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Spring Grain Varieties for 2003



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Spring Grain Varieties for 2003

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This publication describes spring wheats, barleys, oats, and triticales commonly grown in Oregon and provides, when available, yield and agronomic data to aid in variety selection. The wheat, barley, and triticale data presented was generated through a statewide variety testing program. This program was initiated in 1992 with funding and support dollars provided by the Oregon State University Extension Service, Oregon Agricultural Experiment Station, Oregon Wheat Commission, and Oregon Grains Commission. Grains and Wheat Commission funding were not provided for 2003 due to extreme shortfall in these groups' budgets. Extension funding for the program is also being eliminated due to the current Extension Service budget crisis. Limited trial work is being done in 2002-03, and the future of this testing program is uncertain. It is likely to become a subcomponent of the OSU Wheat Breeding project.

The 2002 trials were coordinated by John Bassinette and Russ Karow and involved research cooperators at six experiment stations across Oregon. Grower cooperators made small plot testing possible at four sites. The spring wheat trials were split by market classes (hard and soft) and managed for desired protein levels by varying applied nitrogen rates. This year we also added a no-till site at Moro. This was a chemical fallow site, not recrop.

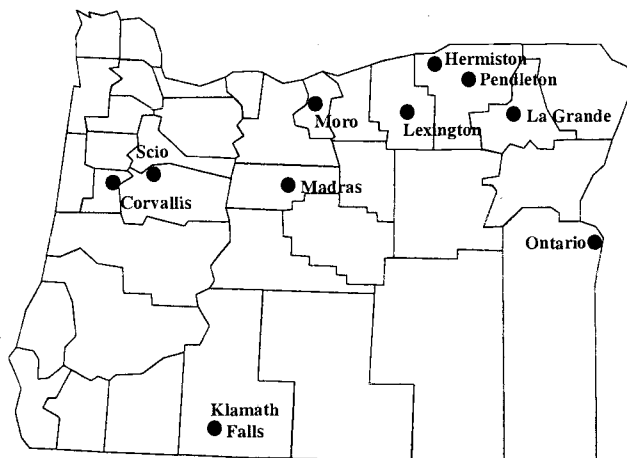
If you have questions about this publication, please contact Russ Karow, Head, Dept. of Crop and Soil Science (541-737-2821, Russell.Karow@oregonstate.edu) or John Bassinette, senior faculty research assistant (541-737-5858, John.Bassinette@oregonstate.edu), Room 107, Crop Science Bldg., Oregon State University, Corvallis, OR 97331-3002 (FAX: 541-737-1589). Individual site and year data are available on the OSU Cereals Extension

home page at <http://www.css.orst.edu/cereals/>.

We thank Barbara Reed, office specialist in Crop and Soil Science, for assistance with this and other Extension publications.

Site	Coordinator/ Grower Cooperators
Corvallis	Bassinette/Karow
Hermiston	Blake/Petrie
Klamath (mineral)	Clark/Smith
Klamath (muck)	Clark/Smith
	Grower: Sam Hensel
LaGrande	Blake/Petrie
	Grower: John Cuthbert
Lexington	Blake/Petrie
	Grower: Chris Rauch
Madras	Bafus/Bohle
Moro (no-till)	Blake/Petrie/Jacobsen
Ontario	Eldredge/Shock
Pendleton	Blake/Petrie
Scio	Bassinette/Karow
	Grower: Carl Haugerud

Statewide cereal variety testing program locations.



Statewide cereal testing program site information.

Location	Elev. (ft)	GDD ¹	Precip. (in)	Type
Corvallis	230	2,052	43	Dryland
Hermiston	450	2,824	9	Irrigated
K. Falls (mineral)	4,100	1,973	14	Irrigated
K. Falls (muck)	4,034	-	14	Irrigated
La Grande	2,770	1,830	14	Irrigated
Lexington	1,200	2,294	10	Dryland
Madras	2,230	1,917	10	Irrigated
Moro (no-till)	1,870	1,988	11	Dryland
Ontario	2,230	2,868	10	Irrigated
Pendleton	1,490	2,278	16	Dryland
Scio	500	2,100	55	Dryland

¹Yearly growing degree day total using a 50°F base temperature.

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Factors to Consider When Selecting Varieties

Yield often is the key factor in variety selection, but other characteristics also can be important. As you look through the data tables in this publication, you will discover that yield performance of recently released varieties often is quite similar. Rarely do we find one variety that consistently outyields all others. This is not surprising, because intensive breeding efforts have improved the yield potential and stability of grains in general. What this means to you is that factors other than yield can receive greater attention as you select varieties to grow on your farm. Consider the following criteria as you think about variety selection.

Height and Lodging. Varieties differ in height and lodging resistance. Though generally correlated, taller varieties do not necessarily exhibit increased lodging. Lodging reduces grain yield and quality and can significantly increase harvest costs. As soil fertility levels increase, stiffer-strawed varieties should be used. Excessive early nitrogen applications tend to cause lodging in some irrigated situations.

Disease/Stress Resistance. Diseases can be a major production problem; however, type of disease and disease pressure vary from location to location and from year to year. Select varieties with resistance or tolerance to the diseases and stresses commonly found in your area. Barley yellow dwarf virus and leaf rust are the most common diseases of spring grains. In 2002, a new race or races of stripe rust (*Puccinia* sp.) overcame the genetic resistance found in many PNW spring wheats. Fortunately, foliar fungicides controlled these new races. Growers should carefully monitor their fields and apply a fungicide only if needed. Russian wheat aphids have occasionally devastated spring grains, especially late-planted crops in production areas east of the Cascade Mountains. None of the currently available spring wheats, barleys, or triticales is resistant to Russian wheat aphid, but oats are immune. Adage and Gaucho seed treatment insecticides can suppress aphids in some situations. Hessian fly has become a significant pest of spring grains in some areas of eastern Oregon. Grow a resistant variety if this insect is a pest in your area. Barley stripe rust can dramatically reduce barley grain yield if infestations occur early in the growing season. To date, this disease has been of economic significance only in the Klamath Basin, but it has been found throughout the state. Resistant varieties are now available (see Table 3). Two-row varieties can be infected but generally are more tolerant of the disease than six-row types. Grow a two-row type if seed for a resistant variety is not available. Crown rust of oat was a major problem in late-planted fields in western Oregon in 1998. However, the outbreak was not of economic importance then nor has it been since. None of the currently grown

varieties is resistant. Monitor fields and use a fungicide if needed.

Maturity. As a group, barleys mature earlier than other grains; oats later. However, varieties differing in rate of maturity exist within each grain type. Early-maturing varieties may avoid yield and quality reductions caused by heat or drought in late summer. Later maturing varieties may yield more when moderate temperatures and favorable moisture conditions persist into late summer; however, stem rust and other diseases favored by warm weather may become a problem. Choose varieties with a maturity that matches your environment and cropping needs. Where moisture is not limiting, oats tend to fare better than the other grains in very late seedings.

Intended Use. Barley varieties are classified either as feed, malting, or forage types. Feed types generally have a higher protein content than malting types. Those listed as malting types have been approved by the American Malting Barley Association (AMBA). Forage types generally are intended for hay or silage and not grain production. Oats are used as animal feed, for cover crop, and as human food. Some varieties are better suited for specific end uses than others. Otana, Monida, and Border are preferred food-type oats. Most oat varieties can be used for forage. Soft white wheats, both common and club, winter and spring, have occupied more than 90 percent of Oregon's wheat acreage in recent years. Hard red wheats most often are grown in irrigated areas, but spring dryland production is increasing. Triticales are grown for forage and feed grain use.

Grain Quality. Test weight (bushel weight) is a price-determining factor in the marketplace. Choose varieties with good test weight records. All Pacific Northwest (PNW)-released varieties meet minimum quality standards established by PNW breeders, but suitability for different end use applications can vary. There is growing concern about the quality of soft white wheat. Most have adequate quality to meet current market demands though Penawawa has been problematic in some instances. Premiums have been paid for low-protein soft white wheat and high-protein hard wheat in recent years. Varieties differ in grain protein potential. This potential is greatly influenced by environment and nutrient management. As a rule, spring grains have higher protein levels than winter grains. This is likely due to environmental, rather than genetic, causes.

Yield Potential. Yield potential varies from variety to variety and, for a given variety, from area to area and year to year. Yield potential is a genetic trait but is moderated by other factors such as disease and stress tolerance. To evaluate the yield potential of a variety, review data from test sites with an environment similar to that in your area. Where possible, compare performance over several years, as a single year's data can be misleading.

Variety Descriptions

The following descriptions are designed to provide key information about commonly grown varieties. Material for these descriptions was drawn from the tables in this publication, Certified Seed Buyers Guides distributed by Washington State Crop Improvement Association, and variety release descriptions.

Wheats

Agronomic characteristics, disease ratings, and yield data for wheats are presented in written or tabular form. Table contents are:

Agronomic ratings	Table 1
Disease ratings	Table 2
2002 heading data	Tables 5, 6
2002 height data	Tables 7, 8
2002 yield data	Tables 9, 10
2002 yield as percent	Tables 11, 12
2001 yield data	Tables 13, 14
2000-02 yield data	Tables 15, 16
2002 test weight data	Tables 17, 18
2002 protein data	Tables 19, 20

New Releases

ALTURAS (IDO 526) is a soft white spring wheat developed by Idaho Ag. Experiment Stations. It is a semi-dwarf adapted to rain-fed and irrigated production zones above 1,000 m. It has excellent milling quality and has adult resistance to older stripe rust (*Puccinia striiformis*) races. It is susceptible to Hessian fly and has moderate susceptibility to leaf rust.

Commonly Grown Wheat Varieties

Common Soft White

ALPOWA is a white-chaffed, awned, soft white released by WSU in 1993. It was intended as a replacement for Penawawa, but both varieties are being grown. Alpowa has slightly higher yield and test weight than Penawawa. It also appears to be more tolerant of the new stripe rust races than the other commonly grown soft white springs. Milling and baking characteristics of Alpowa are average.

CHALLIS (BZ 692-108) is a soft white, semi-dwarf spring wheat developed by Western Plant Breeders. Challis has good test weight and performs well under dryland conditions. It has acceptable milling and baking properties. Challis is susceptible to Hessian fly and has moderate resistance to older stripe rust races.

JUBILEE (IDO 525) is a soft white, semi-dwarf spring wheat released by the University of Idaho in 2001. Jubilee is adapted to both rain-fed and irrigated production zones. Jubilee has adult plant resistance to older stripe rust races but is moderately susceptible to leaf rust and susceptible to Hessian fly. Milling and baking quality of Jubilee is better than most currently available soft spring wheat varieties.

PENAWAWA is a white-chaffed, awned, semi-dwarf released by WSU in 1985. Penawawa has been the dominant spring wheat variety in Oregon but is being replaced with newer varieties. Milling and baking characteristics of Penawawa are average at best, and other varieties should be grown if seed is available. Penawawa is susceptible to new stripe rust races.

WAWAWAI was released by WSU in 1994 as a replacement for Wakanz. Both varieties have good Hessian fly resistance.

ZAK (WA7850) is a soft white spring wheat released by WSU in 2000. It is targeted as a replacement for Penawawa and Alpowa due to its yield potential and for Wawawai due to its Hessian fly resistance. It is slightly taller than and similar in heading date to Penawawa and Alpowa. Zak has moderate leaf rust resistance but is susceptible to new stripe rust races.

Hard White

IDO377S is a hard white released in 1996 under an exclusive license to ProMar Select, a growers' cooperative. The cooperative has had some difficult times, but occasional production contracts are still available. Contact Bob Cannon, ProMar Manager, at 1-800-949-0669 for additional information.

LOLO (IDO 533) is a hard white, semi-dwarf spring wheat released by the University of Idaho in 2001. Lolo is a high-input line with better lodging resistance and is more responsive to nitrogen inputs than ID-377S. Lolo has resistance to PNW rust races (unknown reaction to newer stripe rust races) but is susceptible to Hessian fly. Lolo has excellent baking characteristics for Asian noodle markets. Lolo is also licensed to ProMar Select. Contact Bob Cannon, ProMar Manager, at 1-800-949-0669 for additional information.

WINSOME (OR4870453) is a white-chaffed, awned, hard white spring wheat released by OSU in 2000. Yields have been similar to IDO377S. Winsome is late maturing and has lodging-resistant, stiff straw. Winsome has shown superior performance in Asian noodle products.

