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Spring Grain Varieties for 2001



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For additional copies of this publication, write:

Russ Karow
Extension agronomist (cereals)
Department of Crop and Soil Science
Oregon State University
131A Crop Science Building
Corvallis, OR 97331-3002
541-737-5857
e-mail: russell.s.karow@orst.edu

Spring Grain Varieties for 2001

John P. Bassinette, Russ Karow, Scott McDonald, Karl Rinehart, Rhonda Bafus, Mylen Bohle, Don Clark, Eric Eldredge, Pat Hayes, Jim Peterson, Steve Petrie, Ken Rykbost, Clint Shock, Dick Smiley¹

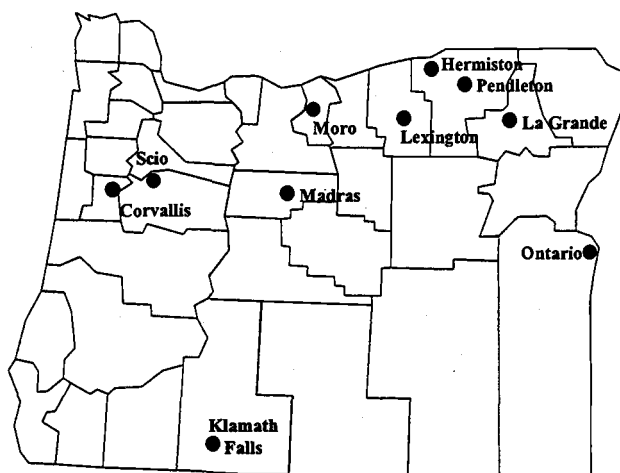
This publication describes spring wheats, barleys, oats, and triticales commonly grown in Oregon and provides, when available, yield and agronomic data to aid in variety selection. The wheat, barley, and triticale data presented in this publication were generated through a statewide variety testing program. 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. The 2000 program was centrally coordinated by John Bassinette and Russ Karow and involved research cooperators at seven experiment stations across Oregon. Grower cooperators make small plot testing possible at four sites.

Without the support of these funding organizations and the research and grower cooperators, these data would not be available. Please be sure to thank these groups and people for their contributions if you find this information beneficial. We also thank Barbara Reed, office specialist in Crop and Soil Science, for assistance with this and other Extension publications. Without her skills, these publications would not exist.

If you have comments about or suggestions for improvement of this publication, please contact Russ Karow, Extension cereals specialist (541-737-5857), or John Bassinette, senior faculty research assistant (541-737-5858), Crop Science Bldg., Room 131, Oregon State University, Corvallis, OR 97331-3002 (FAX: 541-737-5860). Individual site data and data for other years are available on the Cereals Extension home page at <http://www.css.orst.edu/cereals/>.

Site	Coordinator/ Grower Cooperators
Corvallis	Bassinette/Karow
Hermiston	McDonald/Smiley Grower: Kent Madison
Klamath mineral	Clark/Rykbost
Klamath organic	Clark/Rykbost Grower: Sam Hensel
La Grande	McDonald/Smiley Grower: John Cuthbert
Lexington	McDonald/Smiley Grower: Chris Rauch
Madras	Bafus/Bohle
Moro	McDonald/Smiley
Ontario	Eldredge/Shock
Pendleton	McDonald/Smiley
Scio	Bassinette/Karow Grower: Carl Haugerud

Statewide cereal variety testing program locations and site information.



Location	Elev. (ft)	GDD ¹	Precip. (in)	Type
Corvallis	230	2052	43	Dryland
Hermiston	450	2824	9	Irrigated
K. Falls mineral	4100	1973	14	Irrigated
K. Falls organic	4034	-	14	Irrigated
La Grande	2770	1830	14	Irrigated
Lexington	1200	2294	10	Dryland
Madras	2230	1917	10	Irrigated
Moro	1870	1988	11	Dryland
Ontario	2230	2868	10	Irrigated
Pendleton	1490	2278	16	Dryland
Scio	500	2100	55	Dryland

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

¹Prepared by: John P. Bassinette, senior faculty research assistant, Russ Karow, Extension agronomist (cereals), Dept. of Crop and Soil Science, Oregon State University, Corvallis. Contributors: Scott McDonald, former faculty research assistant, Karl Rinehart, senior faculty research assistant, Columbia Basin Ag. Research Center (CBARC), Pendleton; Rhonda Bafus, faculty research assistant, Central Oregon Ag. Research Center, Prineville; Don Clark, assistant professor of agronomy, Klamath Experiment Station, Klamath Falls; Eric Eldredge, faculty research assistant, Malheur Experiment Station, Ontario; Pat Hayes, barley breeder, Dept. of Crop and Soil Science; Jim Peterson, wheat breeder, Dept. of Crop and Soil Science; Ken Rykbost, superintendent, Klamath Experiment Station, Klamath Falls; Clint Shock, superintendent, Malheur Experiment Station; Steve Petrie, superintendent, CBARC, Pendleton; Dick Smiley, plant pathologist, CBARC, Pendleton.

Factors to Consider when Selecting Varieties

Yield is often the key factor in variety selection, but other characteristics can also be important. As you look through the data tables in this publication, you will discover that yield performance of recently released varieties is quite often 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 tends to cause lodging in some irrigated situations.

Disease/Stress Resistance. Diseases can be a major production problem; however, type of disease and disease pressure varies from location to location and from year to year. Select cultivars 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. Russian wheat aphids have devastated spring grain crops, 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. 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 has been found throughout the state. Resistant varieties are now available (see Table 3). Two-row varieties are generally more tolerant of the disease than six-row types but can be infected. 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. Crown rust infections have not been observed on screening trials planted at the Hyslop Farm in Corvallis in 1999 or 2000. 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 are generally 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. 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 one area and from one year to another. 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
2000 heading and height	Table 5
2000 yield data	Table 6
2000 yield as percent	Table 7
1999 yield data	Table 8
1998-00 yield data	Table 9
2000 test weight data	Table 10
2000 protein data	Table 11

New Releases

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 stripe rust.

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 are also very good. Hank is Hessian-fly-tolerant and is resistant to stripe rust.

JUBILEE (IDO 525) is a soft white, semi-dwarf spring wheat released by University of Idaho in 2001. Jubilee is adapted to both rain-fed and irrigated production zones. Jubilee has adult plant resistance to stripe rust, 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 cultivars.

LOLO (IDO 533) is a hard white, semi-dwarf spring wheat released by 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 but is susceptible to Hessian fly. Lolo has excellent baking characteristics for Asian noodle markets.

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 stripe rust and moderately resistant to leaf rusts. It has superior milling and baking characteristics compared to currently available hard red varieties.

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 and better stripe rust resistance. Milling and baking characteristics of Alpowa are average.

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 excellent stripe and moderate leaf rust resistance. Foundation-registered seed will be available in 2002.

PENAWAWA is a white-chaffed, awned, semi-dwarf released by WSU in 1985. Penawawa has been the dominant spring wheat variety in Oregon and is still competitive, in terms of yield, with newer varieties. Alpowa was released as a replacement for Penawawa. Milling and baking characteristics of Penawawa are average.

WAWAWAI was released by WSU in 1994 as a replacement for Wakanz. Both varieties have good Hessian fly resistance. Zak is likely to supplant Wawawai.

