

# 2006 Cereal Research Report

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The following variety descriptions are an excerpt from the report. Print copies of the complete report are available from the Field Crop Development Centre.

## Variety Descriptions

The varieties described here were registered for sale as seed in western Canada as of the spring of 2006 and, except for new varieties, were grown commercially in Alberta up to this date. Varietal descriptions are not complete, but strengths and weaknesses are outlined, and an attempt is made to indicate why each variety may be useful in Alberta.

*Additional varietal information is available on the Alberta Agriculture website 'Ropin' the Web'. Click on the tab 'Directories' then 'Crop Directories'. For information on seed distributors refer to the Alberta seed guide 'seed.ab.ca'.*

# Wheat Varieties

## Red Spring Wheat

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**5400 IP** (tested as BW 295) was developed by Agricore United and Proven Seeds and registered for interim contract registration in 2006. This variety is grown under contract for Wharburtons in Manitoba and Saskatchewan. Yield is 97% of the checks in 2001 and 2002, with protein similar to AC Barrie. Straw strength is better than AC Barrie but is 1.5 days later in maturity. Resistant to stem rust and loose smut, moderately resistant to leaf rust, bunt and Fusarium head blight. Leaf spot is similar to checks.

**5500 HR** was developed by AgriPro/Agricore United and registered in 2000. It has high yield (10% over checks - equal to McKenzie), very high test weight and 1000 kernel weight, slightly better lodging resistance than McKenzie. Maturity is similar to the check AC Barrie. It is resistant to leaf rust, moderately resistant to bunt and loose smuts. It is moderately resistant to moderately susceptible to stem rust.

**5600 HR** was developed by Agricore United and registered in 1999. It has stronger straw than Neepawa and McKenzie, higher test weight than Neepawa and Roblin, good resistance to leaf rust, loose smut, common bunt, and with higher yields than the checks (except McKenzie). It does particularly well in Manitoba. 5600 HR matures 2 days later than the check.

**5601 HR** was developed by AgriPro / Agricore United and was registered in 2001. It has shown improved yield potential in the brown soil zone compared to all the checks except McKenzie. 5601 HR has good rust resistance and the highest fusarium head blight resistance currently available. It is moderately resistant to bunt, loose smut, and common root rot. Lower yield potential outside the brown soil zone with similar maturity to AC Barrie. It is best adapted to Manitoba and southern Saskatchewan.

**5602 HR** was developed by Agricore United and Proven Seed and recommended for registration in 2004. It has high yield, 9% higher than AC Barrie and equal to McKenzie. High protein; good straw strength; higher test weight than checks. Kernel weight is similar to AC Barrie. 5602 HR is medium-late in maturity, similar to AC Barrie. Improved Fusarium head blight resistance. It is resistant to leaf rust, stem rust and loose smut.

**AC Abbey** was developed by Agriculture Canada, Swift Current and registered in 1998. It is a sawfly resistant, strong strawed semi-dwarf with high yield (6-10% over AC Eatonia), and earlier maturity (2 days) over AC Eatonia. It has poorer field response to leaf spotting diseases than AC Eatonia in the Brown and Dark Brown soil zone tests. It has moderate resistance to leaf and stem rust, loose smut, bunt and common root rot.

**AC Barrie** was developed by Agriculture and Agri-Food Canada Research Station at Swift Current and registered in 1994. It has high yield potential, strong straw, large seed size, and high protein. Maturity for this check variety is 100 days for a provincial average. It has resistance to rust, loose smut and bunt.

**AC Cadillac** was developed by Agriculture & Agri-Food Canada, Lethbridge and registered in 1996. Similar protein to check, heavy test weight, and large seed size. It has resistance to bunt, loose smut, leaf spot, leaf and stem rust. Maturity is equal to AC Barrie, with fair lodging rating.

**AC Cora** was developed by Agriculture and Agri-Food Canada Research station at Winnipeg and registered in 1994. AC Cora is approximately 3% higher yielding than the check cultivar Katepwa. It carries good levels of resistance to leaf and stem rust, common bunt, and is moderately resistant to loose smut. AC Cora is similar in maturity to AC Barrie.

**AC Eatonia** was developed by Agriculture Canada Research Station, Swift Current, and registered in 1993. It has improved sawfly resistance, resistance to bunt, and moderate resistance to common root rot. It has larger kernel size and slightly higher yield than Leader, but has variable loose smut reaction. It was developed for the sawfly susceptible areas of Western Canada.