Commonly Grown Wheat Varieties (cont.)

Hard Red

HANK is a hard red spring wheat developed by Western Plant Breeders. It has good yield and high grain protein potential. Milling and baking properties also are very good. Hank is Hessian-fly-tolerant and is resistant to older stripe rust races.

IONA (IDO 492) is a hard red spring wheat released by Idaho in 1999. It is a tall, semi-dwarf variety adapted to rain-fed production at higher elevations. It has shown excellent yield potential and grain quality in Idaho testing. Iona exhibited only average performance in Oregon trials.

JEFFERSON (IDO 462) is a high-yielding, hard red spring wheat released by the University of Idaho in 1998. It has shown above-average yield and test weight performance across locations. Yields have equaled or surpassed those of soft whites in many environments. Protein levels have been similar to those of other commonly grown hard reds. It is taller than other commonly grown hard reds and appears to be slightly more prone to lodging.

SCARLET (WA7802) is a high-yielding, superior-quality hard red spring wheat for use in the semi-arid production regions of the PNW. Scarlet was released by Washington State University (WSU) in 1998. Yields have equaled or surpassed those of soft whites in many environments. Scarlet is taller than other commonly grown hard reds and appears to be slightly more prone to lodging. Protein levels have been similar to those of other commonly grown hard reds when grown under semi-arid conditions.

TARA (WA 7824) is a hard red, semi-dwarf spring wheat released by WSU-USDA-ARS in 2000. It is intended for higher rainfall (>16 inch) production zones. It is resistant to older stripe rust races and moderately resistant to leaf rusts. It has superior milling and baking characteristics compared to currently available hard red varieties.

WESTBRED 936 was released by Western Plant Breeders in 1992. Yield potential and shatter resistance are superior to those of earlier WPB varieties. WPB936 is susceptible to leaf rust and Hessian fly.

YECORA ROJO is a white-chaffed, awned, semi-dwarf released by California in 1975. Yield potential is lower than many other hard red varieties. It is resistant to Hessian fly, and its short stature makes it a variety of choice in some irrigated environments.

Club Wheat

CALORWA is a spring club wheat. It was released by California, Oregon, and Washington in 1994. Yields, quality, and seed characteristics are marginal. New spring club wheats are being developed.

Durum

WESTBRED 881 is a spring durum released by Western Plant Breeders in 1984. Yields typically are lower than other spring wheats. Some acreage has been grown under contract in the Pendleton area.

Barley

Agronomic characteristics, disease ratings, and yield data for barleys are presented in written or tabular form. Table contents are:

Agronomic ratings	Table 3
2002 height	Table 21
2002 heading date	Table 22
2002 yield	Table 23
2002 yield as percent	Table 24
2001 yield	Table 25
2000-2002 yield	Table 26
2002 test weight	Table 27
2002 protein	Table 28

New Releases

BOB (WA 8682-96) is a midseason, medium height, two-row spring feed barley. It is widely adapted across production zones in Idaho, Washington, and Oregon. Bob is tolerant of stripe rust (*Puccinia striiformis*) and moderately resistant to leaf rust (*Puccinia graminis*).

Commonly Grown Barley Varieties

Malt Type

CHINOOK is a two-row malt barley released by Montana State University in 1995. It has a moderate level of barley stripe rust resistance. It is later maturing, as are many of the two-row malts, and slightly taller than commonly grown feed barleys.

HARRINGTON is a two-row malt released by the University of Saskatchewan in 1986. It appears to be the best dryland malt variety available at this time. Great Western Malting has purchased some Harrington on the open market.

Commonly Grown Barley Varieties (cont.)

Feed Type

BANCROFT (78Ab10274) is a tall, two-row, feed barley released by the University of Idaho (UI) in 2000. Bancroft is a midseason variety with average yield potential but has barley stripe rust resistance.

BARONESSE is a two-row feed barley released by Western Plant Breeders in 1992. It has exhibited excellent yield potential and above-average test weights across locations. It is later maturing than Steptoe. Baronesse is the dominant barley in Oregon.

FARMINGTON (WA9504-94) is a two-row, semi-dwarf spring feed barley released by WSU, USDA-ARS in 2001. It is best adapted to higher yielding production zones in eastern Washington. Farmington has resistance to barley stripe rust, which may give it a yield advantage over currently available but susceptible varieties.

SARA is a six-row, hooded, spring barley released by OSU in 2001. Grain yield of Sara is less than other current varieties, but it is intended for forage and not seed production. Sara has resistance to stripe rust. Sara has been released on a 4-year exclusive license to Winema Elevators.

STEPTOE is a six-row feed barley released by WSU in 1973. It had been the dominant spring barley in Oregon for nearly two decades. It is resilient and adapted to most production environments. It is susceptible to lodging in high-production environments and generally has lower test weights and protein levels. It appears to have some tolerance to barley stripe rust. Steptoe has some dormancy, and volunteer grain can be a problem.

TANGO (SR58-4) is a six-row, stripe-rust-resistant feed barley released by OSU in 1999. Tango is a doubled haploid variety derived from an Orca-sib x Steptoe cross with Steptoe as the recurrent. In essence, it is Steptoe with stripe rust resistance, smooth awns instead of rough, and no dormancy. Yields have been similar to those of Steptoe.

VALIER is a two-rowed, white-kernelled, midseason spring barley released by Montana State University in 1999. Valier has superior feed value compared to Baronesse.

Oats

Agronomic characteristics for oats are presented in Table 4. Yield data from 2001 trials for Cayuse, Lamont, and Provena are presented in Table 13. Additional data for more than 20 oat varieties can be found in Table 29.

CAYUSE is a yellow-hulled oat released by WSU in 1966. It is the most popular cultivar in the PNW at this time. It is early-maturing, short in stature, and has good lodging resistance. It has fair tolerance to barley yellow dwarf virus (BYDV).

KANOTA is a red oat (*Avena byzantina*) released in Kansas during the 1920s. It is grown for hay. It is similar in maturity to Cayuse. Kanota is taller than most grain cultivars and has finer stems. Grain yields generally are low.

LAMONT (86Ab1616) is a hulless oat released by the University of Idaho and the USDA-ARS in 1999. It has shown superior yield to older hulless varieties and is better suited to dryland environments than Provena, another new hulless oat release.

MONIDA is a white-hulled oat released by the University of Idaho and USDA-Agricultural Research Service in 1985. It is the progeny of an Otana/Cayuse cross. It is mid- to late-season, similar in height to Otana, and has a test weight intermediate to that of Otana and Cayuse. It has good milling characteristics. Lodging resistance is good.

MONTEZUMA is a red hay oat (*Avena byzantina*) released by California in 1969. It is early-maturing and short statured. Lodging resistance is good.

PROVENA (88Ab3073) is a hulless oat released by the University of Idaho and the USDA-ARS in 1999. It has shown superior yield to older hulless varieties. Due to its shorter stature, Provena is better suited to high-rainfall and irrigated environments than is Lamont.

Triticales - see wheat tables

TRICAL 2700 was released by Resource Seeds in 1993. It is a facultative variety usually planted in the spring. It is tall and awned, intended for use as both grain and forage. Lodging resistance is excellent. Yields have been good across environments. Seed is available through Round Butte Seeds in central Oregon (541-546-5222).

Table 1. Agronomic data for soft white, hard white, hard red, and durum spring wheat and triticale varieties.

Variety	Release date	Origin ¹	Height ²	Head type	Maturity ³	Lodging ⁴
<i>Soft white club</i>						
Calorwa	1994	WA	S-M	Awned	E	R
<i>Soft white common</i>						
Alpowa	1993	WA	M-T	Awned	M	R
Alturas	2002	ID	M	Awned	M	R
Centennial	1990	ID	M	Awned	E-M	R
Dirkwin	1978	ID	M	Awnless	E-M	R
Challis	2001	P-WPB	M-T	Awned	M	R
Jubilee	2001	ID	M	Awned	M	R
Penawawa	1985	WA	M	Awned	M	R
Pomerelle	1996	ID	M	Awned	M-L	R
Skagit	1997	P-FC	M	Awned	M	R
Treasure	1986	ID	M	Awned	L	MR
Wakanz	1988	WA	M	Awned	L	MR
Wawawai	1994	WA	M-T	Awned	M	R
Westbred Vanna	1992	P-WPB	M	Awned	M	R
Whitebird	1996	ID	M	Awned	M	R
Zak	2000	WA	M-T	Awned	M	R
<i>Hard white</i>						
IDO377S	1995	ID	M	Awned	E-M	MR
Klasic	1982	P-NK	S	Awned	E	R
Lolo	2001	ID	M	Awned	E-M	MR
ML455	1998	P-FC	M	Awned	M-L	MR
Winsome	2000	OR	M	Awned	M-L	R
<i>Hard red</i>						
Hank	2000	P-WPB	M	Awned	M	R
Iona	1999	ID	T	Awned	E-M	MS
Jefferson	1998	ID	M	Awned	E-M	MR
McKay	1981	ID	M	Awned	E-M	MR
Scarlet	1998	WA	M-T	Awned	M	MR
Spillman	1989	WA	M	Awned	M-L	MR
Tara	2000	WA	M	Awned	E	R
Westbred 926	1987	P-WPB	M	Awned	E	R
Westbred 936	1992	P-WPB	M	Awned	E-M	R
Westbred Express	1990	P-WPB	M	Awned	M	R
Yecora Rojo	1975	CA	S	Awned	E	R
<i>Durum wheats</i>						
Westbred 881	—	P-WPB	S-M	Awned	E-M	R
<i>Triticales</i>						
Trical 2700	1993	P-RS	T	Awned	M	R
Trical Victoria	1988	P-RS	M-T	Awned	M	R

¹CA = California, ID = Idaho, OR = Oregon, WA = Washington, P = private (FC = Fossum Cereals, NK = Northrup King, RS = Resource Seeds, WPB = Western Plant Breeders) ²M = medium, S = short, T = tall ³E = early, M = midseason, L = late ⁴R = resistant, MR = moderately resistant, MS = moderately susceptible

Table 2. Disease and insect ratings of soft white, hard white, hard red, and durum spring wheat and triticale varieties.

Variety	Rust			Powdery mildew	Black chaff	Black point	Hessian fly
	Stripe*	Leaf	Stem				
<i>Soft white club</i>							
Calorwa	MR	R	R	MR	—	—	S
<i>Soft white common</i>							
Alpowa	MR	MR	MS	—	—	—	S
Alturas	R	MR	—	—	—	—	S
Centennial	MR	MS	R	—	—	—	S
Challis	MR	MR	—	—	—	—	S
Dirkwin	MR	MS	S	MR	S	MS	S
Jubilee	R	MS	—	—	—	—	S
Penawawa	MR	MR	MS	S	MS	MS	S
Pomerelle	R	MS	R	—	—	—	—
Treasure	R	MS	R	S	MS	MS	S
Wakanz	MR	MR	S	MS	—	—	R
Wawawai	MR	MR	R	R	—	—	R
Westbred Sprite	MR	MR	MS	R	—	—	S
Westbred Vanna	MR	R	MS	R	—	—	S
Whitebird	R	MR	MR	—	—	—	—
Zak	R	MR	—	—	—	—	R
<i>Hard white</i>							
IDO377S	R	MR	—	S	—	—	S
IDO533	R	R	—	—	—	—	S
Klasic	MR	R	R	—	—	—	S
Lolo	R	R	—	—	—	—	S
Winsome	MR	R	—	—	—	—	S
<i>Hard red</i>							
Hank	R	R	R	—	—	—	MR
Iona	R	MS	—	—	—	—	S
Jefferson	R	MS	—	—	—	—	MR
McKay	R	R	MR	MR	MR	MS	—
Scarlet	MR	R	—	MR	—	—	S
Spillman	R	R	R	R	S	—	S
Tara	R	MR	—	—	—	—	MR
Westbred 926	R	R	R	R	—	—	R
Westbred 936	R	MS	R	—	—	—	MS
Westbred Express	R	R	R	R	—	—	S
Yecora Rojo	MS	S	R	R	—	—	R
<i>Durum wheats</i>							
Westbred 881	S	MR	MR	MR	—	MR	—
<i>Triticale</i>							
Trical 2700	R	—	—	—	—	—	—
Trical Victoria	R	MS	T	R	—	—	—

*Reactions are for older strip rust races. Reaction to newer races is unknown and assumed to be susceptible until shown otherwise.