WHITEBIRD is a white-chaffed, awnless, semi-dwarf released by the University of Idaho in 1996. It is intended as a Penawawa replacement, but Oregon data suggest similar performance at best.

Hard White

ML455 is a hard white wheat developed by Fossum Cereals, Bellingham, WA. It is a late-season variety with good yield potential and promise as a noodle wheat due to its flour color. ML455 is being grown under contract. Contact Pro-Mar at 1-509-758-0669 for contract 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. Foundation and registered seed are available.

IDO377S is a hard white released in 1996 under an exclusive license to Pro-Mar, a growers' cooperative. The cooperative controls seed stock, planted acreage, and harvested grain. Pro-Mar is preserving the identity of individual grain lots and marketing to niche domestic and international markets. For more information about Pro-Mar and production contracts, call 1-509-758-0669.

Hard Red

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.

IONA (IDO492) 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 had high yields, average test weight and protein levels in 2000 Oregon statewide trials.

JEFFERSON (IDO462) 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.

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 Yecora Rojo's short stature makes it a variety of choice in some irrigated environments. It occupied more acres than any other hard red spring wheat in 2000.

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. A new spring club wheat soon may be available through WSU-USDA-ARS.

Durum

WESTBRED 881 is a spring durum released by Western Plant Breeders in 1984. Yields are typically 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
2000 heading and height	Table 12
2000 yield data	Table 13
2000 yield as percent	Table 14
1999 yield data	Table 15
1998-00 yield data	Table 16
2000 test weight data	Table 17
2000 protein data	Table 18

New Releases:

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 and this may give it a yield advantage over currently available but susceptible varieties. Seed should be available in 2002.

SARA is a six-row, hooded, spring barley released by OSU in 2001. Grain yield is less than other current varieties, but Sara is intended for forage and not seed production. Sara has resistance to stripe rust. Sara has been released on a 3-year exclusive license to Winema Elevator.

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

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.

Feed Type

ORCA is a two-row feed barley released by Oregon State University (OSU) in 1998. It is resistant to barley stripe rust. It has exhibited average yield potential and above-average test weight across environments. It appears to be best suited to higher elevation, cooler season or irrigated environments. All classes of certified seed are available.

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 Lewis and Baronesse.

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.

STEPTOE is a six-row feed barley released by WSU in 1973. It had been the dominant spring barley in Oregon for nearly 2 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.

Oats

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

Agronomic ratings	Table 4
2000 Klamath Falls and Corvallis data	Table 19

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 Agricultural Research Service 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. Testing at several Oregon locations is underway in 2000.

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 Agricultural Research Service 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. Testing at several Oregon locations is underway in 2000.



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	Awed	E	R
<i>Soft white common</i>						
Alpowa	1993	WA	M-T	Awed	M	R
Centennial	1990	ID	M	Awed	E-M	R
Dirkwin	1978	ID	M	Awless	E-M	R
Challis	2001	P-WPB	M-T	Awed	M	R
Jubilee	2001	ID	M	Awed	M	R
Penawawa	1985	WA	M	Awed	M	R
Pomerelle	1996	ID	M	Awed	M-L	R
Skagit	1997	P-FC	M	Awed	M	R
Treasure	1986	ID	M	Awed	L	MR
Wawawai	1994	WA	M-T	Awed	M	R
Wakanz	1988	WA	M	Awed	L	MR
Westbred Vanna	1992	P-WPB	M	Awed	M	R
Whitebird	1996	ID	M	Awed	M	R
Zak	2000	WA	M-T	Awed	M	R
<i>Hard white</i>						
IDO377S	1995	ID	M	Awed	E-M	MR
Lolo	2001	ID	M	Awed	E-M	MR
Klasic	1982	P-NK	S	Awed	E	R
ML455	1998	P-FC	M	Awed	M-L	MR
Winsome	2000	OR	M	Awed	M-L	R
<i>Hard red</i>						
Hank	2000	P-WPB	M	Awed	M	R
Iona	1999	ID	T	Awed	E-M	MS
Jefferson	1998	ID	M	Awed	E-M	MR
McKay	1981	ID	M	Awed	E-M	MR
Scarlet	1998	WA	M-T	Awed	M	MR
Spillman	1989	WA	M	Awed	M-L	MR
Tara	2000	WA	M	Awed	E	R
Westbred 926	1987	P-WPB	M	Awed	E	R
Westbred 936	1992	P-WPB	M	Awed	E-M	R
Westbred Express	1990	P-WPB	M	Awed	M	R
Yecora Rojo	1975	CA	S	Awed	E	R
<i>Durum wheats</i>						
Westbred 881	—	P-WPB	S-M	Awed	E-M	R
<i>Triticale</i>						
Trical 2700	1993	P-RS	T	Awed	M	R
Trical Victoria	1988	P-RS	M-T	Awed	M	R

¹ CA = California, ID = Idaho, OR = Oregon, WA = Washington, P = private (FC = Fossum Cereals, GPS = Great Plains Seeds, NK = Northrup King, RS = Resource Seeds, WPB = Western Plant Breeders, WS = World Seeds)

² M = medium, S = short, T = tall

³ E = early, M = midseason, L = late

⁴ R = resistant, MR = moderately resistant, MS = moderately susceptible

Table 2. — Disease 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
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
Wawawai	MR	MR	R	R	—	—	R
Wakanz	MR	MR	S	MS	—	—	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	—	—	—

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	UI	2-row	T	Mod.	M	R
Baronesse	1992	P-WPB	2-row	M	Mod.-stiff	M	T
Columbia	1979	P-Germains	6-row	M	Stiff	M	S
Colter	1991	ID	6-row	M	Stiff	E-M	S
Farmington	2001	WA	2-row	S	Mod.	L	R
Gallatin	1986	MT	2-row	M	Mod.-stiff	M	T
Gustoe	1983	P-WPB	6-row	S	Stiff	M	S
Gus	1976	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
Sara	2001	OR	6-row	M	Weak	M	R
Horsford	1880	MT	6-row	M-T	Weak	M	S
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

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

WA = Washington, WPB = Western Plant Breeders

²S = short, M = medium, T = tall³E = early, M = mid-season, L = late⁴T = 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

¹Astrla = 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

²Genus = *Avena*

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

⁴VE = very early, E = early, M = mid-season, L = late

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

Table 5. — 2000 statewide variety testing program, spring grain day of the year heading and heights across locations in Oregon.

