced to yield testng.

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Comparison table for 'Sherwood'

	'Sherwood'	**'Prescott'***	**'Aylmer'***	**'Goslin'***
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Oat: 'Sherwood' (centre, left) with reference varieties 'Prescott' (left), 'Goslin' (centre, right) and 'Aylmer' (right)