R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, T = tolerant, VS = very susceptible,
— = unknown

Table 3. Agronomic data for spring barleys.

Variety	Release date	Origin ¹	Head type	Plant height ²	Straw strength	Heading date ³	Stripe rust resistance ⁴
<i>Malt types</i>							
Chinook	1995	MT	2-row	M-T	Mod.-stiff	M-L	T
Crest	1992	WA	2-row	M	Mod.-stiff	M-L	T
Crystal	1989	ID	2-row	M	Stiff	M-L	T
Excel	1990	MN	6-row	M	Mod.-stiff	M	S
Galena	1993	P-Coors	2-row	S	Stiff	L	T
Harrington	1986	SK	2-row	M	Stiff	M	T
Morex	1978	MN	6-row	M-T	Mod.-stiff	E-M	S
Russell	1985	ID	6-row	M	Stiff	E-M	S
Stander	1993	MN	6-row	M-T	Mod.-stiff	M	R
<i>Feed types</i>							
Bancroft	2000	ID	2-row	T	Mod.	M	R
Baronesse	1992	P-WPB	2-row	M	Mod.-stiff	M	T
Bob	2002	WA	2-row	M	Stiff	M	T
Colter	1991	ID	6-row	M	Stiff	E-M	S
Columbia	1979	P-Germains	6-row	M	Stiff	M	S
Farmington	2001	WA	2-row	S	Mod.	L	R
Gallatin	1986	MT	2-row	M	Mod.-stiff	M	T
Gus	1976	P-WPB	6-row	S	Stiff	M	S
Gustoe	1983	P-WPB	6-row	S	Stiff	M	S
Idagold	1996	P-Coors	2-row	S	Stiff	L	T
Lindy	1983	P-Cenex	6-row	M	Mod.-stiff	M	S
Lud	1975	P-Cenex	6-row	T	Stiff	L	S
Maranna	1993	OR	6-row	S	Stiff	M-L	S
Medallion	1991	P-WPB	6-row	M	Mod.-stiff	M	S
Menuet	1980	P-Cenex	6-row	M	Stiff	M	S
Orca	1998	OR	2-row	M	Stiff	E	R
Payette	1993	ID	6-row	S	Stiff	M-L	S
Steptoe	1973	WA	6-row	M	Mod.-stiff	E	S
Tango	1999	OR	6-row	M	Mod.-stiff	E	R
Valier	1999	MT	2-row	M	Stiff	M	T
Xena	1999	P-WPB	2-row	M	Mod.-stiff	E-M	T
<i>Hooded types</i>							
Belford	1943	WA	6-row	M-T	Weak	M	S
Horsford	1880	MT	6-row	M-T	Weak	M	S
Sara	2001	OR	6-row	M	Weak	M	R
Washford	1996	WA	6-row	M-T	Mod.-stiff	M	S
<i>Hulless types</i>							
Bear	1996	WA	6-row	M	Moderate	L	S
Waxbar	1990	P-WPB	6-row	T	Weak	L	S

¹ ID = Idaho, MN = Minnesota, MT = Montana, OR = Oregon, P = private company release, SK = Univ. of Saskatchewan,

WA = Washington, WPB = Western Plant Breeders

² S = short, M = medium, T = tall³ E = early, M = midseason, L = late⁴ T = tolerant, S = susceptible, R = resistant

Table 4. Agronomic characteristics of spring oats.

Variety	Release date	Origin ¹	Species ²	Hull color ³	Maturity ⁴	Height ⁵
Ajay	1991	ID	<i>A. sativa</i>	LY	L	S
Appaloosa	1978	WA	<i>A. sativa</i>	Y	M	M
Border	1982	WY	<i>A. sativa</i>	W	M	M
Calibre	1983	CN	<i>A. sativa</i>	Y	L	T
Cayuse	1966	WA	<i>A. sativa</i>	Y	E	M
Drummond	1994	Astrla	<i>A. sativa</i>	T	M	S
Kanota	1916	KN	<i>A. byzantina</i>	R	E	M
Lamont	1999	ID	<i>A. sativa</i>	hulless	L	T
Minimax	1990	P-NWPB	<i>A. sativa</i>	T	L	VS
Monida	1985	ID	<i>A. sativa</i>	W	M-L	M-T
Montezuma	1969	CA	<i>A. byzantina</i>	R	VE	M
Ogle	1983	IL	<i>A. sativa</i>	Y	M	M
Otana	1976	MT	<i>A. sativa</i>	W	M	T
Park	1953	ID	<i>A. sativa</i>	W	M	M-T
Paul	1993	ND	<i>A. sativa</i>	hulless	E-M	M-T
Pennuda	1987	PN	<i>A. sativa</i>	hulless	M	M-T
Provena	1999	ID	<i>A. sativa</i>	hulless	M	S-M
Rio Grande	1994	ID	<i>A. sativa</i>	T	E	S-M
Swan	1970	CA	<i>A. sativa</i>	T	VE	S

¹ Astrla = Australia, CA = California, CN = Agriculture Canada, ID = Idaho, IL = Illinois, KN = Kansas, MT = Montana, ND = North Dakota, NWPB = Northwest Plant Breeders, OR = Oregon, P = private company release, PN = Pennsylvania, SK = Univ. of Saskatchewan, WA = Washington, WY = Wyoming

² Genus = *Avena*

³ LY = light yellow, R = red, T = tan, W = white, Y = yellow

⁴ VE = very early, E = early, M = midseason, L = late

⁵ VS = very short, S = short, M = mid-height, T = tall

Table 5. 2002 statewide variety testing program spring soft wheat plant heading date data across locations in Oregon.ⁱ

Variety/line ²	Market class ³	Corvallis	K-Falls mineral soil	K-Falls muck soil	Madras	Moro (no-till)
Heading date (day of year)						
Alpowa	SW	162	181	191	175	165
Challis	SW	160	181	188	174	162
IDO 526	SW	160	181	189	174	161
IDO 556	Club	156	183	185	173	164
Jefferson	HR	155	181	187	170	161
Jubilee	SW	158	181	190	174	163
Penawawa	SW	160	181	189	174	162
WA 007902	Club	156	181	189	172	161
WA 007905	SW	160	181	187	173	162
Wawawai	SW	162	181	188	172	160
Whitebird	SW	161	181	191	174	164
Winsome	HW	156	181	192	175	165
Zak	SW	156	181	191	173	166
ML 411-2-12	SW	—	—	—	178	—
Trial Mean		159	181	189	173	163

¹ Data collected only at these locations. Klamath Falls and Madras are irrigated sites. All other locations are dryland. Plots managed for soft wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft at all locations except Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red.

Hard wheats are added for direct yield comparisons between classes.

Table 6. 2002 statewide variety testing program spring hard wheat plant heading date data across locations in Oregon.¹

Variety/line ²	Market class ³	Heading date (day of year)				
		Corvallis	Klamath Falls mineral soil	Klamath Falls muck soil	Madras	Moro (no-till)
Alpowa	SW	161	182	191	175	164
Hank	HR	154	179	187	171	159
ID 377S	HW	155	179	188	172	161
IDO 557	HR	154	179	188	173	161
IDO 566	HR	153	178	191	169	162
Iona	HR	155	180	191	174	161
Jefferson	HR	154	179	188	173	161
Lolo	HW	154	181	188	172	160
Macon	HW	154	178	188	173	161
OR 4970018	HW	156	181	188	172	162
OR 4970025	HW	161	182	191	174	165
Penawawa	SW	157	181	191	173	163
Scarlet	HR	156	181	188	174	163
Sunco	HW	154	183	191	173	159
Tara	HR	155	177	188	171	164
WA 007859	HR	153	181	188	172	163
WA 007900	HW	159	178	188	171	161
Winsome	HW	161	182	192	174	165
WPB-936	HR	154	179	187	170	161
Yecora Rojo	HR	153	176	188	167	160
Bonus	HR	—	—	—	168	—
Brooks	HR	—	—	—	170	—
ML 181, A-1-38	HW	—	—	—	170	—
Pronto	HR	—	—	—	168	—
Trial Mean		156	180	189	171	162

¹ Data collected only at these locations. Klamath Falls and Madras are irrigated sites. All other locations are dryland. Plots managed for hard wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft at all locations except Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red.

Soft wheats are added for direct yield comparisons between classes.

Table 7. 2002 statewide variety testing program spring soft wheat plant height data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls mineral soil	Klamath Falls muck soil	LaGrande	Lexington	Madras	Moro (no-till)	Ontario	Scio
Plant Height (inch)											
Alpowa	SW	30	30	35	29	37	20	36	22	41	33
Challis	SW	28	27	35	28	34	21	32	22	37	29
IDO 526	SW	25	26	35	26	35	22	35	23	37	28
IDO 556	Club	24	29	29	28	33	20	27	20	38	25
Jefferson	HR	25	36	34	29	34	23	30	24	39	29
Jubilee	SW	24	30	35	26	34	21	33	23	41	30
Penawawa	SW	25	30	34	26	35	20	32	21	40	25
WA 007902	Club	26	37	34	25	33	19	34	20	41	33
WA 007905	SW	27	34	39	31	38	25	37	24	45	33
Wawawai	SW	28	33	39	34	38	24	37	26	45	28
Whitebird	SW	26	36	34	28	35	22	33	21	42	29
Winsome	HW	32	28	33	26	35	22	29	22	39	33
Zak	SW	30	31	37	28	35	23	27	23	43	31
ML 411-2-12	SW	—	—	—	—	—	—	35	—	—	—
Trial Mean		27	31	35	28	35	22	32	22	41	30

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have affected plant height. Pendleton data are not shown because of Hessian fly damage. Plots managed for soft wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington and Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red. Hard wheats are added for direct yield comparisons between classes.

Table 8. 2002 statewide variety testing program spring hard wheat plant height data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls mineral soil	Klamath Falls muck soil	LaGrande	Lexington	Madras	Moro (no-till)	Ontario	Scio
Plant Height (inch)											
Alpowa	SW	28	30	34	30	33	21	33	22	39	30
Hank	HR	26	31	31	29	36	21	29	22	37	26
ID 377S	HW	30	28	34	26	32	23	30	24	38	25
IDO 557	HR	26	32	30	26	35	20	30	24	35	24
IDO 566	HR	29	33	30	21	33	24	28	26	39	25
Iona	HR	29	32	37	28	36	22	34	24	42	25
Jefferson	HR	30	33	33	28	34	22	33	25	37	26
Lolo	HW	32	34	35	29	34	24	29	22	39	27
Macon	HW	30	34	35	30	37	21	33	23	40	26
OR 4970018	HW	34	32	35	31	35	23	33	25	42	28
OR 4970025	HW	27	37	35	28	37	22	32	24	30	22
Penawawa	SW	25	35	34	26	39	19	29	21	39	26
Scarlet	HR	31	33	38	29	32	22	33	27	45	27
Sunco	HW	24	30	28	22	36	20	29	24	38	28
Tara	HR	32	30	35	29	42	23	34	22	43	29
WA 007859	HR	37	41	41	35	38	23	37	25	43	26
WA 007900	HW	32	31	35	31	40	22	33	24	39	24
Winsome	HW	28	33	33	26	35	22	29	23	36	26
WPB-936	HR	28	29	28	26	33	22	27	22	37	25
Yecora Rojo	HR	22	23	24	20	30	17	23	16	33	30
Bonus	HR	—	—	—	—	—	—	25	—	—	—
Brooks	HR	—	—	—	—	—	—	26	—	—	—
ML 181, A-1-38	HW	—	—	—	—	36	—	29	—	—	—
Pronto	HR	—	—	—	—	—	—	33	—	—	—
Trial Mean		29	32	33	28	35	22	29	23	39	26

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have affected height. Pendleton data are not shown because of Hessian fly damage. Plots managed for hard wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington and Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red. Soft wheats are added for direct yield comparisons between classes.