Variety or line ¹	Market class ²	Heading (day of year)					Plant height (inches)					Scio
		Corvallis	K-Falls mineral soil	K-Falls organic soils	Madras	Ontario	Corvallis	K-Falls mineral soil	K-Falls organic soils	Madras	Ontario	
Alpowa	SW	167	177	201	176	159	35	31	32	38	38	31
Alpowa (no Gaucho)	SW	165	175	200	175	161	36	30	33	41	40	30
Alpowa (untreated)	SW	166	178	199	176	160	34	28	30	40	39	29
Challis	SW	165	177	199	173	158	35	30	33	36	38	28
Hank	HR	160	177	196	170	153	34	33	32	33	36	28
IDO 377S	HW	162	176	199	172	153	37	33	33	35	37	29
IDO 506	SW	164	176	201	173	157	37	33	32	38	39	27
IDO 526	SW	163	178	200	173	156	37	30	32	37	37	26
IDO 560	HW	160	178	200	175	162	36	33	33	39	38	29
Iona	HR	162	178	200	172	154	37	32	31	39	39	29
Jefferson	HR	164	175	196	171	153	36	30	30	38	37	27
Jubilee (IDO 525)	SW	164	176	200	172	157	34	30	33	40	39	28
Lolo (IDO 533)	HW	166	176	197	171	155	36	32	34	36	38	27
ML 037A(5-2)	SW	162	176	201	176	159	36	33	32	35	38	28
ML 455	HW	167	177	203	179	157	34	28	33	35	39	31
OR 4870410	HR	165	177	197	175	161	34	35	32	39	38	29
OR 4880189	HR	163	177	199	170	156	32	29	32	33	35	28
OR 4920311	HW	168	176	201	175	163	32	28	28	38	40	29
OR 4970025	SW	161	177	199	175	162	32	30	32	39	37	28
OR 4970039	SW	165	178	201	173	156	36	32	35	38	39	28
OR 4970062	SW	163	177	197	172	155	39	26	35	38	40	31
OR 942885	SW	162	174	197	173	154	38	32	34	39	39	29
Penawawa (20 seeds/ft ²)	SW	165	178	200	174	155	34	35	30	35	34	24
Penawawa (30 seeds/ft ²)	SW	163	176	199	172	158	33	35	30	37	37	26
Penawawa (40 seeds/ft ²)	SW	161	175	200	172	157	33	30	31	37	35	25
Pomerelle	SW	163	176	201	175	163	33	30	32	36	39	28
Scarlet	HR	163	177	197	170	153	36	33	32	42	39	29
Tara (WA 7824)	HR	156	176	196	169	152	38	32	34	40	40	31
Treasure	SW	167	176	202	176	161	34	32	33	37	38	28
Wawawai	SW	165	176	196	170	152	38	31	33	38	40	32
Whitebird	SW	166	174	201	172	164	36	30	33	39	38	32
Winsome	HW	169	178	202	176	165	33	31	32	37	36	29
WPB 936	HR	159	177	196	170	153	32	30	30	32	33	26
Yecora Rojo	HR	159	180	196	169	149	30	30	24	27	28	21
Zak (WA 7850)	SW	164	177	200	176	159	38	30	35	36	38	29

Table 5 continued. — 2000 statewide variety testing program, spring grain day of the year heading and heights across locations in Oregon.

Variety or line ¹	Market class ²	Corvallis	K-Falls mineral soil	K-Falls organic soils	Madras	Ontario	Corvallis	K-Falls mineral soil	K-Falls organic soils	Madras	Ontario	Scio
Heading (day of year)						Plant height (inches)						
Bonus	HR	—	—	—	169	—	—	—	—	29	—	—
Brooks	HR	—	—	—	168	—	—	—	—	26	—	—
California Red	Oat	—	—	—	—	—	—	—	—	—	—	33
Cayuse	Oat	—	—	—	—	—	—	—	—	—	—	34
Express	HR	—	—	—	175	—	—	—	—	37	—	—
Gabo	Triticale	—	—	—	171	—	—	—	—	45	—	—
Jay	Oat	—	—	—	—	—	—	—	—	—	—	31
Kanota	Oat	—	—	—	—	—	—	—	—	—	—	42
Kargo	Triticale	—	—	—	169	—	—	—	—	46	—	—
Lamont	Oat	—	—	—	—	—	—	—	—	—	—	32
Lars	HR	161	—	—	—	—	32	—	—	—	—	—
M94-4393	Triticale	—	178	200	168	153	—	33	37	48	46	39
Migo	Triticale	—	—	—	173	—	—	—	—	45	—	—
ML 037C(6-2)	SW	165	—	—	—	—	36	—	—	—	—	—
ML 107-184(2)	HW	171	—	—	178	—	34	—	—	38	—	—
ML 107-3,1	HW	171	—	—	178	—	34	—	—	39	—	—
Montezuma	Oat	—	—	—	—	—	—	—	—	—	—	34
Norlander	HR	157	—	—	—	—	34	—	—	—	—	—
PG 12111	Triticale	—	—	—	170	—	—	—	—	43	—	—
PG 2166	Triticale	—	—	—	170	—	—	—	—	36	—	—
PG 303	Triticale	—	—	—	168	—	—	—	—	34	—	—
PG 40611	Triticale	—	—	—	168	—	—	—	—	34	—	—
PG 61307	Triticale	—	—	—	170	—	—	—	—	35	—	—
Provena	Oat	—	—	—	—	—	—	—	—	—	—	32
Richard	Oat	—	—	—	—	—	—	—	—	—	—	38
Standard	HR	—	—	—	168	—	—	—	—	28	—	—
Trical 2700	Triticale	—	176	203	174	166	—	33	45	58	59	51
Vista oat	Oat	—	—	—	—	—	—	—	—	—	—	41
Wanad	Triticale	—	—	—	169	—	—	—	—	48	—	—
X-7468-5	Oat	—	—	—	—	—	—	—	—	—	—	33
Trial Mean		163	177	199	172	157	35	31	32	38	38	30

¹All seed was treated with fungicide and insecticide (Gaucho) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot unless otherwise noted.²SW=soft white, HW=hard white, HR=hard red.

Table 6. — 2000 statewide variety testing program, spring grain yield across locations in Oregon.

Variety or line ¹	Market class ²	Location											Across site	
		Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soil	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio		
		Grain Yield (60 lb bu/a; 10% moisture)											Average	% of average
Alpowa	SW	98	52	107	100	118	28	113	52	97	41	46	77	109
Alpowa (no Gaucho)	SW	106	57	90	91	113	30	126	52	99	38	51	78	109
Alpowa (untreated)	SW	97	48	74	57	111	29	118	52	101	38	46	70	98
Challis	SW	99	54	69	99	110	26	122	61	114	42	48	77	108
Hank	HR	109	45	86	93	107	24	98	44	92	54	47	76	107
IDO 377S	HW	105	43	96	93	107	34	133	50	111	49	45	78	110
IDO 506	SW	97	46	86	72	118	24	129	51	101	46	45	73	103
IDO 526	SW	110	56	99	65	111	35	116	55	110	46	41	77	109
IDO 560	HW	103	55	100	90	113	33	129	55	98	42	48	77	108
Iona	HR	101	44	83	75	101	21	105	38	101	42	39	69	97
Jefferson	HR	109	42	78	65	102	34	112	54	90	51	36	72	101
Jubilee (IDO 525)	SW	98	53	83	83	110	29	117	52	103	36	38	73	103
Lolo (IDO 533)	HW	109	56	103	89	104	33	122	53	111	48	39	79	112
ML 037A(5-2)	SW	109	44	84	113	98	22	103	38	103	45	41	73	103
ML 455	HW	107	38	77	82	108	19	99	44	86	40	52	71	99
OR 4870410	HR	104	42	78	74	98	30	123	38	92	39	45	67	95
OR 4880189	HR	99	45	82	82	101	25	106	45	106	41	47	71	100
OR 4920311	HW	95	39	76	71	91	25	119	38	100	43	46	65	92
OR 4970025	SW	94	32	71	78	80	26	93	40	96	37	42	64	91
OR 4970039	SW	104	34	95	87	90	28	111	40	96	46	39	70	99
OR 4970062	SW	108	45	80	57	95	26	110	40	99	43	53	69	97
OR 942885	SW	106	48	76	77	98	25	107	48	95	42	40	70	98
Penawawa (20 seeds/ft ²)	SW	88	37	59	57	103	23	113	48	87	19	41	62	87
Penawawa (30 seeds/ft ²)	SW	86	48	77	79	106	22	121	52	92	25	38	67	95
Pomerelle	SW	115	48	93	94	91	27	126	40	101	44	50	73	103
Scarlet	HR	105	42	77	68	107	25	106	38	86	48	33	68	96
Tara (WA 7824)	HR	101	40	63	65	101	21	111	54	81	46	48	66	93
Treasure	SW	110	52	103	87	95	27	111	49	102	53	54	73	103
Wawawai	SW	87	47	96	72	104	24	106	44	103	55	40	71	100
Whitebird	SW	96	48	93	71	91	24	130	48	111	44	45	73	103
Winsome	HW	115	50	107	102	103	31	127	51	102	48	53	81	114
WPB 936	HR	89	44	59	44	102	21	117	51	94	33	36	63	88
Yecora Rojo	HR	89	51	77	67	104	25	114	50	86	32	34	67	95
Zak (WA 7850)	SW	112	45	78	88	101	26	108	41	109	57	33	72	102

