

# 2006 Cereal Research Report

Published by the Field Crop Development Centre and Lacombe Research Centre.

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'.*

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## Barley Varieties

### Six-row Varieties Eligible for Feed Grades

**AC Harper** was developed by Agriculture and Agri-Food Canada, Lethbridge, and registered in 1996. It yields similar to AC Lacombe with better lodging resistance. AC Harper is shorter than AC Lacombe with similar test weight and kernel weight. It has intermediate resistance to scald, spot form of net blotch, common root rot and surface smuts. However, it matures two days later than AC Lacombe and is susceptible to septoria and loose smut.

**AC Lacombe** was developed by Agriculture Canada, Lacombe and registered in 1991. It is adapted to the black and grey wooded soils of Alberta with its good lodging resistance, good test weight and kernel weight. Good resistance to the surface-borne smuts, intermediate resistance to scald and net blotch. It is susceptible to common root rot, speckled leaf blotch, and loose smut. AC Lacombe is acknowledged as a leading silage variety.

**AC Rosser** was developed by Agriculture and Agri-Food Canada, Brandon, registered in 1996 and is distributed by SeCan. It yields slightly higher than AC Lacombe with slightly poorer lodging resistance than AC Lacombe. It matures two days later than AC Lacombe. AC Rosser has resistance to the surface-borne smuts and intermediate resistance to common root rot and net blotch. It is susceptible to scald, septoria and loose smut.

**Manny** was developed by Alberta Agriculture, Lacombe and registered in 2003. It is a rough-awned feed barley with 4 to 9% higher yield than AC Lacombe. It is a strong strawed variety with 7% higher silage yields than AC Lacombe in

central Alberta. Its seed size is smaller than AC Lacombe and it may not yield as well under low yielding conditions. However, in droughted conditions Manny has consistently shown superior ability to maintain yield. It has resistance to scald (field), and the surface-borne smuts. It has intermediate (fair) resistance to loose smut, and net blotch (spot form) but is susceptible to common root rot.

**Stander** was developed by the University of Minnesota/Agricore and registered in 1996 for malt but is now only grown for feed. It out-yields the malting checks by 8% and has good straw strength. It has intermediate resistance to common root rot. Susceptible to loose smut, surface-borne smuts, scald, net blotch and septoria.

**Sundre** (tested as BT 566) was developed by the Field Crop Development Centre and supported for registration in February 2005. Sundre is distributed by Mastin Seeds Ltd. It is a 6-row, smooth-awned feed barley with high grain and silage yields in central Alberta, and with good kernel weight and seed plumpness. In FCDC silage trials, Sundre outyielded the high yielding six-rowed varieties Vivar and AC Lacombe. These characteristics make it a desirable multi-purpose variety for the livestock industry. Sundre has multiple gene resistance to scald, as shown in multi-station, multi-year trials. It has resistance to covered smut and false loose smut.

**Trochu** was developed by Alberta Agriculture, Lacombe and registered in 2000. This smooth-awned feed barley has high percent plump, test weight and kernel weight. It is higher yielding than AC Lacombe. The high percent plump kernels facilitate even processing for cattle feed resulting in increased feed efficiency. Lodging resistance is similar to AC Lacombe. It is resistant to the surface-borne smuts and common root rot. It is susceptible to loose smut.

## Two-row Varieties Eligible for Feed Grades

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**CDC Coalition** (tested as TR 03373) was developed at the Crop Development Centre, Saskatoon and registered in 2006. It has excellent straw strength and lodging resistance. Good yield potential, and high test weight. It is resistant to loose and false loose smut and Rpg1 stem rust, moderate resistance to covered smut. Moderately susceptible to net blotch and spot blotch, susceptible to septoria and scald.