**AC Elsa** was developed by Agriculture & Agri-Food Canada, Swift Current, registered in 1996 and is distributed by SeCan. It has high yield potential (4% plus over AC Barrie), high protein, and short straw. It has resistance to leaf spot, leaf and stem rust and loose smut. It has moderate resistance to bunt and common root rot. It is susceptible to fusarium head blight of southern Manitoba, one day later maturing than AC Barrie, with straw strength only equal to AC Barrie.

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Red Spring Wheat, continued

**AC Intrepid** was developed by Agriculture and Agri-Food Canada, Swift Current, and registered in 1997. Grain yields are 1% to 2% higher than checks, with early maturity equal to Roblin, short strong straw, and moderate resistance to disease. However, it does have moderate susceptibility to loose smut and slightly lighter test weight.

**AC Majestic** was developed by Agriculture & Agri-Food Canada at Winnipeg and applied for registration in 1995. It is a short, strong-strawed variety with slightly lower yields than the check, and similar maturity to the check. It has resistance to loose smut and moderate resistance to bunt. Fair lodging rating.

**AC Splendor** was developed by Agriculture & Agri-Food Canada, Winnipeg, registered in 1996 and distributed by Cargill. It is early maturing (2 days earlier than AC Barrie) with good yield, similar protein levels compared to the check. Its lodging rating and pre-harvest sprouting are both fair.

**BW 342** (test number, no name yet) was developed by Cereal Research Centre, AAFC Winnipeg, and recommended for registration in 2006. It has similar maturity and yields to AC Barrie. Resistant to leaf and stem rust, as well as intermediate resistance to bunt and leaf spot. Moderately susceptible to loose smut and Fusarium head blight. It was only tested in Central Wheat Cooperative trials in Manitoba and Saskatchewan. Awned variety.

**BW 824** (test number, no name yet) was developed by the Crop Development Centre, Saskatoon and recommended for registration in 2006. It is a semi-dwarf that yields 9% higher than AC Barrie with very good straw strength as well high test and kernel weights. It is 1 to 2 days later than checks. It has resistance to stem rust and intermediate resistance to bunt and loose smut. Moderately susceptible to leaf rust and leaf spot and susceptible to fusarium head blight.

**CDC Alsask** was developed by the University of Saskatchewan and recommended for registration in 2004. It has high yield, early maturity, and large kernel weight. It has resistance to leaf rust and bunt. Leaf spotting ratings were limited by drought conditions. It is moderately susceptible to susceptible to Fusarium head blight. Intermediate resistance to stem rust. Resistant to intermediate resistance to loose smut.

**CDC Bounty** was developed by the Crop Development Centre, Saskatoon and registered in 1999. It has high yield, ranging from 103% to 106 % of checks, heavier kernels, and high test weight. It is resistant to loose smut with intermediate resistance to bunt and common root rot. It has moderate reaction to leaf rust. Fair lodging resistance and poor tolerance to leaf spot and fusarium.

**CDC Go** was developed by the Crop Development Centre, Saskatoon and registered in 2003. It is a strong strawed semi-dwarf, hollow stemmed variety that yields 3% higher than AC Barrie. Test weight is similar to checks but it has a higher kernel weight. It is moderate in reaction to leaf rust. It is resistant to moderately resistant to stem rust. Moderately susceptible to moderately resistant to loose smut. Susceptible to leaf spots. It has resistance to bunt. Good lodging ratings.

**CDC Imagine** was developed by the Crop Development Centre, Saskatoon and registered in 2002. It is distributed by AgriPro/Saskatchewan Wheat Pool. This is the first wheat registered for the 'Clearfield'<sup>TM</sup> weed control system - Adrenalin (imidazolinone-tolerant). It is strong-strawed, has maturity equal to AC Barrie, with leaf disease reaction similar to the checks. It is lower yielding than AC Barrie in Saskatchewan, but higher yielding in Alberta.

**CDC Osler** (tested as PT 555) was developed by the Crop Development Centre, Saskatoon and registered in 2003. Yield is 1 % lower than AC Barrie, and it is adapted to the shorter season wheat growing areas of Alberta and Saskatchewan. It is awnless, standard height, and with maturity between AC Barrie and AC Splendor. Lodging is equal to checks with heavier kernel weight than checks. It is R to MR to stem rust and MR to MS for leaf rust. Fusarium index is I to S.

**CDC Teal** was developed at the Crop Development Centre, Saskatoon and registered in 1991. It is a Roblin replacement with good stem and leaf rust resistance, earlier maturity, shorter stronger straw, and larger kernels than Neepawa and Katepwa. CDC Teal has lower resistance to loose smut and root rot than AC Barrie and poor resistance to leaf spotting.