Table 6 continued. — 2000 statewide variety testing program, spring grain yield across locations in Oregon.

Variety or line ¹	Market class ²	Location											Across site	
		Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soil	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio		
		Grain Yield (60 lb bu/a; 10% moisture)											Average	% of average
Bonus	HR	—	—	—	—	—	—	122	—	—	—	—	—	—
Brooks	HR	—	—	—	—	—	—	119	—	—	—	—	—	—
California Red	Oat	—	—	—	—	—	—	—	—	—	—	29	—	—
Cayuse	Oat	—	—	—	—	—	—	—	—	—	—	64	—	—
Express	HR	—	—	—	—	—	—	121	—	—	—	—	—	—
Gabo	Triticale	—	—	—	—	—	—	128	—	—	—	—	—	—
Jay	Oat	—	—	—	—	—	—	—	—	—	—	50	—	—
Kanota	Oat	—	—	—	—	—	—	—	—	—	—	37	—	—
Kargo	Triticale	—	—	—	—	—	—	128	—	—	—	—	—	—
Lamont	Oat	—	—	—	—	—	—	—	—	—	—	39	—	—
Lars	HR	105	—	—	—	—	25	—	—	—	—	—	—	—
M94-4393	Triticale	—	42	84	63	—	25	126	45	90	48	46	—	—
Migo	Triticale	—	—	—	—	—	—	142	—	—	—	—	—	—
ML 037C(6-2)	SW	108	43	—	—	88	24	—	45	—	50	—	—	—
ML 107-184(2)	HW	104	—	—	—	—	—	106	—	—	—	—	—	—
ML 107-3,1	HW	103	49	—	—	97	22	110	41	—	41	—	—	—
Montezuma	Oat	—	—	—	—	—	—	—	—	—	—	43	—	—
Norlander	HR	81	—	—	—	—	23	—	—	—	—	—	—	—
Penawawa (10 seeds/ft ²)	SW	—	—	—	—	—	23	—	42	—	10	—	—	—
Penawawa (40 seeds/ft ²)	SW	92	50	87	87	101	—	116	—	110	—	29	—	—
PG 12111	Triticale	—	—	—	—	—	—	133	—	—	—	—	—	—
PG 2166	Triticale	—	—	—	—	—	—	110	—	—	—	—	—	—
PG 303	Triticale	—	—	—	—	—	—	110	—	—	—	—	—	—
PG 40611	Triticale	—	—	—	—	—	—	107	—	—	—	—	—	—
PG 61307	Triticale	—	—	—	—	—	—	92	—	—	—	—	—	—
Provena	Oat	—	—	—	—	—	—	—	—	—	—	31	—	—
Richard	Oat	—	—	—	—	—	—	—	—	—	—	59	—	—
Standard	HR	—	—	—	—	—	—	118	—	—	—	—	—	—
Trical 2700	Triticale	—	46	83	70	—	19	95	19	91	57	54	—	—
Vista oat	Oat	—	—	—	—	—	—	—	—	—	—	63	—	—
Wanad	Triticale	—	—	—	—	—	—	110	—	—	—	—	—	—
X-7468-5	Oat	—	—	—	—	—	—	—	—	—	—	47	—	—
Trial Mean		101	46	84	79	102	26	115	46	99	42	44	71	—
CV		6	17	15	15	11	11	13	13	8	12	16		
PLSD (0.05)		10	13	21	18	18	4	24	10	12	8	11		
PLSD (0.10)		9	11	18	15	15	4	20	8	10	7	9		
Pr>F		0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00		

¹All seed was treated with fungicide and insecticide (Gaucha) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot for all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²SW=soft white, HW=hard white, HR=hard red.

Table 7 continued. — 2000 statewide variety testing program, spring grain yield across locations in Oregon expressed as a percent of trial average.

Variety or line ¹	Market class ²	Location											Average
		Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soil	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	
		Yield as a percent of average											
bu/a													
Bonus	HR	—	—	—	—	—	—	106	—	—	—	—	—
Brooks	HR	—	—	—	—	—	—	104	—	—	—	—	—
California Red	Oat	—	—	—	—	—	—	—	—	—	—	67	—
Cayuse	Oat	—	—	—	—	—	—	—	—	—	—	145	—
Express	HR	—	—	—	—	—	—	106	—	—	—	—	—
Gabo	Triticale	—	—	—	—	—	—	111	—	—	—	—	—
Jay	Oat	—	—	—	—	—	—	—	—	—	—	113	—
Kanota	Oat	—	—	—	—	—	—	—	—	—	—	84	—
Kargo	Triticale	—	—	—	—	—	—	112	—	—	—	—	—
Lamont	Oat	—	—	—	—	—	—	—	—	—	—	88	—
Lars	HR	104	—	—	—	—	95	—	—	—	—	—	—
M94-4393	Triticale	—	91	100	81	—	95	110	99	92	111	105	—
Migo	Triticale	—	—	—	—	—	—	124	—	—	—	—	—
ML 037C(6-2)	SW	107	93	—	—	86	94	—	97	—	116	—	—
ML 107-184(2)	HW	103	—	—	—	—	—	92	—	—	—	—	—
ML 107-3,1	HW	102	106	—	—	95	83	96	89	—	95	—	—
Montezuma	Oat	—	—	—	—	—	—	—	—	—	—	98	—
Norlander	HR	81	—	—	—	—	87	—	—	—	—	—	—
Penawawa (10 seeds/ft ²)	SW	—	—	—	—	—	88	—	91	—	24	—	—
Penawawa (40 seeds/ft ²)	SW	85	104	91	102	104	—	101	—	94	—	86	—
PG 12111	Triticale	—	—	—	—	—	—	116	—	—	—	—	—
PG 2166	Triticale	—	—	—	—	—	—	96	—	—	—	—	—
PG 303	Triticale	—	—	—	—	—	—	96	—	—	—	—	—
PG 40611	Triticale	—	—	—	—	—	—	93	—	—	—	—	—
PG 61307	Triticale	—	—	—	—	—	—	80	—	—	—	—	—
Provena	Oat	—	—	—	—	—	—	—	—	—	—	70	—
Richard	Oat	—	—	—	—	—	—	—	—	—	—	133	—
Standard	HR	—	—	—	—	—	—	102	—	—	—	—	—
Trical 2700	Triticale	—	100	99	90	—	73	82	41	93	132	122	—
Vista oat	Oat	—	—	—	—	—	—	—	—	—	—	142	—
Wanad	Triticale	—	—	—	—	—	—	95	—	—	—	—	—
X-7468-5	Oat	—	—	—	—	—	—	—	—	—	—	107	—
Trial average yield (bu/a)		101	46	84	79	102	26	115	46	99	42	44	—

¹All seed was treated with fungicide and insecticide (Gaucho) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot for all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²SW=soft white, HW=hard white, HR=hard red.