**CDC Dolly** is a high yielding two-row feed barley developed at the Crop Development Centre, University of Saskatchewan and registered in 1994. It has high test weight and superior plumpness. Its maturity is slightly later than Harrington, but earlier than Bridge. It is resistant to the surface-borne smuts. Intermediate resistance to scald and common root rot. Susceptible to loose smut and net blotch.

**CDC Helgason** was developed at the Crop Development Centre, Saskatoon and registered in 2000. It has high yield (1% to 7% over CDC Dolly), strong straw, large plump grain, and high test weight. Maturity is equal to slightly earlier than CDC Dolly. Resistant to loose smut and the surface-borne smuts. Intermediate resistance to common root rot and net blotch. It has improved spot blotch rating. It is susceptible to scald.

**CDC Trey** was developed by the Crop Development Centre, Saskatoon and registered in 2002. It has high yield potential (eastern Prairies), strong straw, and large plump grain with high test weight. It has resistance to false loose smut, covered smut, common root rot, and MCC stem rust. It has intermediate resistance to net blotch (eastern Prairies), and improved spot blotch rating. It is susceptible to scald, loose smut, septoria and stem rust race QCC.

**McLeod** was developed by Western Plant Breeders in Bozeman, Montana and Agricore United, Calgary and registered in 2003. This 2-row feed combines high yield with good straw strength and test weight. Yields were 9% higher than the checks in Coop testing. Maturity is about one day later than checks. It is resistant to the surface-borne smuts. Intermediate resistance to common root rot and the spot form of net blotch. It is susceptible to scald, septoria, and net form of net blotch.

**Niobe** was developed by Alberta Agriculture, Lacombe and registered in 2002. It has resistance to the surface-borne smuts. Intermediate resistance to loose smut, common root rot, net blotch, and scald. Niobe has improved lodging resistance and is higher yielding than CDC Dolly when grown in high yield areas. It is slightly earlier maturing than CDC Dolly. Like CDC Dolly, it has low resistance to septoria and spot blotch. It has lower percent plump kernels than CDC Dolly.

**Ponoka** was developed at the Field Crop Development Centre, Lacombe and registered in 2003. It has resistance to loose smut, covered smut and false loose smut. Intermediate resistance to scald (field), net blotch (spot form) and common root rot. Field resistance to net (net form) and spot blotch similar to better than the checks. Silage yields are higher than AC Lacombe (the most common silage variety in Alberta) and higher grain yields than CDC Dolly. Yield of Ponoka is approximately 8% higher yielding overall, with yield 10% higher in the black and 12% higher in black/grey soil zones than CDC Dolly. Maturity 3 days later than CDC Dolly and lodging is similar to CDC Dolly and Harrington. Kernel weight lighter than CDC Dolly but heavier than Harrington. High plump. FHB reaction is fair, with DON levels similar to the checks.

**Rivers** was developed by Agriculture & Agri-Food Canada, Brandon and registered in 2001. It has high yield (21% over Harrington in eastern black soil zone), strong straw, high kernel weight and plumpness compared to Harrington and Manley. It has resistance to net blotch, smuts, and old races of stem rust. Intermediate resistance to common root rot and spot blotch. It is susceptible to scald, septoria, and stem rust race QCCJ.

**Seebe** was developed by Alberta Agriculture in Lacombe and registered in 1992. It is adapted to the high scald areas of Alberta. Its scald resistance is superior to all registered two-row varieties and equal to the best six-row varieties. In high scald areas it is higher yielding than Bridge. Maturity is 3 - 4 days later than Bridge in areas of high scald where the scald has hastened the maturity of more susceptible lines. Outstanding forage yields.

**Xena** was developed by Western Plant Breeders in Montana and registered for Canada by Agricore in 1999. It is high yielding (5% to 10% over CDC Dolly), has good lodging resistance, and high percent plump grain. It is one day later maturing and has slightly lower test weight than CDC Dolly. It has resistance to common root rot. Intermediate resistance to the surface-borne smuts. Susceptible to loose smut, scald, and net blotch.