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## *Wheat Varieties*

### Red Spring Wheat, continued

**Harvest** was developed by Agriculture & Agri-Food Canada, Winnipeg and registered in 2001. It has excellent straw strength, high test weight, and excellent resistance to sprouting. Good resistance to rust and loose smut. It yields better in Manitoba than Saskatchewan, and slightly better than the checks in Alberta. It is more susceptible to fusarium head blight than Katepwa, AC Majestic, and AC Barrie. Susceptible to bunt and common root rot. Its area of adaptation is the central and eastern prairies where leaf rust and weathering reduce yield and grade; but where fusarium head blight is not acute.

**Helios** (tested as PT 211) was developed at the Semiarid Prairie Agricultural Research Centre of Agriculture and Agri-Food Canada, Swift Current and registered in 2005. Distributed by La Cooperative Federee de Quebec. It is 3% higher yielding than AC Barrie, and 1 day earlier. Resistant to stem rust and loose smut with intermediate resistance to bunt and Fusarium head blight. Moderately susceptible to leaf rust and leaf spotting as well is awnless. Adapted to Western Canada where rust is not a problem.

**Infinity** was developed by Agriculture & Agri-Food Canada, Swift Current and recommended for registration in 2004. It is higher yielding than AC Barrie by 5%, but lower than Superb. Matures earlier than Superb and similar to AC Barrie. Similar protein levels to AC Barrie. Fair lodging resistance, similar to Katepwa. Moderately resistant to leaf rust and bunt. Resistant to stem rust and loose smut. Susceptible to Fusarium head blight.

**Journey** was developed by the Saskatchewan Wheat Pool and registered in 2001. It has high grain yield, test weight, and protein. Strong straw and reduced height. It is one day later maturing than AC Barrie. It has resistance to rust and bunt. Moderate-to-intermediate resistance to fusarium head blight, with improved pre-harvest sprouting resistance. Yield advantage best in rust areas of western Canada with yields better in southern Alberta and similar to the checks in central and northern Alberta.

**Katepwa** was developed by Agriculture Canada, Winnipeg and registered in 1981. This cultivar is similar to Neepawa in yield, quality and agronomic traits but is easier to thresh. Katepwa is resistant to stem rust, bunt and common root rot; moderately resistant to leaf rust and loose smut; and moderately susceptible to septoria leaf spot. Katepwa is primarily adapted to the traditional hard red spring production areas.

**Laura** was developed by Agriculture Canada at Swift Current and registered in 1986. Laura is similar in quality to Neepawa, but is higher yielding as well as 1 - 2 days later maturing. Laura is adapted to the brown and southern dark brown soil zones. This is an awned cultivar. Laura is resistant to rust, moderately resistant to common root rot and susceptible to loose smut as well as bunt.

**Lillian** was developed by Semiarid Prairie Agricultural Research Centre, Swift Current and Cereal Research Centre, Winnipeg and registered in 2003. It is a sawfly resistant variety with higher yields of 4 to 8 % over AC Abbey. Lillian has improved resistance to leaf rust and leaf spotting diseases, however it is slightly taller and weaker strawed and one day later maturing relative to AC Abbey. It is susceptible to fusarium head blight.

**Lovitt** was developed by Agriculture Canada, Swift Current and registered in 2002. It is earlier maturing (1-2 days) and higher yielding (2-3%) than AC Barrie. It has resistance to loose smut. Intermediate resistance to bunt and common root rot.

**McKenzie** was developed by Saskatchewan Wheat Pool and registered in 1997. It is high yielding (2% to 5% over AC Barrie) and similar maturity to AC Barrie. Shorter straw (5cm) and straw strength equal to check, sprouting resistance. Resistance to leaf rust, stem rust and bunt. It is however, susceptible to loose smut, leaf spotting and Fusarium head blight.

**Park** was developed by Agriculture Canada at Lacombe, and registered in 1963. Park is medium to tall in height, but has good resistance to lodging and shattering. It is resistant to loose smut, some of the races of stem rust, but susceptible to leaf rust, bunt and head melanosis. It is a very early wheat variety, therefore it can be grown in shorter season areas than most other wheat varieties.

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## Red Spring Wheat, continued

**Peace** was developed by Agriculture Canada, Winnipeg and registered in 2002. It is slightly (1 day) earlier and higher yielding compared to AC Barrie. It has excellent common bunt resistance, and good leaf rust resistance compared to AC Barrie. Its lodging resistance and fusarium head blight reaction are no better than AC Splendor. Peace is adapted for the Parkland and Peace River areas of western Canada.