Table 7 continued. — 2000 statewide variety testing program spring grain yield across locations in Oregon expressed as a percent of trial average.

Variety or line ¹	Market class ²	Location											Average
		Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soil	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	
Yield as a percent of average													bu/a
Bonus	HR	—	—	—	—	—	—	106	—	—	—	—	—
Brooks	HR	—	—	—	—	—	—	104	—	—	—	—	—
California Red	Oat	—	—	—	—	—	—	—	—	—	—	67	—
Cayuse	Oat	—	—	—	—	—	—	—	—	—	—	145	—
Express	HR	—	—	—	—	—	—	106	—	—	—	—	—
Gabo	Triticale	—	—	—	—	—	—	111	—	—	—	—	—
Jay	Oat	—	—	—	—	—	—	—	—	—	—	113	—
Kanota	Oat	—	—	—	—	—	—	—	—	—	—	84	—
Kargo	Triticale	—	—	—	—	—	—	112	—	—	—	—	—
Lamont	Oat	—	—	—	—	—	—	—	—	—	—	88	—
Lars	HR	104	—	—	—	—	95	—	—	—	—	—	—
M94-4393	Triticale	—	91	100	81	—	95	110	99	92	111	105	—
Migo	Triticale	—	—	—	—	—	—	124	—	—	—	—	—
ML 037C(6-2)	SW	107	93	—	—	86	94	—	97	—	116	—	—
ML 107-184(2)	HW	103	—	—	—	—	—	92	—	—	—	—	—
ML 107-3,1	HW	102	106	—	—	95	83	96	89	—	95	—	—
Montezuma	Oat	—	—	—	—	—	—	—	—	—	—	98	—
Norlander	HR	81	—	—	—	—	87	—	—	—	—	—	—
Penawawa (10 seeds/ft ²)	SW	—	—	—	—	—	88	—	91	—	24	—	—
Penawawa (40 seeds/ft ²)	SW	85	104	91	102	104	—	101	—	94	—	86	—
PG 12111	Triticale	—	—	—	—	—	—	116	—	—	—	—	—
PG 2166	Triticale	—	—	—	—	—	—	96	—	—	—	—	—
PG 303	Triticale	—	—	—	—	—	—	96	—	—	—	—	—
PG 40611	Triticale	—	—	—	—	—	—	93	—	—	—	—	—
PG 61307	Triticale	—	—	—	—	—	—	80	—	—	—	—	—
Provena	Oat	—	—	—	—	—	—	—	—	—	—	70	—
Richard	Oat	—	—	—	—	—	—	—	—	—	—	133	—
Standard	HR	—	—	—	—	—	—	102	—	—	—	—	—
Trical 2700	Triticale	—	100	99	90	—	73	82	41	93	132	122	—
Vista oat	Oat	—	—	—	—	—	—	—	—	—	—	142	—
Wanad	Triticale	—	—	—	—	—	—	95	—	—	—	—	—
X-7468-5	Oat	—	—	—	—	—	—	—	—	—	—	107	—
Trial average yield (bu/a)		101	46	84	79	102	26	115	46	99	42	44	—

¹All seed was treated with fungicide and insecticide (Gaucha) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot for all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²SW=soft white, HW=hard white, HR=hard red.

Table 8 — 1999 statewide variety testing program, spring grain yields across locations in Oregon.

Variety or line ¹	Market class ²	Grain Yield (60 lb bu/a; 10% moisture)											11-site	
		Corvallis	Hermiston ³	K-Falls mineral soil	K-Falls organic soil	LaGrande ³	Lexington	Madras	Moro	Ontario	Pendleton	Scio	Average	% of average
Alpowa (Adage) ⁴	SW	99	72	81	89	35	20	112	50	40	36	47	62	99
Alpowa (Gaucho)	SW	100	74	76	81	41	18	109	44	61	34	51	63	101
Alpowa (no Gaucho)	SW	95	76	82	92	34	16	108	49	59	36	46	63	101
Challis (WPB BZ 692-108)	SW	100	88	80	78	40	20	100	48	57	40	44	63	102
Hank (WPB BZ 992-322)	HR	82	71	94	96	51	18	119	46	62	34	35	64	103
IDO377S	HW	93	87	86	57	58	19	107	45	83	36	38	64	104
IDO506	SW	93	89	90	48	64	19	115	42	83	30	45	66	106
IDO523	HW	94	71	80	79	49	17	122	46	61	40	44	64	103
IDO526	SW	94	77	82	69	59	19	124	47	86	35	47	67	108
Jefferson	HR	84	84	65	51	44	20	113	45	67	36	43	59	95
Jubilee (IDO525)	SW	89	73	76	55	39	18	126	44	74	35	46	61	98
ML 455	HW	94	83	78	86	37	17	92	50	76	32	45	62	100
OR4920307	HW	88	67	73	54	39	15	126	40	66	37	41	59	94
OR942889	SW	86	72	79	41	30	17	115	48	69	35	35	57	91
Penawawa (high seed rate)	SW	94	75	82	71	46	21	127	48	59	35	44	64	103
Penawawa (low seed rate)	SW	90	84	81	48	39	17	136	50	58	36	43	61	99
Penawawa ⁵	SW	92	80	84	58	48	17	133	43	70	36	44	65	104
Pomerelle	SW	97	90	95	61	57	20	132	41	83	36	47	69	112
Scarlet	HR	85	65	85	71	31	20	100	43	73	37	44	59	96
Treasure	SW	95	93	89	70	63	22	119	44	72	33	47	68	110
WA7850	SW	96	88	81	59	63	21	90	40	85	35	49	65	104
Wawawai	SW	91	77	83	53	26	21	105	39	78	35	43	59	95
Whitebird	SW	90	80	85	53	48	19	105	40	81	35	40	62	100
Winsome	HW	89	74	85	67	49	17	133	41	51	35	40	62	100
WPB 936	HR	73	60	73	72	34	19	144	45	82	32	33	60	97
Yecora Rojo	HR	78	45	68	44	27	17	143	40	53	37	34	54	87
Lolo (IDO533)	HW	92	85	78	78	61	—	117	47	77	36	44	—	—
95Ab12584	Oats	78	—	—	—	—	—	—	—	—	—	57	—	—
Cayuse	Oats	89	—	—	—	—	—	—	—	—	—	52	—	—
Croa 35	Oats	96	—	—	—	—	—	—	—	—	—	53	—	—

Table 8 continued— 1999 statewide variety testing program, spring grain yields across locations in Oregon.