## **Two-row Feed Semi-Dwarf Varieties**

**CDC Bold** was developed by the Crop Development Centre, Saskatoon and registered in 1999. It has high yield potential, short strong straw, large plump grain with high test weight. It is resistant to the surface-borne smuts. It has moderate resistance to scald, the spot-form of net blotch and common root rot. However, it is susceptible to loose smut, and the net-form of net blotch.

**CDC Thompson** was developed by the Crop Development Centre, Saskatoon and given interim registration in 1994 and full registration as a feed (initially a malt) in 1999. This strong straw semi-dwarf has good yield only in high productivity conditions; it has moderate scald resistance. Low yielding in stress environments.

## **Six-row Feed Semi-Dwarf Varieties**

**CDC Earl** was developed by the Crop Development Centre at the University of Saskatchewan and registered in 1993. This strong-strawed cultivar has performed well under high input conditions such as irrigation. It is resistant to the surface-borne smuts. It has intermediate resistance to common root rot and net blotch. It is susceptible to loose smut and scald.

**Kasota** is an early maturing, high yielding semi-dwarf feed barley developed by Alberta Agriculture at Lacombe and registered in 1994. Its average yields are on par with the top mid-season to late-maturing feed barleys, while it matures 2 to 6 days earlier. It has very good straw strength, and is resistant to scald and the surface-borne smuts. Its test weight is high for a six-row.

**Mahigan** was developed by Alberta Agriculture in Lacombe and registered in 1998. It has 2% to 5% higher yield and a higher test weight than Kasota. It is equal to Kasota in scald resistance. It has a semi-smooth awn and is taller than Kasota. Mahigan has intermediate resistance to net blotch. It is one day later in maturity than Kasota.

**Vivar** was developed by Alberta Agriculture, Lacombe and registered in 2000. It is higher yielding than all check varieties (AC Lacombe, CDC Earl) with high test weight, percent plump and kernel weight. Its maturity is equal to AC Lacombe (medium). It has good lodging resistance. Vivar has rough awns. It has intermediate reaction in the field to scald, net blotch and loose smut. It is resistant to the surface-borne smuts and common root rot. Vivar has excellent ability to respond positively under high yielding conditions.

## Six-row Varieties Eligible for Malting Grades

*Status according to the list of 'Recommended Malting Barley Varieties 2006-07' published by the Canadian Malting Barley Technical Centre (CMBTC) is indicated.*

**CDC Battleford** was developed by the University of Saskatchewan, Saskatoon and registered in 2001. It has good yield, plumpness, kernel weight, net blotch resistance, and short straw. Very good overall quality with low beta-glucan. It is susceptible to loose smut and scald. It has resistance to common root rot and surface-borne smuts and intermediate resistance to net blotch. Recommended CMBTC malting variety.

**CDC Clyde** was developed at the University of Saskatchewan and recommended for registration in 2004. Yield is 2% higher overall compared to CDC Sisler, and 5% higher in Brown and 7% in Grey soil zones of western Canada. Strong, short-strawed variety. Maturity is similar to Excel. Good malting quality with low protein content. Moderately resistant to stem rust, spot form of net blotch, spot blotch and common root rot. Moderately susceptible to scald and barley yellow dwarf. Moderately resistant to moderately susceptible to net form of net blotch. Under market development.

**CDC Sisler** was developed by the Crop Development Centre in Saskatoon, and received interim registration in 1996, and full registration in 1999. It is a white aleurone barley with excellent malting and brewing quality. It yields similar to Excel but is tall with only fair lodging resistance. CDC Sisler is similar in maturity to Harrington. It has moderate resistance to stem rust, but is susceptible to smuts, scald and net blotch. It has intermediate resistance to common root rot. Not a CMBTC recommended malting variety.