Table 9. 2002 statewide variety testing program spring soft wheat yield data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls mineral soil	Klamath Falls muck soil	LaGrande	Lexington	Madras	Moro (no-till)	Ontario	Scio	10-site average	10-site % of average
Yield (60 lb bu/a, 10% moisture)													%
Alpowa	SW	46	91	78	39	30	16	97	31	116	49	59	106
Challis	SW	36	99	95	68	23	19	87	29	116	43	61	110
Alturas (IDO 526)	SW	46	96	77	52	19	17	105	27	113	49	60	107
IDO 556	Club	39	72	78	47	25	19	80	29	110	42	54	96
Jefferson	HR	36	85	69	49	27	16	86	33	104	40	55	97
Jubilee	SW	30	99	79	40	19	18	90	24	115	34	55	98
Penawawa	SW	34	96	78	54	21	17	88	24	114	41	57	101
WA 007902	Club	39	90	83	35	28	19	102	31	109	44	58	104
WA 007905	SW	36	100	81	59	29	20	95	27	112	54	61	109
Wawawai	SW	40	86	76	59	20	19	87	26	100	47	56	100
Whitebird	SW	12	88	75	52	24	18	83	25	112	33	52	93
Winsome	HW	36	95	70	34	26	19	74	27	105	49	54	96
Zak	SW	39	97	75	32	19	18	81	23	109	45	54	96
ML 411-2-12	SW	—	—	—	—	—	—	66	—	—	—	—	—
Trial Mean		36	92	78	48	24	18	85	27	110	44	56	—
CV		25	7	15	21	13	9	21	13	7	15	—	—
PLSD (0.05)		15	12	ns ⁴	17	5	ns	ns	6	ns	12	—	—
PLSD (0.10)		13	10	ns	14	4	ns	ns	5	ns	10	—	—
Pr>F		0.03	0.00	0.59	0.00	0.00	0.24	0.38	0.00	0.44	0.00	—	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have affected yield. Pendleton data are not shown because of Hessian fly damage. Plots managed for soft wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington and Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red. Hard wheats are added for direct yield comparisons between classes.

⁴ ns = nonsignificant

Table 10. 2002 statewide variety testing program spring hard wheat yield data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro (no-till)	Ontario	Scio	10-site average	10-site % of average
Yield (60 lb bu/a, 10% moisture)													%
Alpowa	SW	54	109	77	52	21	14	72	30	119	37	59	105
Hank	HR	56	113	76	64	34	9	92	33	101	34	61	109
ID 377S	HW	60	104	83	55	22	12	85	25	113	30	59	105
IDO 557	HR	40	98	72	38	29	12	90	27	102	23	53	95
IDO 566	HR	48	103	69	27	31	14	89	29	100	30	54	96
Iona	HR	36	98	88	34	30	14	85	25	95	31	54	96
Jefferson	HR	55	111	79	54	31	15	92	35	102	27	60	107
Lolo	HW	55	115	86	61	27	11	78	22	116	30	60	108
Macon	HW	53	106	67	54	29	13	85	25	107	35	57	102
OR 4970018	HW	57	94	68	53	30	15	70	25	102	28	54	97
OR 4970025	HW	50	94	69	33	20	15	62	26	91	28	49	87
Penawawa	SW	36	111	71	64	12	12	87	27	104	33	56	100
Scarlet	HR	44	99	86	41	26	13	78	25	98	33	54	97
Sunco	HW	52	102	64	35	27	12	76	27	91	32	52	93
Tara	HR	53	95	73	39	36	13	68	28	110	36	55	98
WA 007859	HR	56	95	53	40	27	14	54	29	88	34	49	88
WA 007900	HW	43	104	78	59	27	15	89	27	102	29	57	102
Winsome	HW	49	115	74	46	23	14	74	32	109	28	57	101
WPB-936	HR	54	91	71	49	31	12	80	34	111	32	56	101
Yecora Rojo	HR	35	92	80	41	33	11	83	32	108	28	54	97
Bonus	HR	—	—	—	—	—	—	90	—	—	—	—	—
Brooks	HR	—	—	—	—	—	—	100	—	—	—	—	—
ML 181, A-1-38	HW	—	—	—	—	27	—	79	—	—	—	—	—
Pronto	HR	—	—	—	—	—	—	85	—	—	—	—	—
Trial Mean		49	103	74	47	27	13	81	28	103	31	56	—
CV		12	6	21	18	19	16	17	12	9	18	—	—
PLSD (0.05)		10	11	ns ⁴	14	9	3	ns	6	16	9	—	—
PLSD (0.10)		8	9	ns	12	7	2	ns	5	13	8	—	—
Pr>F		0.00	0.00	0.74	0.00	0.00	0.05	0.11	0.00	0.01	0.00	—	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have affected yield. Pendleton data are not shown because of Hessian fly damage. Plots managed for hard wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington and Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red. Soft wheats are added for direct yield comparisons between classes.

⁴ ns = nonsignificant

Table 11. 2002 statewide variety testing program spring soft wheat yield expressed as a percent of average across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro (no-till)	Ontario	Scio	10-site average
Yield as a percent of average												
bu/a												
Alpowa	SW	129	99	100	80	124	91	115	116	105	112	59
Challis	SW	100	107	122	141	97	104	102	106	106	97	61
Alturas (IDO 526)	SW	127	104	99	108	78	96	124	102	102	112	60
IDO 556	Club	107	78	100	98	104	106	94	108	100	94	54
Jefferson	HR	100	92	89	101	113	91	102	121	95	91	55
Jubilee	SW	83	108	101	83	81	100	105	88	105	78	55
Penawawa	SW	93	104	100	112	89	94	104	91	104	92	57
WA 007902	Club	109	97	106	72	118	104	120	115	99	101	58
WA 007905	SW	100	108	104	122	121	109	112	100	102	123	61
Wawawai	SW	111	93	97	124	82	107	103	96	91	106	56
Whitebird	SW	34	96	96	108	98	98	98	91	102	75	52
Winsome	HW	100	103	90	70	110	107	87	101	96	111	54
Zak	SW	107	105	96	68	79	98	95	85	99	103	54
ML 411-2-12	SW	—	—	—	—	—	—	78	—	—	—	—
Trial Mean		36	92	78	48	24	18	85	27	110	44	56
Pr>F		0.03	0.00	0.59	0.00	0.00	0.24	0.38	0.00	0.44	0.00	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have affected yield. Pendleton data are not included because of Hessian fly damage. Plots managed for soft wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington and Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red. Hard wheats are added for direct yield comparisons between classes.

Table 12. 2002 statewide variety testing program spring hard wheat yield expressed as a percent of trial average across locations in Oregon.¹

Variety/line ²	Market class ³	Yield as a percent of average										10-site average
		Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro (no-till)	Ontario	Scio	
												bu/a
Alpowa	SW	111	106	104	111	79	108	134	109	115	118	59
Hank	HR	114	110	103	135	126	69	113	119	98	108	61
ID 377S	HW	123	101	112	118	81	95	105	88	110	95	59
IDO 557	HR	81	95	97	81	109	92	111	97	99	75	53
IDO 566	HR	98	100	94	57	115	108	110	104	97	97	54
Iona	HR	74	95	118	72	110	105	105	91	92	101	54
Jefferson	HR	113	108	107	114	115	118	113	124	99	89	60
Lolo	HW	112	112	116	130	101	85	96	79	113	97	60
Macon	HW	108	103	91	114	107	103	105	90	104	112	57
OR 4970018	HW	117	91	92	113	110	118	87	91	99	90	54
OR 4970025	HW	102	91	93	71	74	113	77	92	88	90	49
Penawawa	SW	73	108	96	136	46	95	108	95	101	107	56
Scarlet	HR	89	96	116	87	96	103	96	89	95	106	54
Sunco	HW	105	99	87	74	101	92	94	97	88	103	52
Tara	HR	108	92	98	83	132	97	84	100	107	115	55
WA 007859	HR	114	93	72	84	101	110	66	104	85	109	49
WA 007900	HW	88	101	106	126	101	115	110	95	99	93	57
Winsome	HW	99	112	100	99	85	108	91	115	106	91	57
WPB-936	HR	111	88	96	104	115	92	98	120	108	103	56
Yecora Rojo	HR	71	89	108	87	123	85	102	113	105	92	54
Bonus	HR	—	—	—	—	—	—	111	—	—	—	—
Brooks	HR	—	—	—	—	—	—	123	—	—	—	—
ML 181, A-1-38	HW	—	—	—	—	100	—	98	—	—	—	—
Pronto	HR	—	—	—	—	—	—	105	—	—	—	—
Trial Mean		49	103	74	47	27	13	81	28	103	31	56
Pr>F		0.00	0.00	0.74	0.00	0.00	0.05	0.11	0.00	0.01	0.00	avg

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have affected yield. Pendleton data are not shown because of Hessian fly damage. Plots managed for hard wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington and Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red. Soft wheats are added for direct yield comparisons between classes.

Table 13. 2001 statewide variety testing program spring soft wheat, oat, and triticale yield data across locations in Oregon.¹

Variety or line ²	Market class ³	Corvallis	Hermiston	Klamath Falls		LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	11-site	11-site %	
				(mineral soil)	(muck soil)								average	of average	
Yield (60 lb bu/a; 10% moisture)														bu/a%	%
Alpowa	SW	93	78	74	85	66	16	75	31	100	33	33	62	99	
Alpowa (fungicide only)	SW	90	97	85	79	57	18	84	25	98	21	37	63	100	
Alpowa (untreated)	SW	89	99	56	82	64	20	84	30	101	21	35	62	98	
Challis	SW	86	73	90	66	58	19	94	27	114	18	29	61	97	
IDO 526	SW	92	74	78	66	61	18	115	29	109	24	45	65	103	
Jefferson	HR	97	88	60	65	72	25	100	38	96	50	27	65	103	
Jubilee (IDO 525)	SW	89	91	70	77	55	22	81	31	97	13	21	59	93	
Penawawa	SW	93	92	87	60	52	21	87	36	108	19	37	63	100	
Treasure	SW	111	80	90	72	56	22	90	31	111	24	26	65	103	
WA 7884	SW	97	91	83	95	63	17	77	37	114	35	41	68	108	
WA 7902	Club	88	89	84	60	65	13	88	38	107	23	16	61	97	
Wawawai	SW	100	85	82	53	64	18	78	35	92	50	32	63	100	
Alpowa (20 seeds/ft ²)	SW	77	—	—	—	—	—	—	—	—	—	—	—	—	
Alpowa (45 seeds/ft ²)	SW	94	—	—	—	—	—	—	—	—	—	—	—	—	
Cayuse	Oat	89	61	67	63	53	21	67	31	—	51	42	—	—	
IDO 556	Club	63	—	—	—	—	19	—	31	—	25	35	—	—	
Lamont	N Oat	52	67	57	48	27	13	34	22	—	35	31	—	—	
M-94-4393	Triticale	78	—	—	—	—	—	—	—	—	—	—	—	—	
ML 97-2-3x(2)	SW	96	—	—	—	—	—	—	—	—	—	—	—	—	
Provena	N Oat	63	74	46	45	30	9	35	24	—	33	29	—	—	
Rene-98	SW	90	—	—	—	—	—	—	—	84	—	—	—	—	
Whitebird	SW	84	97	83	62	47	18	95	35	101	—	—	—	—	
Winsome	HW	106	97	72	79	60	21	83	28	108	—	—	—	—	
Yecora Rojo	HR	—	—	—	—	—	—	79	—	—	—	—	—	—	
Zak	SW	105	87	83	64	57	18	85	32	103	57	—	—	—	
Trial Mean		88	84	75	68	56	18	81	31	103	31	32	63	—	
CV		6	21	17	15	11	16	19	15	12	9	18	—	—	
PLSD (0.05)		9	ns ⁴	21	16	10	5	26	8	ns	5	9	—	—	
PLSD (0.10)		7	ns	18	13	9	4	21	7	ns	4	7	—	—	
Pr>F		0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	—	—	

¹ All varieties fertilized for soft wheat protein levels.² All seed was treated with fungicide and insecticidal seed treatment unless otherwise noted. Seeding rate was 30 seeds per sq ft for all locations except Lexington, Moro, and Pendleton, where seeding rate was 20 seeds per sq ft unless otherwise noted.³ SW = soft white, HW = hard white, HR = hard red, N = naked.⁴ ns = nonsignificant

Table 14. 2001 statewide variety testing program spring hard wheat yield data across locations in Oregon.¹