Variety or line ¹	Market class ²	Corvallis	Hermiston ³	K-Falls mineral soil	K-Falls organic soil	LaGrande ³	Lexington	Madras	Moro	Ontario	Pendleton	Scio	Average	11-site % of average
Grain Yield (60 lb bu/a; 10% moisture)														
Drummond	Oats	96	—	—	—	—	—	—	—	—	—	57	—	—
M94-4393	Triticale	83	—	86	—	—	—	135	—	49	33	—	—	—
ML037,C(6-2)	SW	98	—	—	—	—	—	—	—	—	—	—	—	—
ML043-142A	SW	85	—	—	—	—	—	80	—	—	—	—	—	—
ML107-(2-24)	HW	—	—	—	—	—	—	117	—	—	—	—	—	—
ML136,C(20-3)	HW	85	—	—	—	—	—	—	—	—	—	—	—	—
Ogle	Oats	64	—	—	—	—	—	—	—	—	—	47	—	—
OR942845	SW	86	68	72	33	45	—	103	40	77	34	42	—	—
Vista	Oats	78	—	—	—	—	—	—	—	—	—	52	—	—
X7066-5	Oats	58	—	—	—	—	—	—	—	—	—	48	—	—
Trial Mean		88	77	81	64	45	19	116	44	69	35	45	62	—
CV		5	10	10	27	15	10	11	11	23	10	12	15	—
PLSD (0.05)		7	12	13	28	11	3	21	NS ²	26	NS	9	NS	—
PLSD (0.10)		6	10	11	23	9	3	18	7	22	NS	7	6	—
Pr>F		0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.10	0.03	0.38	0.00	0.06	—

¹All seed was treated with fungicide and Gaucho insecticidal seed treatment unless otherwise noted. Normal seeding rate was 20 seeds per square foot for low-rainfall sites and 30 seeds per square foot for high-rainfall and irrigated sites.

²SW=soft white, HW=hard white, HR=hard red, NS=nonsignificant interaction.

³Hermiston and La Grande trials were damaged by hail storms on June 24, 1999.

⁴Adage is a seed treatment insecticide.

⁵High seeding rates were 30 seeds per square foot for low-rainfall sites and 40 seeds per square foot for high-rainfall and irrigated sites. Low seeding rates were 10 seeds per square foot for low-rainfall sites and 20 seeds per square foot for high-rainfall and irrigated sites.

Table 9. — 1998-2000 spring wheat yields across locations in Oregon.

Variety or line ¹	Market class ²	K-Falls								9-site average	
		Corvallis	Hermiston	mineral soil	LaGrande	Madras	Moro	Ontario	Pendleton		Scio
Yield (60 lb bu/a; 10% moisture)											
1998											
Alpowa (Gaucho)	SW	53	36	70	67	81	54	53	47	38	56
Alpowa (no Gaucho)	SW	54	36	79	60	103	51	56	39	37	57
IDO377S	HW	45	42	84	49	101	50	69	44	37	58
Jefferson	HR	66	41	80	58	97	57	66	60	45	63
Penawawa (30 seeds/ft ²)	SW	36	46	89	54	97	53	57	43	35	57
Pomerelle	SW	47	46	83	44	105	46	48	44	41	56
Scarlet	HR	60	38	88	63	95	50	59	54	40	61
Wawawai	SW	48	42	68	50	86	51	55	49	47	55
Whitebird	SW	45	41	84	48	107	43	61	41	36	56
Winsome	HW	50	45	80	52	112	47	52	42	36	57
WPB936	HR	45	24	72	55	111	45	54	54	33	55
Yecora Rojo	HR	35	21	64	70	101	41	34	53	30	50
1998 trial average yield (bu/a)		52	39	79	55	104	49	57	48	41	58
1999											
Alpowa (Gaucho)	SW	100	74	76	41	109	44	61	34	51	66
Alpowa (no Gaucho)	SW	95	76	82	34	108	49	59	36	46	65
IDO377S	HW	93	87	86	58	107	45	83	36	38	70
Jefferson	HR	84	84	65	44	113	45	67	36	43	64
Penawawa (30 seeds/ft ²)	SW	92	80	84	48	133	43	70	36	44	71
Pomerelle	SW	97	90	95	57	132	41	83	36	47	76
Scarlet	HR	85	65	85	31	100	43	73	37	44	62
Wawawai	SW	91	77	83	26	105	39	78	35	43	64
Whitebird	SW	90	80	85	48	105	40	81	35	40	68
Winsome	HW	89	74	85	49	133	41	51	35	40	67
WPB936	HR	73	60	73	34	144	45	82	32	33	64
Yecora Rojo	HR	78	45	68	27	143	40	53	37	34	59
1999 trial average yield (bu/a)		88	77	81	45	116	44	69	35	45	67
2000											
Alpowa (Gaucho)	SW	98	52	107	118	114	52	97	41	46	77
Alpowa (no Gaucho)	SW	106	57	90	113	126	52	99	38	51	78
IDO 377S	HW	105	43	96	107	133	50	111	49	45	78
Jefferson	HR	109	42	78	102	112	54	90	51	36	72
Penawawa (30 seeds/ft ²)	SW	86	48	77	106	121	52	92	25	38	67
Pomerelle	SW	115	48	93	91	126	40	101	44	50	73
Scarlet	HR	105	42	77	107	106	38	86	48	33	68
Wawawai	SW	87	47	96	104	106	44	103	55	40	71
Whitebird	SW	96	48	93	91	130	48	111	44	45	73
Winsome	HW	115	50	107	103	127	51	102	48	53	81
WPB 936	HR	89	44	59	102	117	51	94	33	36	63
Yecora Rojo	HR	89	51	77	104	114	50	86	32	34	67
2000 trial average yield (bu/a)		101	46	84	102	115	46	98	43	44	72

Table 9 continued. — 1998-2000 spring wheat yields across locations in Oregon.

Variety or line ¹	Market class ²	K-Falls									9-site average
		Corvallis	Hermiston	mineral soil	LaGrande	Madras	Moro	Ontario	Pendleton	Scio	
Yield (60 lb bu/a; 10% moisture)											
1998-2000 average											
Alpowa (Gaucho)	SW	84	54	84	76	101	50	70	41	45	66
Alpowa (no Gaucho)	SW	85	56	84	69	112	51	71	38	45	67
IDO 377S	HW	81	58	89	72	113	48	88	43	40	69
Jefferson	HR	87	55	74	68	107	52	74	49	41	67
Penawawa (30 seeds/ft ²)	SW	71	58	83	69	117	49	73	35	39	65
Pomerelle	SW	86	61	90	64	121	42	78	41	46	68
Scarlet	HR	83	48	83	67	100	44	72	46	39	64
Wawawai	SW	75	55	82	60	99	45	79	47	44	63
Whitebird	SW	77	56	88	62	114	44	84	40	40	66
Winsome	HW	85	56	91	68	124	46	68	42	43	68
WPB 936	HR	69	42	68	63	124	47	77	40	34	60
Yecora Rojo	HR	67	39	70	67	119	44	58	41	32	59
Average Yield 1998-2000 (bu/a)		79	53	82	67	113	47	74	42	41	65
Percent of average yield 1998-2000											
Alpowa (Gaucho)	SW	106	102	102	113	89	106	95	98	110	102
Alpowa (no Gaucho)	SW	108	106	102	103	99	109	96	90	110	103
IDO 377S	HW	103	109	109	107	100	102	119	102	98	106
Jefferson	HR	110	104	90	101	95	111	100	117	100	103
Penawawa (30 seeds/ft ²)	SW	90	109	101	103	104	104	99	83	95	100
Pomerelle	SW	109	115	110	95	107	89	105	98	112	105
Scarlet	HR	105	91	101	100	88	94	97	110	95	98
Wawawai	SW	95	104	100	90	88	96	107	112	107	97
Whitebird	SW	97	106	107	93	101	94	114	95	98	102
Winsome	HW	108	106	111	101	110	98	92	100	105	105
WPB 936	HR	87	79	83	94	110	100	104	95	83	92
Yecora Rojo	HR	85	74	85	100	105	94	78	98	78	91