**CDC Springside** was developed by the Crop Development Centre, Saskatoon and registered in 2002. It is distributed by Agricore United. It is a 6-row white aleurone malting barley that has better yield, kernel weight and plumpness than CDC Sisler. CDC Springside has very good overall quality, with low protein and beta-glucan. It has resistance to loose smut and surface-borne smuts. It has intermediate resistance to common root rot. It is susceptible to net blotch, scald, septoria, and FHB. Currently under market development.

**CDC Tisdale** was developed by the University of Saskatchewan and registered in 2001. It has better yield, kernel weight, plumpness, straw strength,

and net blotch resistance than the checks B1602 and CDC Sisler. Very good overall quality with low beta-glucan. Maturity between both checks. CDC Tisdale is susceptible to loose smut, scald, and septoria. It has intermediate resistance to common root rot and net blotch. It has resistance to surface-borne smuts. Under market development.

**CDC Yorkton** was developed by the University of Saskatchewan and registered in 1999. It is better yielding than B1602 and Tankard in the black and grey soil zones. It has good plumpness, kernel weight, short straw, and good lodging resistance. CDC Yorkton is susceptible to scald, loose smut and septoria (similar to the checks), but is resistant to the smuts. It is slightly later maturing than B1602. Not a CMBTC recommended variety.

**Excel** was developed in the United States and registered in Canada in 1994. It has good lodging resistance and is slightly earlier maturing than Harrington. It has intermediate resistance to the surface-borne smuts, but is susceptible to loose smut, scald and net blotch. It has resistance to common root rot. Recommended CMBTC variety.

**Lacey** was developed by the University of Minnesota and Agriculture Canada, Brandon and registered in 2002. It is distributed by Newfield Seeds Ltd. It is a 6-row white aleurone malting barley. Lacey yields about 6 % greater, with stronger straw, is 12 cm. shorter, and has higher test weight, higher kernel weight, and higher percent plump than CDC Sisler. Not a recommended CMBTC malting variety.

**Legacy** was developed by Agricore/Busch Agricultural Resources and registered in 2001. It has better yield, percent plump, and lower protein than B1602 and CDC Sisler. Good malt quality. It has resistance to stem rust, surface-borne smuts, and common root rot. Intermediate resistance to loose smut and net blotch (spot form). It is susceptible to scald, septoria, and net form of net blotch. Recommended CMBTC malting variety.

**Tradition** was developed by Agricore United and Busch Agricultural Resources and is distributed by Agricore United. Tradition received interim registration in 2002. It is a 6-row white aleurone malt barley with good yield, good percent plump, high quality, improved lodging resistance, and test weight comparable to CDC Sisler. It has resistance to stem rust, spot form of net blotch, surface-borne smuts, and common root rot. It is susceptible to scald, septoria, loose smut, and the net form of net blotch. Recommended CMBTC malting variety.

## Two-row Varieties Eligible for Malting Grades

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*Status according to the list of 'Recommended Malting Barley Varieties 2006-07' published by the Canadian Malting Barley Technical Centre (CMBTC) is indicated.*

**AC Bountiful** was developed by Agriculture and Agri-Food Canada, Winnipeg, given interim registration in 1997, and full registration in 1999. It yields 8% higher than Harrington with similar maturity to AC Metcalfe. It is resistant to loose smut and the surface-borne smuts. It has intermediate resistance to common root rot and net blotch. It is susceptible to scald and septoria. It has large, plump kernels and excellent malt quality. Not a CMBTC recommended variety.

**AC Metcalfe** was developed by Agriculture and Agri-Food Canada, Brandon, given interim registration in 1994, and full registration in 1999. It yields 7% more than Harrington and is 1 day later than Harrington. It is resistant to loose smut, moderately resistant to the spot form of net blotch, the surface-borne smuts and common root rot. It is susceptible to scald and septoria. It has plump kernels, high test weight and excellent malt quality. Recommended CMBTC malting variety.