**Prodigy** was developed by Saskatchewan Wheat Pool and registered in 1998. It has yields that are 3-4% higher than check, high protein (0.4% over AC Barrie), high test weight, strong straw and resistance to the prevalent races of leaf and stem rust and bunt. Similar maturity to AC Barrie and moderately resistant to loose smut and common root rot.

**PT 213** (test number, no name yet) was developed at the Semiarid Prairie Agricultural Research Centre (AAFC), Swift Current and recommended for registration in 2006. Yield is 5 % more than AC Barrie and 1 to 2 days earlier. Moderately resistant to stem rust and loose smut with intermediate resistance to leaf rust and bunt. Good straw strength with wheat and flour protein similar to checks. Moderately susceptible to Fusarium head blight.

**PT 425** (test number, no name yet) was developed by Cereal Research Centre, AAFC Winnipeg and registered in 2005. It is an early maturing variety with resistance to leaf rust and moderate resistance to loose smut with improved grade protection. Maturity is 2 days earlier than AC Barrie and it is adapted to shorter season areas. Straw strength is fair. Intermediate in resistance to bunt, moderately susceptible to fusarium head blight

**PT 559** was developed by the Crop Development Centre, Saskatoon and registered in 2003. It is earlier maturing and 3% higher yielding than AC Barrie. It is adapted to the shorter season wheat growing areas of Alberta and Saskatchewan. It is awnless, shorter straw and better lodging with an intermediate test weight and kernel similar to Neepawa and Katepwa. It is resistant to leaf and stem rust as well as loose smut. Common bunt ratings were R to MS with Fusarium index in the MS to S range.

**Roblin** was developed by Agriculture Canada, Winnipeg and registered in 1986. This variety is similar to Neepawa in quality with excellent protein content, shorter stature, and about 2 days earlier maturity. Roblin may be suited to

production in the Parkland and Peace River areas of Alberta. Roblin has resistance to rust, moderate resistance to loose smut and common root rot. It is susceptible to bunt and leaf spotting.

**Somerset** (tested as BW 307) was developed by Agriculture & Agri-Food Canada, Cereal Research Centre, Winnipeg, and recommended for registration in 2004. Yield is 4 % higher than AC Barrie but 9% lower than Superb. Maturity is 1 day earlier than AC Barrie. Fair straw strength and lower test weight than checks. This variety is awnless, tall, and has adequate sprouting resistance. It has resistance to leaf rust, stem rust and loose smut. It is susceptible to Fusarium head blight and leaf spot.

**Superb** was developed by Agriculture & Agri-Food Canada, Winnipeg and registered in 2000. It has high kernel weight, high test weight, high grain yield (7% to 11% over AC Barrie in different yield classes), shorter straw with better lodging resistance. It is resistant to leaf and stem rust, moderately resistant to bunt, loose smut and root rot. However, it is 2 days later maturing than the checks.

## Hard White Spring Wheat

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**Kanata** (previously named AC Ivory) was developed by Agriculture & Agri-Food Canada, Winnipeg. It was given interim registration in 2000, 2-year interim in 2004, and full registration in 2006. Market testing has been completed on this hard white seeded wheat. It has good lodging resistance. Intermediate resistance to stem rust and Fusarium head blight, moderately susceptible to leaf rust and loose smut. Maturity is 2 days earlier than AC Barrie. However, it was lower yielding (4% lower in 2003-2004, and 6% lower in 2005 than AC Barrie). Small kernel size. It is susceptible to bunt and leaf spot.

**Snowbird** was developed by Agriculture & Agri-Food Canada, Winnipeg, given interim registration in 2000 and full registration in 2004. Market testing will be done on this hard white seeded wheat for 3 years. It has good yield (2% to 3% over AC Barrie), better lodging resistance than McKenzie, resistance to leaf rust, with moderate resistance to stem rust, loose smut and root rot. However, it has late maturity (2 days later than AC Barrie), small kernel size and medium test weight.

## **Prairie Spring Wheat**

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**5700 PR** was developed by AgriPro/Agricore United and was registered in 2000. It has similar yields to check AC Taber, high test weight, very good lodging resistance and matures one day earlier than AC Taber. It has moderate resistance to stem rust, intermediate resistance to leaf rust and very good resistance to common bunt. Fusarium head blight resistance is only equal to the CPS checks - AC Crystal and AC Vista.