¹All seed was treated with fungicide and insecticide (Gaucha) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot for all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²SW=soft white, HW=hard white, HR=hard red.

Table 10. — 2000 statewide variety testing program, spring grain test weight across locations in Oregon.

Variety or line ¹	Market class ²	Location											Average	Across site % of average
		Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soils	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio		
		Test weight (lb/bu)												
Alpowa	SW	64.3	61.8	60.7	60.6	61.8	61.6	63.0	61.7	64.8	63.2	63.3	62.4	102
Alpowa (no Gaucho)	SW	64.0	61.5	60.5	58.7	61.5	61.2	62.7	62.1	64.6	63.1	63.3	62.1	102
Alpowa (untreated)	SW	63.4	60.1	61.8	57.9	61.8	60.9	62.9	62.5	64.8	62.6	63.5	62.0	101
Challis	SW	63.0	59.7	59.8	59.7	60.2	61.1	61.8	61.6	65.0	61.5	62.2	61.4	100
Hank	HR	63.5	60.5	60.0	59.5	59.7	61.9	63.2	61.0	63.7	63.3	63.5	61.8	101
IDO 377S	HW	61.8	59.0	62.0	59.3	60.9	62.4	63.7	62.9	64.5	63.3	62.6	62.0	101
IDO 506	SW	63.2	59.3	61.2	57.9	61.4	60.0	62.9	61.0	64.8	62.3	62.8	61.5	101
IDO 526	SW	64.9	61.8	60.9	59.6	60.0	61.7	63.3	61.4	64.9	62.6	63.0	62.2	102
IDO 560	HW	63.0	62.5	62.2	61.0	60.4	63.0	63.1	62.3	63.8	62.0	61.4	62.3	102
Iona	HR	64.7	60.5	62.3	59.9	60.7	59.6	63.5	62.1	63.3	62.7	63.7	62.1	101
Jefferson	HR	63.6	60.2	62.1	61.7	60.3	63.0	64.0	62.9	63.6	63.5	62.8	62.5	102
Jubilee (IDO 525)	SW	63.6	61.5	61.8	57.6	61.6	62.1	63.0	62.4	64.1	62.6	62.5	62.1	101
Lolo (IDO 533)	HW	63.9	62.4	62.1	59.4	60.6	63.2	64.8	62.8	65.0	63.0	63.0	62.8	103
ML 037A(5-2)	SW	63.2	60.0	59.4	59.8	59.4	60.6	62.1	59.5	61.2	61.5	63.7	61.0	100
ML 455	HW	63.4	59.8	60.1	58.4	59.5	57.6	62.6	59.9	63.9	61.0	63.6	60.9	99
OR 4870410	HR	61.2	60.4	60.5	55.9	59.6	61.4	62.9	59.2	64.5	62.1	62.8	60.9	100
OR 4880189	HR	63.9	61.1	61.7	60.6	60.1	61.3	64.2	61.2	64.9	63.0	63.4	62.3	102
OR 4920311	HW	63.4	61.4	60.4	56.6	59.1	61.5	64.1	61.2	63.5	62.2	62.8	61.5	100
OR 4970025	SW	64.6	60.5	61.8	60.9	60.7	62.0	62.2	61.8	64.1	62.1	64.4	62.3	102
OR 4970039	SW	60.9	59.0	60.1	55.2	56.8	59.8	61.4	57.6	64.6	59.8	61.1	59.7	98
OR 4970062	SW	64.6	62.3	59.9	60.4	60.6	62.3	62.7	60.6	65.0	63.2	62.7	62.2	102
OR 942885	SW	64.3	62.3	61.8	61.2	60.8	61.9	63.2	62.8	65.3	63.1	63.8	62.8	103
Penawawa (20 seeds/ft ²)	SW	63.3	60.3	58.2	58.8	59.4	59.8	63.0	61.9	62.5	60.9	62.7	61.0	100
Penawawa (30 seeds/ft ²)	SW	62.9	60.7	58.8	58.8	59.9	59.5	63.3	62.4	63.7	61.4	62.6	61.3	100
Pomerelle	SW	62.0	60.6	62.2	56.1	57.2	61.4	61.8	59.1	63.7	62.4	62.6	60.8	99
Scarlet	HR	64.5	61.2	61.0	58.1	59.9	59.8	63.3	59.6	60.8	62.3	63.5	61.3	100
Tara (WA 7824)	HR	64.1	57.8	59.8	61.4	60.5	59.7	64.0	62.1	65.0	62.8	63.5	61.9	101
Treasure	SW	63.2	61.6	61.0	51.3	58.7	61.6	62.6	59.5	64.4	62.6	63.5	60.9	99
Wawawai	SW	64.8	61.5	59.0	56.8	60.3	60.6	63.8	61.4	63.4	63.1	63.5	61.7	101
Whitebird	SW	63.6	62.2	60.4	59.7	59.5	62.1	62.8	62.0	64.6	62.7	62.9	62.0	101
Winsome	HW	63.3	61.2	60.4	59.3	59.8	62.1	63.0	60.3	64.3	61.9	62.6	61.7	101
WPB 936	HR	63.4	59.1	59.1	57.9	60.1	60.3	63.3	61.9	64.5	62.8	63.4	61.4	100
Yecora Rojo	HR	64.2	59.1	62.3	60.6	60.0	63.4	64.5	63.3	63.7	64.2	63.7	62.6	102
Zak (WA 7850)	SW	63.5	60.8	61.1	55.4	59.5	60.6	62.4	60.5	62.7	62.6	62.6	61.1	100
Bonus	HR	—	—	—	—	—	—	63.6	—	—	—	—	—	—
Brooks	HR	—	—	—	—	—	—	64.8	—	—	—	—	—	—
California Red	Oat	—	—	—	—	—	—	—	—	—	—	35.6	—	—

Table 10 continued. — 2000 statewide variety testing program, spring grain test weight across locations in Oregon.