**CDC Copeland** was developed by the University of Saskatchewan, Saskatoon, and registered in 1999. It is better yielding than Harrington. CDC Copeland has good kernel plumpness and weight. It is 2 days later in maturity than Harrington. It has intermediate resistance to the surface-borne smuts, net blotch and common root rot. It is susceptible to loose smut, septoria and scald. Recommended CMBTC malting variety.

**CDC Kendall** was developed by the University of Saskatchewan, Saskatoon, and given interim registration in 1995 and full registration in 1999. Its maturity is equal to Harrington. It has 6% higher yield than Harrington. CDC Kendall has high test weight. It has intermediate resistance to common root rot and net blotch. It is susceptible to scald, septoria and the smuts. CDC Kendall is a recommended CMBTC malting variety.

**CDC Select** was developed at the University of Saskatchewan, Saskatoon, and registered in 2000. It yields about 10% higher than Harrington with good kernel weight and better plumpness than Harrington. It matures 1 day later than Harrington. It has resistance to loose smut. It has intermediate resistance to surface-borne smuts, net blotch and common root rot. It is susceptible to septoria and scald. CDC Select is currently under market development.

**CDC Stratus** was developed by the University of Saskatchewan, Saskatoon, and given interim registration in 1994 and full registration in 1999. It has similar maturity to Harrington and better test and kernel weights. CDC Stratus has intermediate resistance to loose smut, the surface-borne smuts, common root rot and net blotch. It is susceptible to scald and septoria. Not a CMBTC recommended malting variety.

**Calder** was developed by Agriculture Canada, Brandon and registered in 2002. It is higher yielding, with higher test weight, kernel weight, and plumpness than Harrington. Calder has more resistance to hull peeling and has higher malt extract than Harrington. It is resistant to loose smut and the surface-borne smuts. It has moderate resistance to stem rust and net blotch. It is susceptible to scald, septoria, and barley yellow dwarf. It has lodging resistance similar to Harrington. Calder is adapted to the Manitoba and Saskatchewan malting barley growing areas and currently undergoing market development.

**Harrington** was developed at the University of Saskatchewan, Saskatoon, and registered in 1981. It is medium in maturity, and moderately resistant to common root rot. Harrington has good malting and brewing quality and is still a preferred two-row variety with established market demand. Under cool, moist harvesting conditions, sprouting can be a serious problem. Peeling can also be a problem. It is susceptible to loose smut and the surface-borne smuts. It is very susceptible to scald and net blotch. Harrington is still a recommended CMBTC malting variety.

Two-row varieties eligible for malting grades, continued

**Merit** was developed by Busch Ag-Resources/Alberta Pool and given interim registration in 1998 and full registration in 1999. It has improved net blotch resistance (moderately resistant to moderately susceptible for net form and moderately resistant for spot form), good yield and malt quality. It is resistant to covered smut, susceptible to loose smut, scald, septoria and barley yellow dwarf. It is 3 days later maturing than Harrington. Merit is a recommended CMBTC malting variety.

**Newdale** was developed by Agriculture & Agri-Food Canada, Brandon and registered in 2001. It has higher yield (24% over Harrington), higher test weight, kernel weight, plumpness and stronger straw than Harrington. Good malt quality. Intermediate resistance to spot blotch and net blotch. It has resistance to stem rust (old races), common root rot, and surface-borne smuts. However, it is susceptible to loose smut, scald, septoria and stem rust race QCCJ. Newdale is under market development.

**Stein** was developed at the University of Saskatchewan and registered in 1987. It is a good yielding malt variety with medium maturity, average lodging resistance, good seed weight but it is susceptible to loose smut, common root rot, net blotch and scald. It has established market demand and is a CMBTC recommended malting variety.