**5701 PR** was developed by AgriPro/Agricore United and registered in 2001. It has yield potential similar to AC Taber, combined with good test and kernel weight. Maturity is 1 day later than AC Taber. Good straw strength. Improved resistance to leaf rust, fusarium head blight and loose smut compared to the check cultivars. It is intermediate to moderately susceptible to common bunt. The area of adaptation is the Canadian prairies except where fusarium head blight is a problem.

**AC 2000** was developed by Agriculture & Agri-Food Canada, Swift Current and given interim registration in 2000. It is a white-seeded variety that has improved milling properties, noodle making characteristics, and leaf spot resistance over AC Vista. It is resistant to common bunt and loose smut, with better lodging resistance than AC Karma and AC Vista. It has no yield advantage and is 3 days later maturing than AC Vista. It has insufficient leaf rust resistance for the rust areas of Western Canada.

**AC Crystal** was developed by Agriculture & Agri-Food Canada, Swift Current, registered in 1996 and is distributed by SeCan. It is red seeded and has similar yield, similar test weight and better leaf spot resistance than AC Taber. Maturity between AC Foremost and AC Taber (1 day later than AC Foremost). Good straw strength, and better fusarium head blight tolerance than all of the checks. Suitable for irrigation production. It is susceptible to the new loose smut race T9.

**AC Foremost** was developed by the Agriculture and Agri-Food Canada Research Stations at Swift Current and Lethbridge and registered in 1994. AC Foremost is a red-seeded CPS cultivar with a maturity advantage of 1 day compared to AC Taber and improved tolerance to conditions which promote premature sprouting when compared to other CPS wheats. This cultivar is resistant to stem rust, common bunt and loose smut but is susceptible to common root rot and leaf spotting.

**AC Karma** was developed by Agriculture and Agri-Food Canada Research Station at Swift Current and registered in 1994. AC Karma is white-seeded CPS wheat with stronger straw than the white-seeded check cultivar Genesis. Although this cultivar is superior to the check for leaf and stem rust, common bunt, and loose smut, it is similar in yield potential on the brown and dark brown soils of the western prairies. AC Karma is about 1 day earlier maturity than AC Taber.

**AC Taber** is a red seeded semi-dwarf developed by Agriculture Canada, Swift Current and registered in 1991. It is resistant to bunt, leaf and stem rust with good quality. It is similar in maturity to hard red spring wheat checks. It is susceptible to loose smut.

**AC Vista** was developed by Agriculture & Agri-Food Canada, Swift Current, registered in 1996 and distributed by Value Added Seeds. It is white seeded with quality increase (gluten and kernel strength), pre-harvest sprouting resistance improved and one day earlier than AC Karma. Loose smut and rust resistant. It is susceptible to fusarium head blight, has weaker straw and lighter test weight than AC Karma.

**HY 639** (test number, no name yet) was developed by Agriculture and Agri-Food Canada, Swift Current and registered in 2000. It has about 1.5% higher protein content than current CPS wheats (AC Vista and AC Crystal). HY 639 yields well in Manitoba and S.E. Saskatchewan, but less than AC Crystal in other areas. It is resistant to leaf and stem rust, bunt and loose smut. It matures 1 to 2 days earlier than AC Crystal. It is lower yielding than AC Crystal outside of Manitoba and S.E. Saskatchewan.

**Snowwhite 475** (tested as HY 475) was developed by Agriculture & Agri-Food Canada, Swift Current and received interim registration in 2004; renewed in 2006 and is distributed by Farm Pure Seeds. It has early maturity, high protein content, and good test weight. Good lodging resistance. It is lower yielding than CPS white check varieties, but yielded more than the CPS red checks. Susceptible to Fusarium head blight.

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## Prairie Spring Wheat, continued

**Snowwhite 476** (tested as HY 476) was developed by Agriculture & Agri-Food Canada, Swift Current and received interim registration in 2004; was renewed in 2006 and is distributed by Farm Pure Seeds. It has high protein and resistance to common bunt. Yields are similar to AC Crystal but lower than checks for CPS white. Better resistance to stem rust than the checks. It is susceptible to Fusarium head blight, similar to other CPS varieties. Maturity is 2 days later than AC Vista and it has taller plant height than the checks.

## **Soft White Spring Wheat**

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**AC Andrew** was developed by Agriculture & Agri-Food Canada, Lethbridge, given 3-year interim registration in 2000 and full registration in 2004. This high protein soft white spring wheat will be grown to test the market for export. A lower quality high protein wheat, which is much higher yielding (15 to 19% over checks) than regular low protein SWS wheat. Resistant to stripe rust, stem rust, powdery mildew. Moderate resistance to leaf rust and black point. Good lodging and shattering ratings. Like check varieties, it is susceptible to loose smut. Intermediate resistance to bunt.