Variety or line ²	Market class ³	Corvallis	Hermiston	Klamath Falls ⁴ (muck soil)	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	10-site average	10-site % of average
Yield (60 lb bu/a; 10% moisture)												bu/a	%
Alpowa	SW	91	100	99	63	19	96	32	111	34	42	69	114
IDO 377S	HW	87	78	62	54	15	113	33	102	17	36	60	100
Iona	HR	82	79	50	53	16	72	34	99	21	31	54	89
Jefferson	HR	91	91	70	61	20	76	34	114	48	37	64	107
Lolo (IDO 533)	HW	93	86	68	67	18	78	35	112	29	40	63	104
OR 4910028	HR	80	71	63	65	16	86	34	111	43	30	60	100
Penawawa	SW	83	84	69	48	18	86	37	124	23	45	62	103
Scarlet	HR	86	90	69	58	17	91	35	91	24	36	60	100
Sunco	HW	82	78	56	58	18	75	31	109	20	34	56	93
Tara (WA 7824)	HR	82	72	48	61	12	77	30	88	33	43	55	91
WA 7839	HR	75	75	51	69	19	89	36	99	37	32	58	97
WA 7899	HW	83	94	61	53	18	74	34	113	42	45	62	103
WA 7901	HW	95	76	44	58	15	82	31	120	25	39	59	98
Winsome	HW	103	77	84	65	20	82	35	123	25	40	65	109
WPB-936	HR	85	93	53	65	12	89	31	97	18	31	57	96
Yecora Rojo	HR	86	88	52	67	19	94	35	107	30	33	61	102
Bonus	HR	—	—	—	—	—	108	—	—	—	—	—	—
Brooks	HR	—	—	—	—	—	95	—	—	—	—	—	—
Hank	HR	92	107	68	66	16	90	35	98	46	—	—	—
IDO 545	HR	—	71	—	49	14	83	30	112	42	—	—	—
IDO 557	HR	74	86	52	68	19	87	37	97	21	—	—	—
IDO 560	HW	103	99	70	60	—	105	—	105	—	—	—	—
ML 181,A,1-38	HW	94	—	—	—	—	94	—	—	—	—	—	—
OR 4920002	HR	68	—	66	57	—	74	—	104	34	—	—	—
Pronto	HR	—	—	—	—	—	91	—	—	—	—	—	—
WA 7900	HW	84	84	63	63	20	87	33	111	—	40	—	—
Winsome (high rate)	HW	106	84	58	52	21	83	37	124	—	42	—	—
Winsome (low rate)	HW	100	56	53	60	15	81	27	116	—	36	—	—
Trial Mean		88	83	62	60	17	88	33	108	31	37	60	—
CV		9	17	19	11	14	14	15	8	22	16	—	—
PLSD (0.05)		13	23	19	11	4	20	ns ⁵	14	11	10	—	—
PLSD (0.10)		11	19	16	9	3	17	ns	12	9	8	—	—
Pr>F		0.00	0.02	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.00	—	—

¹ All varieties fertilized to reach desirable hard wheat protein levels.² All seed was treated with fungicide and insecticidal seed treatment unless otherwise noted. Seeding rate was 30 seeds per sq ft for all locations except Lexington, Moro, and Pendleton, where seeding rate was 20 seeds per sq ft. High rate is 10 seeds per sq ft higher than normal. Low rate is 10 seeds lower than normal.³ SW = soft white, HW = hard white, HR = hard red.⁴ No data for Klamath Falls (mineral)⁵ ns = nonsignificant

Table 15. 2000-2002 spring soft wheat yield data across locations in Oregon.¹

Variety ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	Across-site average
<u>2000</u>		Yield (60 lb bu/a, 10% moisture)											
Alpowa	SW	98	52	113	107	118	28	100	52	97	41	46	77
Challis	SW	99	54	122	69	110	26	99	61	114	42	48	77
Penawawa	SW	86	48	121	77	106	22	79	52	92	25	38	67
Whitebird	SW	96	48	130	93	91	24	71	48	111	44	45	73
Zak	SW	112	45	108	78	101	26	88	41	109	57	33	72
Trial mean (bu/a)		101	46	115	84	102	26	79	46	99	42	44	71
Pr>F		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
<u>2001⁴</u>													
Alpowa	SW	93	78	74	85	66	16	75	31	100	33	33	62
Challis	SW	86	73	90	66	58	19	94	27	114	18	29	61
Penawawa	SW	93	92	87	60	52	21	87	36	108	19	37	63
Whitebird	SW	84	97	83	62	47	18	95	35	101	—	20	—
Zak	SW	105	87	83	64	57	18	85	32	103	57	32	66
Trial mean (bu/a)		88	84	75	68	56	18	81	31	103	31	32	63
Pr>F		0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	
<u>2002⁵</u>													
Alpowa	SW	46	91	78	39	30	16	97	31	116	—	49	59
Challis	SW	36	99	95	68	23	19	87	29	116	—	43	61
Penawawa	SW	34	96	78	54	21	17	88	24	114	—	41	57
Whitebird	SW	12	88	75	52	24	18	83	25	112	—	33	52
Zak	SW	39	97	75	32	19	18	81	23	109	—	45	54
Trial mean (bu/a)		36	92	78	48	24	18	85	27	110	—	44	56
Pr>F		0.00	0.00	0.74	0.00	0.00	0.05	0.11	0.00	0.01		0.00	
<u>2000-2002 average</u>													
Alpowa	SW	79	74	88	77	71	20	91	38	104	—	43	66
Challis	SW	74	75	102	68	64	21	93	39	115	—	40	66
Penawawa	SW	71	79	95	64	60	20	85	37	105	—	39	62
Whitebird	SW	64	78	96	69	54	20	83	36	108	—	29	58
Zak	SW	85	76	89	58	59	21	85	32	107	—	40	60
Average yield 2000-02		75	74	89	67	61	21	82	35	104	—	40	63
<u>2000-2002</u>		Yield as a percent of trial average											
Alpowa	SW	106	100	99	115	117	96	111	109	100	—	107	—
Challis	SW	98	102	115	101	105	101	114	111	110	—	100	—
Penawawa	SW	94	106	107	95	98	95	103	107	101	—	96	—
Whitebird	SW	85	105	108	103	88	95	101	103	104	—	73	—
Zak	SW	114	103	100	87	97	98	103	91	103	—	100	—

¹ All varieties fertilized for soft wheat protein levels. Hard wheats added as yield check. Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites.² All seed was treated with fungicide and insecticidal seed treatment unless otherwise noted. Seeding rate was 30 seeds per sq ft for all locations except Lexington, Moro, and Pendleton, where seeding rate was 20 seeds per sq ft. ³ SW = soft white, HW = hard white, HR = hard red⁴ In 2001 Klamath Falls mineral data were lost. Pendleton data adversely affected by Hessian fly.⁵ In 2002 LaGrande yield was adversely affected by mechanical problem in irrigation system. Moro was chem. fallowed prior to a no-till seeding. Pendleton data were lost to Hessian fly infestation.

Table 2000-2002 spring hard wheat yield data across locations in Oregon.¹

Variety ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	Across-site average
Yield (60 lb bu/a, 10% moisture)													
<u>2000</u>													
Alpowa	SW	98	52	113	107	118	28	100	52	97	41	46	77
IDO377S	HW	105	43	133	96	107	34	93	50	111	49	45	79
Jefferson	HR	109	42	112	78	102	34	65	54	90	51	36	70
Scarlet	HR	105	42	106	77	107	25	68	38	86	48	33	67
Winsome	HW	115	50	127	107	103	31	102	51	102	48	53	81
Trial mean (bu/a)		101	46	115	84	102	26	79	46	99	42	44	71
Pr>F		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
<u>2001⁴</u>													
Alpowa	SW	91	100	—	99	63	19	96	32	111	34	42	69
IDO377S	HW	87	78	—	62	54	15	113	33	102	17	36	60
Jefferson	HR	91	91	—	70	61	20	76	34	114	48	37	64
Scarlet	HR	86	90	—	69	58	17	91	35	91	24	36	60
Winsome	HW	103	77	—	84	65	20	82	35	123	25	40	65
Trial mean (bu/a)		88	83	—	62	60	17	88	33	108	31	37	61
Pr>F		0.00	0.02	—	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.00	
<u>2002⁵</u>													
Alpowa	SW	54	109	77	52	21	14	72	30	119	—	37	59
IDO377S	HW	60	104	83	55	22	12	85	25	113	—	30	59
Jefferson	HR	55	111	79	54	31	15	92	35	102	—	27	60
Scarlet	HR	44	99	86	41	26	13	78	25	98	—	33	54
Winsome	HW	49	115	74	46	23	14	74	32	109	—	28	57
Trial mean (bu/a)		49	103	74	47	27	13	81	28	103	—	31	56
Pr>F		0.00	0.00	0.74	0.00	0.00	0.05	0.11	0.00	0.01	—	0.00	
<u>2000-2002 average</u>													
Alpowa	SW	81	87	—	86	67	20	89	38	109	—	42	69
IDO377S	HW	84	75	—	71	61	20	97	36	109	—	37	66
Jefferson	HR	85	81	—	67	65	23	78	41	102	—	33	64
Scarlet	HR	78	77	—	62	64	18	79	33	92	—	34	60
Winsome	HW	89	81	—	79	64	22	86	39	111	—	40	68
Average yield 2000-02		79	77	—	64	63	19	83	36	103	—	37	62
<u>2000-2002</u> Yield as a percent of trial average													
Alpowa	SW	103	113	—	134	107	107	108	106	106	—	112	—
IDO377S	HW	107	97	—	111	97	108	117	100	106	—	100	—
Jefferson	HR	108	106	—	105	103	122	93	114	99	—	91	—
Scarlet	HR	99	100	—	97	101	97	95	91	89	—	92	—
Winsome	HW	113	105	—	124	101	114	104	109	108	—	109	—

¹ All varieties fertilized for hard wheat protein levels. Soft wheats added as yield check. Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites.

² All seed was treated with fungicide and insecticidal seed treatment unless otherwise noted. Seeding rate was 30 seeds per sq ft for all locations except Lexington, Moro, and Pendleton, where seeding rate was 20 seeds per sq ft. ³ SW = soft white, HW = hard white, HR = hard red. ⁴ In 2001 Klamath Falls mineral data were lost. Pendleton data adversely affected by Hessian fly. ⁵ In 2002 LaGrande yield was adversely affected by mechanical problem in irrigation system. Moro was chem. fallowed prior to a no-till seeding. Pendleton data were lost to Hessian fly infestation.

Table 17. 2002 statewide variety testing program spring soft wheat test weight data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro (no-till)	Ontario	Scio	10-site average	10-site % of average
Test weight (lb/bu)													%
Alpowa	SW	64.0	65.0	61.5	53.1	51.1	59.5	62.1	59.8	63.5	63.5	60.3	102
Challis	SW	62.2	63.1	61.6	55.6	44.6	58.9	60.6	58.0	61.8	60.5	58.7	99
Alturas (IDO 526)	SW	63.6	62.9	59.2	55.6	46.5	59.5	62.1	58.5	61.3	62.0	59.1	100
IDO 556	Club	64.3	64.0	61.9	53.1	49.8	60.7	61.7	62.3	62.0	64.2	60.4	102
Jefferson	HR	63.4	64.4	60.6	54.3	46.8	60.3	62.2	60.4	62.9	62.7	59.8	101
Jubilee	SW	61.5	64.1	60.6	54.6	45.1	60.6	61.7	60.4	60.9	60.7	59.0	100
Penawawa	SW	62.4	64.2	60.0	54.7	46.2	58.1	59.6	58.5	62.8	61.3	58.8	99
WA 007902	Club	62.2	63.6	61.9	55.3	50.6	60.5	61.8	60.6	61.0	62.4	60.0	101
WA 007905	SW	62.3	63.9	60.3	56.5	49.3	59.3	60.2	58.9	61.6	61.8	59.4	100
Wawawai	SW	61.9	64.8	60.9	55.0	46.6	59.5	61.6	60.0	62.5	61.3	59.4	100
Whitebird	SW	58.0	64.3	62.6	55.6	45.1	59.7	61.8	59.8	60.9	60.9	58.9	99
Winsome	HW	61.9	64.3	56.5	51.9	42.8	59.5	59.1	58.4	62.2	62.7	57.9	98
Zak	SW	62.9	63.8	58.7	52.4	46.8	58.8	61.4	59.1	61.2	61.9	58.7	99
ML 411-2-12	SW	—	—	—	—	—	—	60.4	—	—	—	60.4	—
Trial Mean		62.3	64.0	60.5	54.4	47.0	59.6	61.2	59.6	61.8	61.9	59.2	—
CV		2	1	2	2	3	1	2	1	1	2	—	—
PLSD (0.05)		2.0	0.4	2.4	1.7	2.6	0.7	1.6	1.1	0.7	ns ⁴	—	—
PLSD (0.10)		1.6	0.3	2.0	1.4	2.1	0.6	1.3	0.9	0.6	ns	—	—
Pr>F		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	—	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have affected test weight. Pendleton data are not included because of Hessian fly damage. Plots managed for soft wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington and Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red. Hard wheats are added for direct yield comparisons between classes.