## **Six-row Hulless Barley Varieties**

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**AC Bacon** was developed at Agriculture and Agri-Food Canada, Brandon, and registered in 1998. It yields 10% higher in the western black soils, 18% higher in the eastern black soils, 17% higher in the grey-wooded soils than Falcon. It has intermediate resistance to scald, surface-borne smuts and common root rot. It is resistant to septoria. However, it is susceptible to net blotch, loose smut, and has medium hull retention.

**Falcon** was developed by Alberta Agriculture at Lacombe and registered in 1992. It is a six-row hulless semi-dwarf. Its area of adaptation is the high scald and lodging areas of Central Alberta. Falcon has excellent lodging resistance. It has intermediate resistance to scald, net blotch and common root rot. It has good resistance to surface-borne smuts. It is susceptible to loose smut. Feed tests indicate high digestible energy and digestible protein for hogs. Falcon has good feed value as a silage.

**Jaeger** was developed by Alberta Agriculture, Lacombe and registered in 1998. It is higher yielding and has better lodging resistance than Falcon, resistant to scald and septoria with good neck-break resistance. It is two days later maturing than Falcon. It is susceptible to surface-borne smuts, loose smut, net blotch and rust.

**Peregrine** was developed by Alberta Agriculture, Lacombe and registered in 1999. This semi-dwarf has excellent straw strength and good head retention at maturity compared to Falcon. Better test weight and plumpness, one day earlier and higher yielding than Falcon under severe lodging conditions. Peregrine is resistant to stem rust, and has intermediate resistance to scald, surface-borne smuts, common root rot and net blotch. It is susceptible to loose smut, with smaller seed size than Falcon.

**Tyto** was developed by Alberta Agriculture, Lacombe and registered in 2002. It is a semi-dwarf with strong straw. Tyto has intermediate resistance to scald, net blotch, and common root rot. It has resistance to surface-borne smuts, stem rust and septoria. Tyto has higher grain yield, and higher silage yield than Falcon, with good seed weight and test weight.

## **Two-row Hulless Barley Varieties**

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**CDC Dawn** was developed by the Crop Development Centre in Saskatoon, registered in 1995 and distributed by SeCan. It has intermediate resistance to net blotch and common root rot. It is susceptible to the smuts and scald. It has poor straw strength. Hull removal at harvest is difficult.

**CDC Freedom** was developed by the Crop Development Centre, Saskatoon and registered in 1998. It has excellent threshability, tall height but has fair lodging resistance, large plump grain, maturity equal to Falcon, and good neck break resistance. It has resistance to surface-borne smuts and stem rust (race MCC). It is susceptible to scald, septoria, barley yellow dwarf and loose smut.

**CDC McGwire** was developed by the Crop Development Centre, Saskatoon and registered in 1999. It has high yield potential, very good threshability, resistance to net blotch and stem rust race MCC, moderate resistance to scald, spot blotch, false loose and covered smut. It is susceptible to loose smut and stem rust race QCC.

## **Forage Barley Varieties**

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**AC Ranger** was developed by Agriculture & Agri-Food Canada, Brandon and registered in 2000. This smooth awned barley has a high forage yield and quality, good lodging resistance and grain yield, moderate resistance to net blotch, and resistance to non-QCC stem rust. Its maturity is later than AC Lacombe. It is susceptible to scald, septoria, and QCC races of stem rust.

**CDC Cowboy** (tested as FB 201) was developed by the Crop Development Centre, Saskatoon and recommended for registration in 2004. It has high forage dry matter yield potential in non-scald areas, plump grain with high test weight and kernel weight. Fair lodging resistance. It is resistant to stem rust, covered and false loose smuts. Moderately resistant to net blotch. Susceptible to spot blotch, barley yellow dwarf, and loose smut.

**Dillon** was developed by Westbred Plant Breeders, Bozeman, Montana and registered in 2000. This hooded barley (no awns) has a high forage yield for silage or green feed, good lodging resistance, and relatively good feed value. It is moderately susceptible to net blotch and spot blotch with a grain yield lower than AC Lacombe.