**AC Meena** was developed by Agriculture & Agri-Food Canada, Lethbridge and registered in 2000. It out-yielded AC Reed by 5%, AC Phil by 2% and AC Nanda by 6%. AC Meena has improved end use quality. It is resistant to stripe rust, moderately resistant to powdery mildew and black point. It is susceptible to bunt, leaf rust and highly susceptible to loose smut.

**AC Nanda** was developed by Agriculture and Agri-Food Canada, Lethbridge and registered in 1997. It has improved end-use quality. AC Nanda has adult plant resistance to stripe rust, moderate resistance to powdery mildew, and better black point resistance. However, the maturity is three days later than AC Reed. Intermediate resistance to bunt. Like the check varieties, it is susceptible to loose smut.

**AC Phil** was developed by Agriculture & Agri-Food Canada Research Station at Lethbridge and applied for registration in 1994. AC Phil is higher yielding by up to 12% (in some areas) than the standard cultivar AC Reed and carries excellent resistance to stripe rust. Same as other soft white wheat varieties, AC Phil is only suitable for production under irrigation.

**AC Reed** was developed at Agriculture Canada, Lethbridge and registered in 1991. It has higher yield potential than Fielder with stripe rust resistance, moderate sprouting resistance, powdery mildew and common root rot resistance. The line is shorter than Fielder with good lodging resistance and superior cookie quality to Fielder. AC Reed is susceptible to black point, bunt, and loose smut similar to Fielder and Owens.

**Bhishaj** was developed by Agriculture & Agri-Food Canada, Lethbridge and registered in 2002. It is high yielding (9% over AC Reed and 7% over AC Phil) and has high quality for the domestic market. It has adult-plant resistance to the new stripe rust race SLR-Y2K. It is susceptible to bunt. Bhishaj is adapted for the irrigation regions of southern Alberta and Saskatchewan.

**SWS 349** (test number, no name yet) was developed by Agriculture & Agri-Food Canada, Lethbridge and recommended for registration in 2006. It is a semi-dwarf with awns; it has improved disease resistance. Maturity is similar to AC Andrew with good straw strength and shattering resistance. It is moderately resistant to stem rust with intermediate resistance to leaf rust and loose smut. Resistant to Fusarium head blight. Moderately susceptible to bunt and black point.

## Amber Durum Wheat

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**AC Avonlea** was developed by Agriculture and Agri-Food Canada, Swift Current, and registered in 1997. It is 1% to 2% higher yielding than Kyle, maturity similar to Kyle, high grain protein and shorter, stronger straw. Good resistance to leaf and stem rust, common bunt and common root rot. It is however, highly susceptible to loose smut.

**AC Melita** was developed by Agriculture & Agri-Food Canada Research Station at Winnipeg and registered in 1994. AC Melita yields lower than Kyle. This cultivar has good lodging resistance, excellent levels of leaf and stem rust resistance, resistance to common bunt, but is highly susceptible to loose smut. AC Melita is suitable only for production in the traditional durum wheat growing areas of the prairies.

**AC Morse** was developed by Agriculture & Agri-Food Canada, Winnipeg, registered in 1996 and distributed by SeCan. It has excellent lodging resistance with medium height straw, high grain protein and very good yield. It is susceptible to loose smut and has slightly lower test weight than Kyle. Maturity is 1 day earlier than the checks in Alberta.

**AC Navigator** was developed by Agriculture & Agri-Food Canada, Swift Current, and given interim registration in 1998, and full registration in 2002. It has stronger gluten than all current varieties and will be test marketed for this quality feature. This semi-dwarf has shorter, stronger straw than Kyle and Plenty, good adaptation to durum growing area, 3-5% higher yield than Kyle, AC Avonlea and AC Morse on dryland and 11% higher on irrigation. It has resistance to leaf and stem rust and common bunt. It is susceptible to loose smut. Currently it is grown under contract with the CWB.

**Commander** (tested as DT 722) was developed by Agriculture and Agri-Food Canada, Swift Current (SPARC) and registered in 2004. It is higher yielding by 2 to 5 % over check varieties. Semi-dwarf with 1 day later maturity than the checks. Resistant to leaf and stem rust. Gluten strength meets new target for strong gluten subclass. Plans are to grow this variety under identity preserved class, as it is indistinguishable from other amber durums. Leaf spot reaction is similar to AC Navigator but slightly worse than checks.