⁴ ns = nonsignificant

Table 18. 2002 statewide variety testing program spring hard wheat test weight data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro (no-till)	Ontario	Scio	10-site average	10-site % of average
Test Weight												(lb/bu)	%
Alpowa	SW	64.2	64.7	59.9	56.1	48.9	59.0	61.5	58.1	63.7	62.3	59.8	101
Hank	HR	64.4	63.7	59.0	53.0	46.4	57.7	59.8	58.7	62.9	62.8	58.9	99
ID 377S	HW	64.9	65.7	59.7	54.8	48.1	57.8	60.9	57.3	63.9	61.4	59.5	100
IDO 557	HR	63.4	64.5	59.3	52.9	47.1	59.8	60.9	58.8	63.1	61.1	59.1	99
IDO 566	HR	65.2	64.5	59.8	43.0	47.8	58.6	60.9	59.4	62.9	63.2	58.5	99
Iona	HR	64.0	64.9	61.8	53.4	49.0	57.8	60.9	58.8	64.2	62.3	59.7	101
Jefferson	HR	64.6	64.0	60.8	54.9	49.4	58.5	61.5	60.1	63.0	62.2	59.9	101
Lolo	HW	64.8	65.4	61.6	56.7	49.1	57.9	61.5	58.8	64.2	62.7	60.3	101
Macon	HW	64.7	64.9	58.1	55.4	48.2	58.1	60.5	58.7	64.0	61.8	59.4	100
OR 4970018	HW	65.3	65.8	60.5	56.5	51.1	59.5	62.2	60.9	65.1	62.5	60.9	103
OR 4970025	HW	64.3	64.8	60.2	51.8	50.7	57.6	61.4	59.4	62.9	62.5	59.6	100
Penawawa	SW	62.9	63.8	56.7	55.6	46.4	53.6	60.9	58.3	63.0	62.3	58.3	98
Scarlet	HR	63.9	64.6	61.0	53.4	47.6	57.1	61.0	57.2	63.3	61.3	59.0	99
Sunco	HW	64.8	64.8	59.9	51.8	49.2	60.1	62.6	58.8	63.9	62.8	59.9	101
Tara	HR	61.4	64.4	59.3	55.0	49.6	57.8	60.3	59.1	63.6	62.9	59.3	100
WA 007859	HR	63.9	63.6	58.0	53.5	48.8	57.4	59.9	57.7	63.3	62.0	58.8	99
WA 007900	HW	64.6	66.2	62.2	57.6	48.4	59.1	62.4	58.7	65.4	62.5	60.7	102
Winsome	HW	60.9	63.4	55.8	51.7	43.6	58.6	59.3	57.7	62.2	60.6	57.4	97
WPB-936	HR	64.8	64.0	58.0	53.9	44.8	58.3	59.7	57.7	63.5	62.4	58.7	99
Yecora Rojo	HR	62.4	64.3	61.6	55.6	48.9	59.1	60.9	60.8	65.2	61.8	60.1	101
Bonus	HR	—	—	—	—	—	—	59.9	—	—	—	—	—
Brooks	HR	—	—	—	—	—	—	60.8	—	—	—	—	—
ML 181, A-1-38	HW	—	—	—	—	46.8	—	60.1	—	—	—	—	—
Pronto	HR	—	—	—	—	—	—	60.7	—	—	—	—	—
Trial Mean	63.9	64.6	59.7	53.8	48.1	58.1	60.8	58.8	63.6	62.1	59.4	—	—
CV	2	1	4	6	3	3	2	1	1	2	—	—	—
PLSD (0.05)	2.2	0.4	ns ⁴	5.7	2.5	ns	ns	1.2	0.8	ns	—	—	—
PLSD (0.10)	1.9	0.2	ns	4.7	2.0	ns	ns	1	0.6	1.4	—	—	—
Pr>F	0.01	0.00	0.12	0.01	0.00	0.26	0.23	0.00	0.00	0.08	—	—	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have affected test weight. Pendleton data are not included because of Hessian fly damage. Plots managed for hard wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington and Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red. Soft wheats are added for direct yield comparisons between classes.

⁴ ns = nonsignificant

Table 19. 2002 statewide variety testing program spring soft wheat protein data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro (no-till)	Ontario	Scio	10-site average
Protein % (NIR, 12% moisture)												
Alpowa	SW	9.8	9.7	10.5	13.5	15.2	13.7	11.8	10.8	8.5	11.1	11.5
Challis	SW	9.0	9.1	10.4	12.0	14.6	13.6	12.5	10.7	8.1	10.3	11.0
Alturas (IDO 526)	SW	9.8	9.0	10.9	12.1	14.2	13.7	11.2	10.6	8.0	10.8	11.0
IDO 556	Club	11.4	11.2	12.1	13.5	15.9	14.7	13.6	11.7	9.4	11.1	12.5
Jefferson	HR	12.2	11.3	13.8	15.1	18.0	16.3	14.1	12.6	10.2	11.8	13.5
Jubilee	SW	9.9	9.7	11.1	12.2	14.8	13.9	12.0	10.8	8.9	10.9	11.4
Penawawa	SW	9.8	9.4	11.2	12.7	16.0	14.5	11.7	10.9	8.9	10.7	11.6
WA 007902	Club	10.0	9.7	10.6	12.3	14.6	12.6	11.0	10.6	8.5	10.9	11.1
WA 007905	SW	9.8	9.5	10.7	12.8	14.9	13.6	11.5	10.3	8.2	11.2	11.2
Wawawai	SW	10.8	10.3	11.6	13.4	15.4	13.7	12.4	11.1	8.8	11.2	11.9
Whitebird	SW	9.9	9.8	10.4	12.3	14.7	13.6	12.5	10.9	8.3	10.8	11.3
Winsome	HW	10.8	10.3	12.8	13.6	16.7	13.9	13.2	11.4	8.5	11.9	12.3
Zak	SW	9.6	9.5	11.5	13.1	16.3	14.7	14.2	11.6	8.8	10.4	12.0
ML 411-2-12	SW	—	—	—	—	—	—	12.9	—	—	—	—
Trial Mean		10.2	9.9	11.4	12.9	15.5	14.0	12.4	11.1	8.7	11.0	11.7
CV		7	3	5	1	2	1	9	4	5	6	—
PLSD (0.05)		1.2	0.5	0.8	0.4	0.5	0.3	1.8	0.6	0.7	ns ⁴	—
PLSD (0.10)		1.0	0.4	0.7	0.3	0.4	0.2	1.5	0.5	0.6	ns	—
Pr>F		0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.21	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have affected protein. Pendleton data are not included because of Hessian fly damage. Plots managed for soft wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington and Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red. Hard wheats are added for direct yield comparisons between classes.

⁴ ns = nonsignificant

Table 20. 2002 statewide variety testing program spring hard wheat grain protein data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro (no-till)	Ontario	Scio	10-site average
Protein % (NIR, 12% moisture)												
Alpowa	SW	9.9	9.9	11.3	13.2	15.1	13.8	14.3	11.8	8.5	10.7	11.9
Hank	HR	13.7	12.1	13.5	14.8	17.7	16.8	14.6	13.3	10.8	13.0	14.0
ID 377S	HW	11.9	10.7	12.5	14.5	17.2	16.4	13.3	12.7	9.2	12.5	13.1
IDO 557	HR	12.9	12.0	13.1	15.3	17.0	16.9	13.5	13.1	10.1	13.8	13.8
IDO 566	HR	13.0	11.5	13.4	12.7	16.4	16.7	14.9	12.5	9.4	13.4	13.4
Iona	HR	13.0	11.9	12.8	15.5	16.5	16.7	15.7	13.1	9.5	13.2	13.8
Jefferson	HR	13.7	11.8	13.9	14.7	17.3	17.0	16.1	12.8	10.0	13.1	14.0
Lolo	HW	12.3	10.8	11.9	14.0	16.3	16.0	14.9	12.6	9.6	12.4	13.1
Macon	HW	11.0	10.8	13.3	12.9	16.3	15.4	15.9	11.8	9.4	12.0	12.9
OR 4970018	HW	11.7	11.0	12.2	13.4	16.1	15.8	14.6	12.1	9.5	12.2	12.9
OR 4970025	HW	11.4	11.1	12.5	13.7	15.4	15.4	15.0	12.2	9.5	13.0	12.9
Penawawa	SW	9.7	9.7	11.9	12.4	15.7	14.5	14.7	11.5	7.8	11.7	11.9
Scarlet	HR	13.4	11.8	13.2	15.7	17.2	16.9	14.5	13.3	9.5	11.9	13.8
Sunco	HW	12.0	10.8	13.5	14.2	16.7	15.4	15.2	12.7	9.8	12.2	13.2
Tara	HR	13.4	12.1	13.3	16.0	16.8	17.5	14.7	12.8	9.9	12.8	13.9
WA 007859	HR	14.2	12.2	14.1	14.8	18.0	17.2	14.6	13.6	11.0	12.2	14.2
WA 007900	HW	11.0	11.1	11.4	13.1	16.4	15.7	15.2	12.6	9.0	12.8	12.8
Winsome	HW	10.2	10.3	13.1	14.3	16.5	14.8	15.3	12.0	8.6	11.8	12.7
WPB-936	HR	14.4	12.5	13.8	15.9	17.8	16.6	14.7	13.5	10.0	11.7	14.1
Yecora Rojo	HR	12.5	11.9	13.1	15.7	17.1	17.5	14.4	13.8	9.6	12.7	13.8
Bonus	HR	—	—	—	—	—	—	14.2	—	—	—	—
Brooks	HR	—	—	—	—	—	—	14.5	—	—	—	—
ML 181, A-1-38	HW	—	—	—	—	15.9	—	14.9	—	—	—	—
Pronto	HR	—	—	—	—	—	—	15.0	—	—	—	—
Trial Mean		12.2	11.3	12.9	14.3	16.6	16.1	14.8	12.7	9.5	12.4	13.3
CV		2	4	6	3	3	2	8	4	7	7	—
PLSD (0.05)		0.4	0.6	1.1	0.6	0.6	0.6	ns ⁴	0.8	1.1	1.4	—
PLSD (0.10)		0.3	0.5	0.9	0.5	0.5	0.5	ns	0.6	0.9	1.2	—
Pr>F	—	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	0.03	0.02	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have affected protein. Pendleton data are not included because of Hessian fly damage. Plots managed for hard wheat protein levels.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington and Moro no-till, where seeding rate was 20 seeds per sq ft

³ SW = soft white, HW = hard white, HR = hard red. Soft wheats are added for direct yield comparisons between classes.