**Stockford** was developed by Westbred Plant Breeders, Montana and Agricore United and was registered in 2004. It is a two-rowed, hooded forage barley that has improved forage quality and dry matter yield in comparison to the hooded check Westford.

**Westford** was developed by Westbred Plant Breeders, Bozeman, Montana and registered in 2000. This hooded barley (no awns) has good straw strength (equal to AC Lacombe), high forage yield for silage and green feed. It is moderately susceptible to net blotch and spot blotch. The relative feed value is lower than AC Lacombe or Duke, but higher than Virden, and has a low grain yield.

## Specialty Use Hulless Barley Varieties

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*This category includes specialty hulless barley varieties that have a high waxy starch content and are intended for the human food market and therefore should not be grown for the feed market. It also includes high beta-glucan, high fibre varieties, intended for the human food market.*

**CDC Alamo** was developed by the Crop Development Centre, Saskatoon and registered in 1999. This is a specialty type barley and should only be grown after a market has been secured. It is a waxy hulless with 100% amylopectin starch, good threshability and straw strength, large plump grain, and with moderate scald resistance. It is susceptible to all smuts, stem rust, net and spot blotch. Yield is only equal to Condor.

**CDC Candle** is a waxy starch type hulless barley developed by the Crop Development Centre of Saskatchewan and registered in 1995. It yields 86% of Harrington and is similar to CDC Richard in maturity, physical grain-quality, straw strength and poor leaf disease resistance.

**CDC Fibar** was developed by Crop Development Centre in Saskatoon and registered in 2003. It is a waxy two-row hulless with 100 % amylopectin starch and high beta-glucan levels with high acid extract viscosity designed specifically for specialty starch barley food markets. Its agronomic performance is not outstanding as this variety was registered with only one year of data. It is susceptible to common root rot, stem rust, net and spot forms of net blotch and loose smut.

**CDC Rattan** was developed by the Crop Development Centre, Saskatoon and registered in 2003. It is a waxy two-row hulless with 95 % amylopectin starch. This variety has improved agronomic performance with an 11% yield increase over the check CDC Candle. Straw strength is due to shorter plant height, with better plumpness and test weight. It is susceptible to scald, smuts and spot form of net blotch and common root rot.

**HB 811** (test number, no name yet) was developed by Westbred Plant Breeders, Montana and recommended for registration in 2004. It yields 11 to 12 % higher compared to CDC Candle, the check for waxy barley. This waxy hulless barley is 95 % amylopectin starch. It has high plumpness and kernel weight. Maturity is 1 day later than the check. It has intermediate resistance to scald, spotted form of net blotch, and smuts. Susceptible to stem rust, septoria, net form of net blotch, common root rot, fusarium head blight and spot blotch.

**Merlin** was developed by the Alberta Wheat Pool and registered in 1995. It is a waxy semi-dwarf barley with excellent lodging resistance for irrigation and higher rainfall areas. Resistant to all smuts, moderate resistance to net blotch and a high percent plump kernels. It is late maturing and susceptible to root rot.

**Millhouse** (tested as HB 109) was developed by Agriculture & Agri-Food Canada, Brandon and Winnipeg and recommended for registration in 2004. It is a standard 2-row non-waxy hulless with high milling extract for flour at 87 %. The flour is a source of dietary fibre and anti-oxidants. Yield is 7% higher than CDC Candle, the 2-row hulless check. Maturity is 2 days later than check. Lodging ratings are fair. It is resistant to stem rust but susceptible to most other diseases - common root rot, loose smut, spot blotch, scald and septoria.

**Prowashonupana** was developed by Westbred Plant Breeders, Bozeman, Montana and registered in 2000. This high beta-glucan, high fibre barley is desired in the specialty food industry. It is early maturing and resistant to common root rot. It is susceptible to scald, net and spot blotch, loose smut, septoria and stem rust. It is low yielding, has low test weight, and weak straw.