**Kyle** was developed at Agriculture Canada, Swift Current and registered in 1984. In its day, Kyle was considered high yielding. For people interested in ornamental arrangements, Kyle is black awned (bearded) at maturity. It has weak straw, late maturity, and is long-strawed. This cultivar is resistant to rust (leaf and stem) and bunt. Intermediate resistance to common root rot. Susceptible to loose smut.

**Napoleon** was developed by Agriculture & Agri-Food Canada, Winnipeg, registered in 1999, and distributed by Canterra Seeds Ltd. It has high yield (up to 8% higher) in Area 3, black soil zone, combined with low cadmium uptake. It is highly resistant to the prevalent races of leaf and stem rust and bunt. It has similar test weight to the check. It is moderately resistant to common root rot and susceptible to loose smut.

**Plenty** was developed by the University of Saskatchewan and registered in 1990. It has high yield, fairly strong straw, with maturity slightly earlier than Kyle. Resistant to rust and bunt. Intermediate resistance to common root rot.

**Sceptre** was registered in 1985 by the Department of Crop Science, University of Saskatchewan. It is a lower yielding early durum variety with the lowest incidence of kernel smudge. Good straw strength with short straw. This variety is adapted to the dark brown soil zone of Alberta and Saskatchewan. Sceptre is resistant to rust and bunt. Intermediate resistance to common root rot. Susceptible to loose smut.

**Strongfield** (tested as DT 712) was developed by Agriculture & Agri-Food Canada, Swift Current (SPARC) and registered in 2003. High grain yield (7% higher) in combination with good quality grain protein similar to AC Avonlea and improvements in gluten strength. Maturity is 1 day earlier than AC Avonlea. Resistant to leaf and stem rust with intermediate resistance to bunt. Some field resistance to leaf spot. Fusarium head blight susceptible - similar to checks. Susceptible to loose smut.

## **Extra Strong Spring Wheat**

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**AC Corinne** was developed by Agriculture & Agri-Food Canada, Winnipeg and registered in 1998. It has improved pre-harvest sprouting resistance and leaf rust resistance over Glenlea, with Glenlea extra strong wheat quality plus higher protein, and remaining disease resistance. Its maturity averages 1 day later than the check Amazon and is 1% to 2% higher yielding.

**Amazon** was developed by the University of Manitoba, Winnipeg and registered in 1998. It is Glenlea with tan spot resistance and slightly (6 cm.) shorter. The yield is 3-4% lower than Wildcat and Glenlea in Zone 3, and 1% lower overall than Glenlea. Moderate resistance to bunt and common root rot.

**Bluesky** was developed by Agriculture Canada, Beaverlodge and registered in 1987. Bluesky is similar in quality to Amazon but is shorter in stature and earlier maturing by 2 - 3 days. This cultivar provides a suitable extra strong type for the Parkland and Peace River areas of Alberta. Bluesky is resistant to stem rust, loose smut, and common root rot. It has only intermediate resistance to leaf rust and bunt.

**Burnside** (tested as ES 54) was developed by Agriculture & Agri-Food Canada, Winnipeg and registered in 2003. It is a red seeded extra strong with 3 to 7 % higher yields and 0.9 % higher protein with 2 days earlier maturity as compared to Amazon. It has intermediate preharvest sprouting resistance, moderate resistance to leaf and stem rust, resistance to loose smut and intermediate resistance to common bunt. It is similar to the checks for tan spot and septoria. It is susceptible to fusarium head blight.

**CDC Rama** (tested as ES 21) was developed by the Crop Development Centre, Saskatoon and was registered in 2001. It has higher yield than the check cultivars (Glenlea and AC Corinne) in the brown and dark brown soil zones, with higher grain protein levels. It has lower yield than the check in the Red River Valley. It is susceptible to leaf spotting disease like the check cultivars.

**CDC Walrus** (tested as ES 41) was developed by the Crop Development Centre, Saskatoon and registered in 2003. It has 3 to 7 % higher yield than checks with earlier maturity and similar straw strength. It is resistant to stem rust and loose smut, with MR to MR-MS to leaf rust. It is MR to I for common bunt. Fusarium index is similar to checks.

**Glenavon** was developed by Agriculture & Agri-Food Canada, Winnipeg and registered in 1999. Compared to Amazon, AC Glenavon is higher yielding, has better test weight, improved pre-harvest sprouting resistance and is slightly earlier maturing. AC Glenavon is somewhat more susceptible to Fusarium head blight than Amazon and is only equal to Amazon in straw strength.

**Laser** was developed by the University of Alberta, registered in 1996 and distributed by Canterra Seeds Ltd. It is 2% higher yielding and has better quality than Wild Cat. Seed size, resistance to loose smut, stem rust, root rot, straw strength and height are all similar to Wild Cat. It is susceptible to bunt like Wild Cat, and similar susceptibility to leaf rust as Wild Cat and Park.