⁴ ns = nonsignificant

Table 21. 2002 statewide variety testing program spring barley, oats, and triticale plant height data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro	Moro (no-till)	Ontario	Scio
Plant height (inches)												
Bancroft	2RM	25	24	34	29	35	21	35	23	23	40	23
Cayuse	Oat	28	37	46	31	38	—	38	19	23	44	29
Chinook	2RM	25	32	33	28	34	17	32	21	25	41	23
Farmington	2RF	21	28	30	31	47	18	28	15	20	31	20
Garnet	2RM	23	34	33	30	39	—	34	21	22	39	21
Harrington	2RM	25	35	30	31	35	20	31	21	22	41	22
Lamont	N Oat	25	42	46	35	36	20	41	22	22	51	35
Monida	Oat	27	41	51	34	38	—	39	19	24	51	34
Orca	2RF	29	30	38	30	35	20	33	19	24	43	26
Provena	N Oat	24	35	41	29	35	17	37	20	21	47	32
Xena	2RF	24	29	31	31	37		32	21	21	39	24
Castle	Trit	30	—	—	—	—	—	—	—	—	—	—
DU-1	Oat	43	—	—	—	—	—	—	—	—	—	—
Samish 23	2RF/M	—	33	—	—	—	—	29	—	—	—	—
Trical 105	Trit	29	—	—	—	—	—	—	—	—	—	—
Trical 111	Trit	25	—	—	—	—	—	—	—	—	—	—
Trical 96	Trit	23	—	—	—	—	—	—	—	—	—	—
Trial Mean		27	33	38	31	37	19	34	20	22	42	26

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation system may have affected plant height.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington, Moro, Moro no-till, and Pendleton, where seeding rate was 20 seeds per sq ft

³ RF = Feed, RM = malt, RF/M= being evaluated for malt, N = naked, Trit = triticale.

Table 22. 2002 statewide variety testing program spring barley, oats, and triticale heading data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	Madras	Moro (no-till)
Heading (day of year)						
Bancroft	2RM	162	181	192	169	165
Cayuse	Oat	164	183	192	175	163
Chinook	2RM	162	181	196	169	164
Farmington	2RF	163	183	192	174	164
Garnet	2RM	163	181	192	172	163
Harrington	2RM	161	181	192	169	162
Lamont	N Oat	166	188	199	177	166
Monida	Oat	164	187	195	176	164
Orca	2RF	153	175	185	165	161
Provena	N Oat	166	188	199	177	168
Xena	2RF	164	179	191	168	164
Castle	Trit	158	—	—	—	—
DU-1	Oat	157	—	—	—	—
Samish 23	2RF/M	—	—	—	175	—
Trical 105	Trit	158	—	—	—	—
Trical 111	Trit	163	—	—	—	—
Trical 96	Trit	162	—	—	—	—
Trial Mean		162	183	193	172	164

¹ Klamath Falls and Madras are irrigated sites.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft except Moro (no-till), where seeding rate was 20 seeds per sq ft

³ RF = Feed, RM = malt, RF/M = being evaluated for malt, N = naked, Trit = triticale.

Table 23. 2002 statewide variety testing program spring barley, oats, and triticale yield data across locations in Oregon.¹

Variety/line ²	Market class ³	Yield (lb/a, 10% moisture)											11-site average	11-site % of average
		Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro	Moro (no-till)	Ontario	Scio		
Bancroft	2RM	3062	5653	5509	3722	2289	—	5162	1781	1765	3202	2562	—	—
Cayuse	Oat	2684	5008	6067	3664	2274	1349	3602	1712	1781	3742	3819	3246	104
Chinook	2RM	2660	5780	4768	2904	2331	—	4903	1728	1903	2943	2232	—	—
Farmington	2RF	2865	6633	4831	4624	2671	1338	6092	1996	1937	6815	3161	3906	125
Garnet	2RM	2747	5615	4018	3964	2558	1035	5188	1863	1839	2796	3198	3165	101
Harrington	2RM	2812	5836	4721	4261	2639	—	5608	2193	1646	4757	2378	—	—
Lamont	N Oat	1487	3851	5097	3601	992	765	1887	806	957	3871	2334	2332	75
Monida	Oat	2476	4673	5998	3481	2022	1246	3273	1339	1686	4070	4055	3120	100
Orca	2RF	1882	4679	4142	4636	3285	—	5523	1550	1795	1754	2308	—	—
Provena	N Oat	1384	3295	4049	3208	1205	741	983	1227	674	3157	2444	2033	65
Xena	2RF	3147	6635	5641	5482	2235	1558	5948	2532	1901	3262	3082	3766	121
Castle	Trit	1704	—	—	—	—	—	—	—	—	—	—	—	—
DU-1	Oat	1923	—	—	—	—	—	—	—	—	—	—	—	—
Samish 23	2RF/M	—	6182	—	—	—	—	5887	—	—	—	—	—	—
Trical 105	Trit	2269	—	—	—	—	—	—	—	—	—	—	—	—
Trical 111	Trit	2043	—	—	—	—	—	—	—	—	—	—	—	—
Trical 96	Trit	1880	—	—	—	—	—	—	—	—	—	—	—	—
Trial Mean		2314	5320	4986	3959	2227	1147	4505	1702	1626	3700	2870	3123	—
CV		17	9	10	11	18	6	14	15	11	25	21	—	—
PLSD (0.05)		641	786	820	764	679	124	1085	428	292	1585	1022	—	—
PLSD (0.10)		533	650	678	631	562	101	898	354	242	1311	845	—	—
Pr>F		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have adversely affected grain yield.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington, Moro, Moro no-till, and Pendleton, where seeding rate was 20 seeds per sq ft

³ RF = Feed, RM = malt, RF/M = being evaluated for malt, N = naked, Trit = triticale.

Table 1. 2002 statewide variety testing program spring barley, oats, and triticale yield data across locations in Oregon.¹

Variety/line ²	Market class ³	Location											11-site average
		Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro	Moro (no-till)	Ontario	Scio	
		Yield as a percent of average											
lb/a													
Bancroft	2RM	132	106	110	94	103	—	115	105	109	87	89	—
Cayuse	Oat	116	94	122	93	102	118	80	101	110	101	133	3246
Chinook	2RM	115	109	96	73	105	—	109	102	117	80	78	—
Farmington	2RF	124	125	97	117	120	117	135	117	119	184	110	3906
Garnet	2RM	119	106	81	100	115	90	115	109	113	76	111	3165
Harrington	2RM	122	110	95	108	119	—	124	129	101	129	83	—
Lamont	N Oat	64	72	102	91	45	67	42	47	59	105	81	2332
Monida	Oat	107	88	120	88	91	109	73	79	104	110	141	3120
Orca	2RF	81	88	83	117	148	—	123	91	110	47	80	—
Provena	N Oat	60	62	81	81	54	65	22	72	41	85	85	2033
Xena	2RF	136	125	113	138	100	136	132	149	117	88	107	3766
Castle	Trit	74	—	—	—	—	—	—	—	—	—	—	—
DU-1	Oat	83	—	—	—	—	—	—	—	—	—	—	—
Samish 23	2RF/M	—	116	—	—	—	—	131	—	—	—	—	—
Trical 105	Trit	98	—	—	—	—	—	—	—	—	—	—	—
Trical 111	Trit	88	—	—	—	—	—	—	—	—	—	—	—
Trical 96	Trit	81	—	—	—	—	—	—	—	—	—	—	—
Trial mean yield (lb/a)		2314	5320	4986	3959	2227	1147	4505	1702	1626	3700	2870	3123
Pr>F		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation may have decreased yields.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington, Moro, Moro no-till, and Pendleton, where seeding rate was 20 seeds per sq ft

³ RF = Feed, RM = malt, RF/M = being evaluated for malt, N = naked, Trit = triticale.

Table 25. 2001 statewide variety testing program spring barley and oat yield data across locations in Oregon.

Variety or line ¹	Market class ²	Klamath Falls ³										10-site average	10-site % of average	
		Corvallis	Hermiston	(muck soil)	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio			
Yield (lb/a, 10% moisture)														%
Bancroft	2RM	4534	3780	3241	2596	1259	3229	2103	3159	2572	2013	2849	92	
BCD-47 (Othello)	2RF/M	4978	4249	3817	3438	1345	4194	1970	4877	2100	2072	3304	107	
Chinook	2RM	4675	4402	2660	4469	1603	4458	1931	4310	2710	1852	3307	107	
Farmington (WA 9504-94)	2RF	4910	3944	3483	3753	1016	3186	1988	6000	2730	2001	3301	107	
Garnet	2RM	5268	3891	2093	3840	1281	4762	2133	4044	2668	2210	3219	104	
H3860224	2RF	5303	4433	3321	3405	1377	4029	1809	4046	2742	1931	3240	105	
Harrington	2RM	4580	4300	3306	3850	1170	3414	1629	4057	2805	2132	3124	101	
Morex	6RM	3056	3115	3115	3843	1365	3962	1817	2891	2020	1669	2685	87	
Orca	2RF	4506	3499	3420	4328	1587	3855	1430	4577	2187	2311	3170	103	
Stab-113	6RF/M	4014	3403	2797	3834	614	4214	1524	5541	1678	1523	2914	95	
Stab-7	6RF/M	3412	3766	1325	3758	566	3685	1173	4263	1956	1446	2535	82	
Tango	6RF	4100	3893	2391	2411	1235	3099	1481	5097	1632	2115	2745	89	
Valier	2RF	4885	5011	4254	3701	1323	3698	2071	3952	2722	2415	3403	110	
WA 8682-96	6RF/M	6038	4910	4139	2875	1607	2981	2335	3403	2997	2139	3342	108	
CDC Select	2RM	—	—	2862	—	—	—	—	—	—	—	—	—	
DA 587-124	6RF/M	4314	—	3338	—	—	—	—	—	—	—	—	—	
Harrington (20 seeds/ft ²)	2RM	4009	—	—	—	—	—	—	—	—	—	—	—	
Harrington (40 seeds/ft ²)	2RM	4586	—	—	—	—	—	—	—	—	—	—	—	
Jersey	2RF	—	—	2627	—	—	—	—	—	—	—	—	—	
Samish-23	2RF/M	5569	—	2759	—	—	—	—	3812	—	—	—	—	
Stab-47	6RF/M	4128	4951	2927	3824	837	3887	1135	4202	—	1426	—	—	
Steptoe	6RF	2947	4502	2728	3812	1402	3458	1624	3155	2258	—	—	—	
TR167	2RF/M	—	—	3444	—	—	—	—	—	—	—	—	—	
Xena	2RF	6780	4646	3307	—	—	—	2212	4657	2321	—	—	—	
YU 597-390	2RF/M	—	—	3833	—	—	—	—	—	—	—	—	—	
YU 597-399	2RF/M	5212	—	3190	—	—	—	—	—	—	—	—	—	
Cayuse	Oat	—	—	—	—	—	—	—	3812	—	—	—	—	
Lamont	N Oat	—	—	—	—	—	—	—	2018	—	—	—	—	
Provena	N Oat	—	—	—	—	—	—	—	1940	—	—	—	—	
Trial Mean		4627	4158	3099	3608	1224	3757	1786	4000	2381	1950	3081	—	
CV		17	19	15	19	12	17	15	15	8	26	—	—	
PLSD (0.05)		1259	1307	784	1122	241	ns ⁴	452	979	303	860	—	—	
PLSD (0.10)		1049	1087	654	933	200	909	376	816	252	714	—	—	
Pr>F		0.00	0.00	0.00	0.04	0.00	0.10	0.00	0.00	0.00	0.01	—	—	

¹ All seed was treated with fungicide and insecticidal seed treatment unless otherwise noted. Seeding rate was 30 seeds per sq ft for all locations except Lexington, Moro, and Pendleton, where seeding rate was 20 seeds per sq ft

² 2R = two row, 6R = six row, F = Feed, M = malt, F/M = being evaluated for malt, N = naked.

³ No data for Klamath Falls (mineral soil)

⁴ ns = nonsignificant

Table 1. 2000-2002 statewide variety testing program spring barley grain yields across locations in Oregon.

Variety or line ¹	Market class ²	Corvallis	Hermiston	Klamath Falls ³ (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton ³	Scio	Site average
Yield (lb/a, 10% moisture)													
2000													
Bancroft	2RM	4617	3991	6355	5361	4951	1474	4097	3241	4282	2505	2887	3840
Chinook	2RM	4536	3827	5421	3088	6474	1569	4309	3043	4676	1843	2766	3847
Farmington	2RF	5983	4152	6214	5861	5093	1906	4854	3356	4751	2451	3093	4338
Orca	2RF	5694	4097	5500	5131	5389	2101	3772	2875	4102	2126	2473	3813
Xena	2RF	5997	4324	6048	4580	6490	2201	4837	3493	5312	2033	3546	4442
Trial mean (lb/a)		5032	3803	5144	4462	5376	1929	4257	3252	4735	2124	2900	3855
2001 ³													
Bancroft	2RM	4534	3780	—	3241	2596	1259	3229	2103	2572	3159	2013	2849
Chinook	2RM	4675	4402	—	2660	4469	1603	4458	1931	4310	2710	1852	3307
Farmington	2RF	4910	3944	—	3483	3753	1016	3186	1988	6000	2730	2001	3301
Orca	2RF	4506	3499	—	3420	4328	1587	3855	1430	2187	4577	2311	3170
Xena	2RF	6780	4646	—	3307	—	—	—	2212	4657	2321	—	—
Trial mean (lb/a)		4165	4046	—	3012	3801	1463	3750	1772	2432	3800	2059	3108
2002 ³													
Bancroft	2RM	3062	5653	5509	3722	2289	—	5162	1781	3202	—	2562	3471
Chinook	2RM	2660	5780	4768	2904	2331	—	4903	1728	2943	—	2232	3215
Farmington	2RF	2865	6633	4831	4624	2671	1338	6092	1996	6815	—	3161	3906
Orca	2RF	1882	4679	4142	4636	3285	—	5523	1550	1754*	—	2308	3155
Xena	2RF	3147	6635	5641	5482	2235	1558	5948	2532	3262	—	3082	3766
Trial mean (lb/a)		2314	5320	4986	3959	2227	1147	4505	1702	3700	—	2870	3273
2000-2002 average													
Bancroft	2RM	4071	4475	—	4108	3279	—	4163	2375	3352	—	2487	3387
Chinook	2RM	3957	4670	—	2884	4425	—	4557	2234	3976	—	2283	3456
Farmington	2RF	4586	4910	—	4656	3839	1420	4711	2447	5855	—	2752	3848
Orca	2RF	4027	4092	—	4396	4334	—	4383	1952	—	—	2364	3379
Xena	2RF	5308	5202	—	4456	—	—	—	2746	4410	—	—	—
Average yield 2000-2002		4390	4669	—	4100	3969	1420	4453	2351	4398	—	2472	3518
2000-2002													
Yield as a percent of trial average													
Bancroft	2RM	93	96	—	100	83	—	93	101	76	—	101	96
Chinook	2RM	90	100	—	70	111	—	102	95	90	—	92	98
Farmington	2RF	104	105	—	114	97	100	106	104	133	—	111	109
Orca	2RF	92	88	—	107	109	—	98	83	—	—	96	96
Xena	2RF	121	111	—	109	—	—	—	117	100	—	—	—

¹ All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington, Moro, Moro no-till, and Pendleton, where seeding rate was 20 seeds per sq ft

² 2R = two row, 6R = six row, F = feed, M = malt, F/M = may be considered for malt

³ 2001 data from Klamath Falls were lost. Pendleton trials were lost due to Hessian fly in 2001 and 2002. * bird damage reduced yields.

Table 27. 2002 statewide variety testing program spring barley, oats, and triticale test weight data across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro	Moro (no-till)	Ontario	Scio	11-site average	11-site % of average
Test weight (lb/bu)														%
Bancroft	2RM	54.1	53.9	55.3	51.6	42.1	—	54.9	46.1	47.9	55.0	52.3	—	—
Cayuse	Oat	41.5	40.0	43.8	39.5	23.8	33.4	41.0	31.6	37.1	38.6	44.2	37.7	79
Chinook	2RM	55.3	55.2	55.3	49.0	41.9	48.3	55.2	46.6	50.3	55.1	52.9	51.4	107
Farmington	2RF	55.4	54.3	54.7	50.6	42.2	45.9	54.0	47.8	49.6	52.1	53.3	50.9	106
Gamet	2RM	54.2	53.8	54.0	50.9	38.7	—	53.6	46.3	49.1	51.8	53.6	—	—
Harrington	2RM	54.9	54.1	55.6	51.2	40.3	47.4	54.6	45.5	47.5	52.3	54.1	50.7	106
Lamont	N Oat	49.1	46.1	50.9	48.6	40.9	33.8	44.9	41.9	42.7	44.0	47.1	44.5	93
Monida	Oat	41.6	42.2	44.0	42.6	24.3	—	45.6	33.2	38.1	33.2	40.1	—	—
Orca	2RF	55.6	53.6	55.0	53.7	47.8	45.2	55.7	52.2	53.1	54.2	54.6	52.8	110
Provena	N Oat	52.8	49.5	51.9	50.0	44.5	49.6	51.2	49.2	25.7	47.3	47.7	47.2	99
Xena	2RF	55.2	54.3	55.2	51.8	40.2	—	54.6	49.2	52.2	55.0	54.9	52.3	—
Castle	Trit	54.2	—	—	—	—	—	—	—	—	—	—	—	—
DU-1	Oat	44.8	—	—	—	—	—	—	—	—	—	—	—	—
Samish 23	2RF/M	—	54.4	—	—	—	—	53.6	—	—	—	—	—	—
Trical 105	Trit	54.2	—	—	—	—	—	—	—	—	—	—	—	—
Trical 111	Trit	54.2	—	—	—	—	—	—	—	—	—	—	—	—
Trical 96	Trit	59.2	—	—	—	—	—	—	—	—	—	—	—	—
Trial Mean		52.2	50.9	52.3	49.0	38.8	43.3	51.6	44.5	44.8	48.9	50.4	47.9	—
CV		1	1	1	1	5	2	5	1	4	3	6	—	—
PLSD (0.05)		1.0	0.9	1.0	0.7	3.6	1.7	4.6	1.1	2.8	2.5	5.4	—	—
PLSD (0.10)		0.8	0.7	0.8	0.5	2.9	1.3	3.8	1.7	2.3	2.0	4.5	—	—
Pr>F		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation system may have decreased test weight.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington, Moro, Moro no-till, and Pendleton, where seeding rate was 20 seeds per sq ft

³ RF = Feed, RM = malt, RF/M = being evaluated for malt, N = naked, Trit = triticale.

Table 28. 2002 statewide variety testing program spring barley, oats, and triticale grain protein across locations in Oregon.¹

Variety/line ²	Market class ³	Corvallis	Hermiston	Klamath Falls (mineral soil)	Klamath Falls (muck soil)	LaGrande	Lexington	Madras	Moro	Moro (no-till)	Ontario	Scio	11-site average
Protein % (12% moisture)													
Bancroft	2RM	10.5	9.5	11.1	15.1	16.6	—	12.2	14.5	12.5	12.2	11.9	—
Cayuse	Oat	12.3	13.3	14.9	17.1	17.3	17.3	17.9	16.0	15.7	13.1	16.1	15.5
Chinook	2RM	10.5	10.0	12.0	16.7	17.3	17.0	12.2	15.5	12.5	12.9	12.7	13.6
Farmington	2RF	10.5	9.5	12.2	14.5	17.7	17.8	12.4	14.0	12.3	9.0	13.4	13.0
Garnet	2RM	10.0	9.6	13.3	15.5	17.6	—	11.5	14.4	12.4	11.5	12.7	—
Harrington	2RM	10.0	9.6	11.4	15.0	16.8	18.0	11.4	14.1	12.6	11.2	12.8	13.0
Lamont	N Oat	16.6	15.0	16.7	21.8	27.7	20.3	22.3	22.4	21.0	15.6	16.5	19.6
Monida	Oat	13.1	12.6	13.5	16.7	16.9	—	16.0	14.5	14.9	12.6	15.0	—
Orca	2RF	11.8	11.2	12.3	15.6	15.8	26.4	11.6	14.1	12.4	13.4	13.9	14.4
Provena	N Oat	18.9	16.9	19.3	25.5	29.7	15.8	23.5	26.5	23.7	17.5	23.8	21.9
Xena	2RF	9.1	8.9	11.1	13.2	15.9	—	10.6	14.0	11.0	10.3	11.9	11.6
Castle	Trit	10.2	—	—	—	—	—	—	—	—	—	—	—
DU-1	Oat	13.4	—	—	—	—	—	—	—	—	—	—	—
Samish 23	2RF/M	—	9.1	—	—	—	—	12.5	—	—	—	—	—
Trical 105	Trit	10.3	—	—	—	—	—	—	—	—	—	—	—
Trical 111	Trit	9.6	—	—	—	—	—	—	—	—	—	—	—
Trical 96	Trit	9.3	—	—	—	—	—	—	—	—	—	—	—
Trial Mean		11.6	11.2	13.4	16.9	19.0	18.9	14.5	16.3	14.6	12.6	14.5	14.9
CV		6	5	6	2	3	27	8	3	6	8	13	—
PLSD (0.05)		1.1	1.0	1.3	0.5	1.0	ns	1.9	9	1.3	1.6	3.2	—
PLSD (0.10)		0.9	0.8	0.6	0.1	0.8	ns	1.5	0.7	1.1	1.7	1.7	—
Pr>F		0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	—

¹ Hermiston, Klamath Falls, LaGrande, Madras, and Ontario are irrigated sites. All other locations are dryland. Mechanical problems with LaGrande irrigation system may have adversely affected protein.

² All seed was treated with fungicide and insecticidal seed treatment prior to planting. Seeding rate was 30 seeds per sq ft for all trials except Lexington, Moro, Moro no-till, and Pendleton, where seeding rate was 20 seeds per sq ft

³ RF = Feed, RM = malt, RF/M = being evaluated for malt, N = naked, Trit = triticale.

Table 29. — 2000 spring grain yield trial grown at Corvallis, Oregon.

Variety/line ¹	Market class	Yield	Test wt.	Protein	Heading	Height	Forage cut ³	
							Green wt	Dry wt
		(lb/a) ²	(lb/bu)	(%)	(day)	(inch)	(ton/a)	(ton/a)
Ajay	Oat	5332	38.3	15.6	175	33	18.8	4.3
Belford	Barley	3101	40.0	9.9	161	38	17.8	3.4
Belle	Oat	5302	40.1	13.5	172	42	19.6	5.3
California Red	Oat	1922	35.0	13.5	184	44	24.5	4.8
Cayuse	Oat	5794	39.9	14.6	176	42	19.6	5.2
CDC Pacer	Oat	6138	41.0	13.1	173	47	21.9	4.3
Celsia	Oat	5589	39.3	13.0	176	41	19.9	4.5
Curt	Oat	3947	38.2	14.0	163	33	16.9	3.8
Derby	Oat	5401	41.7	13.0	173	49	21.6	4.6
Dirkwin	Wheat	4855	58.4	7.9	163	35	15.0	3.5
Gem	Oat	5449	41.7	15.3	170	43	18.7	5.1
Jay	Oat	5428	42.1	14.5	166	37	21.1	6.6
Kanota	Oat	3451	40.1	17.8	173	48	19.9	4.7
Lamont	Oat	4294	43.9	17.1	178	41	20.9	5.5
Merced Rye	Rye	3023	56.4	7.1	150	50	12.5	3.3
Monida	Oat	5618	37.8	13.4	178	44	20.8	5.7
Montezuma	Oat	4244	40.1	15.3	167	39	17.6	5.1
Otana	Oat	5965	41.4	13.0	173	48	21.4	5.1
Powell	Oat	5719	37.4	13.9	178	38	19.0	5.6
Provena	Oat	3910	47.3	18.8	178	40	19.1	5.3
Richard	Oat	5719	41.6	13.7	171	49	20.8	5.0
Rio Grande	Oat	5800	38.6	14.2	172	39	21.0	4.9
Sara-I	Barley	3767	45.1	11.6	157	40	19.7	4.5
Sierra	Oat	4774	38.2	14.3	167	41	18.5	5.0
Swan	Oat	4404	42.4	14.1	158	37	16.3	3.8
Vista	Oat	5164	41.9	14.9	171	47	21.6	5.0
Washford	Barley	2920	35.7	10.4	161	37	18.4	3.7
Westford	Barley	3548	37.2	8.2	164	43	21.1	4.6
Whitestone	Oat	5655	41.5	13.7	173	39	20.0	4.1
Trial Mean		4973	40.7	13.6	171	41	19.7	4.8
CV		6	2	6	—	—	10	18
LSD (0.05)		470	1.4	1.2	—	—	3.1	1.4
LSD (0.10)		393	1.2	1.0	—	—	2.6	1.2
Pr>F		0.00	0.00	0.00	—	—	0.00	0.00

¹ Seeding rate was 30 seeds per sq ft untreated seed. Not all data are shown.² Grain yield at 10% moisture³ Forage cut is 1 meter of one interior row cut at Feekes 8.

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