## Winter Wheat – Select Varieties

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**AC Bellatrix** was developed by Agriculture Canada, Lethbridge and registered in 1998. It is bunt resistant compared to all the check varieties, which are susceptible. Winter survival yield, straw strength, test weight, protein and the incidence of vitreous kernels all compare favourably with the checks. Like the check cultivars, it lacks resistance to leaf diseases, stem rust, and contains more blackpoint.

**AC Readymade** was developed by Agriculture Canada, Lethbridge, with 10% higher yield, better lodging resistance, protein, bunt resistance and good quality. However, it has lower winter hardiness than current cultivars.

**AC Tempest** was developed by Agriculture & Agri-Food Canada, Lethbridge, registered in 1997 and distributed by SeCan. It is similar to AC Readymade with stronger straw, high protein, higher grain yield (4%) and flour yield. It has moderate bunt resistance, is susceptible to leaf diseases and only moderate (like Readymade) winter hardiness.

**CDC Buteo** was developed by the Crop Development Centre, Saskatoon and registered in 2001. It is similar to CDC Osprey with improved quality and rust resistance. However, the average grain yield has been marginally lower than the check cultivar CDC Osprey.

**CDC Osprey** was developed by the Crop Development Centre, Saskatoon and applied for registration in 1995. It is a high yielding semi-dwarf with strong, short straw. It is two days earlier for its adaptation area which is the non-rust areas of western Canada. Very good winter hardiness. Susceptible to bunt and leaf rust.

**McClintock** was developed by the University of Manitoba and registered in 2001. It has high yield potential, good winter survival and straw strength. Superior test weight and excellent rust resistance. It does not appear to suffer from physiological leaf spot. The protein concentration is similar to CDC Osprey. It is susceptible to bunt.

**Norstar** was developed by Agriculture Canada Research Station, Lethbridge and registered in 1977. Norstar has high levels of winter hardiness and good milling quality. Due to its tall height, it may be subject to lodging and subsequent yield reduction when grown in the higher rainfall areas of Alberta. Rated good for piebald kernels.

**Radiant** was developed by Agriculture & Agri-Food Canada, Lethbridge and recommended for

registration in 2001. Currently this variety is held up as a plant with a novel trait. It is resistant to wheat curl mite, the vector of wheat streak mosaic. It has high yield potential, good winter hardiness, moderate height, strong straw, high test and kernel weight, and protein equal to CDC Osprey. It is susceptible to stem and leaf rust, common bunt and has higher kernel blackpoint percentage than the check. The area of adaptation is the winter wheat area of the non-rust western Canadian prairies.

## Canada Western Red Winter Wheat

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**CDC Clair** was developed by the Crop Development Centre in Saskatoon and applied for registration in 1995. It is a semi-dwarf with strong, short straw, yielding 2% higher than CDC Kestrel. It is rust resistant and has maturity equal to CDC Kestrel with significantly higher protein than CDC Kestrel. It is adapted to the winter wheat production area of western Canada, particularly Saskatchewan. Rated fair for piebald kernels.

**CDC Falcon** was developed by the Crop Development Centre, Saskatoon and registered in 1998. It has superior stem and leaf rust resistance over all current winter wheat varieties in western Canada. It also has high yield, fair to good winter hardiness, semi-dwarf short strong straw, especially good for direct seeding and straight cut harvest. Good protein being 0.9% above CDC Kestrel. However, it does have lower flour yield than CDC Osprey.

**CDC Harrier** was developed by the Crop Development Centre, Saskatoon and registered in 1997. It is a winter hardy semi-dwarf with leaf and stem rust resistance better than all other currently registered winter wheat varieties. However, the grain quality is only equal to CDC Kestrel.

**CDC Kestrel** was developed at the Crop Development Centre in Saskatoon and registered in 1990. It has 13% higher yield and shorter, stronger straw than Norstar. Its winter hardiness is very good, equal to Norstar, and has superior rust resistance. It can have a lower protein content under high yield conditions. It is susceptible to bunt. Rated poor for piebald kernels.

**CDC Raptor** was developed by the Crop Development Centre, Saskatoon and registered in 1999. It is a high yielding, winter-hardy, strong straw, short stature semi-dwarf with superior stem and leaf rust resistance. Protein content is 0.25% lower than CDC Osprey (but 5% higher than CDC Kestrel) and it has poor gluten strength. It is susceptible to bunt. Rated fair for piebald kernels.