Variety or line ¹	Market class ²	Location											Average	Across site % of average
		Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soils	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio		
		Test weight (lb/bu)												
Cayuse	Oat	—	—	—	—	—	—	—	—	—	—	36.9	—	—
Express	HR	—	—	—	—	—	—	62.9	—	—	—	—	—	—
Gabo	Triticale	—	—	—	—	—	—	57.9	—	—	—	—	—	—
Jay	Oat	—	—	—	—	—	—	—	—	—	—	38.9	—	—
Kanota	Oat	—	—	—	—	—	—	—	—	—	—	39.0	—	—
Kargo	Triticale	—	—	—	—	—	—	59.5	—	—	—	—	—	—
Lamont	Oat	—	—	—	—	—	—	—	—	—	—	46.4	—	—
Lars	HR	64.2	—	—	—	—	60.5	—	—	—	—	—	—	—
M94-4393	Triticale	—	52.3	54.0	51.6	—	55.9	60.0	55.1	61.0	58.6	58.6	—	—
Migo	Triticale	—	—	—	—	—	—	54.6	—	—	—	—	—	—
ML 037C(6-2)	SW	61.8	59.2	—	—	54.5	61.2	—	60.4	—	62.2	—	—	—
ML 107-184(2)	HW	61.9	—	—	—	—	—	62.8	—	—	—	—	—	—
ML 107-3,1	HW	64.7	61.1	—	—	59.1	59.9	63.0	60.3	—	62.4	—	—	—
Montezuma	Oat	—	—	—	—	—	—	—	—	—	—	38.9	—	—
Norlander	HR	61.8	—	—	—	—	61.4	—	—	—	—	—	—	—
Penawawa (10 seeds/ft ²)	SW	—	—	—	—	—	60.2	—	61.9	—	60.2	—	—	—
Penawawa (40 seeds/ft ²)	SW	63.5	61.4	60.1	60.1	58.8	—	62.6	—	64.1	—	62.5	—	—
PG 12111	Triticale	—	—	—	—	—	—	59.3	—	—	—	—	—	—
PG 2166	Triticale	—	—	—	—	—	—	58.1	—	—	—	—	—	—
PG 303	Triticale	—	—	—	—	—	—	59.4	—	—	—	—	—	—
PG 40611	Triticale	—	—	—	—	—	—	59.0	—	—	—	—	—	—
PG 61307	Triticale	—	—	—	—	—	—	57.2	—	—	—	—	—	—
Provena	Oat	—	—	—	—	—	—	—	—	—	—	53.1	—	—
Richard	Oat	—	—	—	—	—	—	—	—	—	—	39.4	—	—
Standard	HR	—	—	—	—	—	—	63.5	—	—	—	—	—	—
Trical 2700	Triticale	—	56.9	48.3	43.0	—	50.0	55.6	48.9	63.1	54.3	56.4	—	—
Vista oat	Oat	—	—	—	—	—	—	—	—	—	—	40.2	—	—
Wanad	Triticale	—	—	—	—	—	—	57.7	—	—	—	—	—	—
X-7468-5	Oat	—	—	—	—	—	—	—	—	—	—	37.5	—	—
Trial Mean		63.4	60.4	60.2	58.1	59.8	60.7	62.0	60.8	63.9	62.1	58.1(61.2/40.6*)		
CV		1	2	2	4	3	1	1	1	3	1	1		
PLSD (0.05)		1.0	2.1	1.7	3.4	3.1	1.3	1.2	1.2	NS ²	0.8	1.2		
PLSD (0.10)		0.8	1.7	1.4	2.8	2.6	1.1	1.0	1.0	NS	0.6	1.0		
Pr>F		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.00	0.00		

¹All seed was treated with fungicide and insecticide (Gaucha) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot for all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²SW=soft white, HW=hard white, HR=hard red, NS=Nonsignificant interaction.

*Due to large differences in test weight, first number is average of wheat and triticale, second number is average of oats.

Table 11. —2000 statewide variety testing program, spring grain protein across locations in Oregon.

Variety or line ¹	Market class ²	Location											Average	Across site % of average
		Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soils	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio		
		Protein % (12% moisture)												
Alpowa	SW	9.5	11.9	11.7	11.6	10.9	11.0	9.7	9.6	9.2	12.1	10.1	10.7	94
Alpowa (no Gaucho)	SW	10.3	12.1	11.5	11.9	11.6	11.2	8.8	9.1	10.2	12.3	10.2	10.8	96
Alpowa (untreated)	SW	9.8	12.2	12.2	12.8	11.3	11.6	9.8	9.2	10.0	12.3	10.2	11.0	98
Challis	SW	9.7	11.8	12.1	11.3	11.4	11.6	8.3	9.6	9.9	12.2	10.2	10.7	95
Hank	HR	11.9	13.1	14.4	14.5	13.7	13.8	10.7	12.1	12.1	14.1	12.7	13.0	115
IDO 377S	HW	9.9	13.4	13.1	12.7	12.7	12.5	12.2	10.4	10.8	13.3	11.5	12.1	107
IDO 506	SW	10.2	12.4	11.7	11.8	11.4	12.5	9.1	9.8	9.1	12.7	10.5	11.0	98
IDO 526	SW	11.0	11.5	11.2	11.3	11.0	10.9	8.7	9.4	9.9	11.5	10.3	10.6	94
IDO 560	HW	11.0	12.2	11.7	11.9	12.7	11.4	10.3	10.7	10.3	13.2	10.2	11.4	101
Iona	HR	12.4	13.9	14.3	14.5	13.9	14.0	13.1	11.8	12.2	15.0	12.5	13.4	119
Jefferson	HR	12.0	14.0	13.8	14.1	13.7	13.0	11.2	11.5	11.4	14.2	12.6	12.8	114
Jubilee (IDO 525)	SW	9.8	12.0	11.7	11.3	11.3	11.6	9.2	10.2	10.0	12.7	10.6	10.9	97
Lolo (IDO 533)	HW	11.7	12.9	13.0	12.9	12.6	12.1	10.8	10.9	11.4	13.6	11.2	12.1	107
ML 037A(5-2)	SW	10.8	13.1	12.4	11.3	12.2	12.8	9.2	10.9	10.5	12.8	11.2	11.6	102
ML 455	HW	10.4	12.8	13.0	12.1	12.1	13.1	10.0	10.7	10.8	13.5	10.5	11.7	104
OR 4870410	HR	11.5	12.9	13.8	14.1	12.4	12.7	10.9	11.4	10.6	13.4	11.9	12.3	109
OR 4880189	HR	12.3	13.8	13.7	13.8	12.5	12.5	10.7	11.7	11.7	14.8	12.6	12.7	113
OR 4920311	HW	10.9	12.8	12.9	12.2	12.9	11.9	10.1	11.2	10.2	13.0	11.3	11.8	104
OR 4970025	SW	12.0	12.4	13.2	12.5	12.0	12.1	11.1	10.8	10.9	14.0	11.3	12.0	106
OR 4970039	SW	10.2	12.0	11.6	11.9	12.2	11.7	9.6	10.5	9.2	12.6	10.8	11.1	98
OR 4970062	SW	10.8	12.4	12.4	13.9	12.7	11.7	10.0	11.1	10.5	13.7	11.2	11.9	105
OR 942885	SW	11.1	12.9	13.4	12.8	12.9	12.7	10.4	10.9	10.1	14.1	11.6	12.1	107
Penawawa (20 seeds/ft ²)	SW	10.3	12.6	13.1	11.5	12.2	13.0	8.9	10.7	8.8	13.8	11.3	11.5	102
Penawawa (30 seeds/ft ²)	SW	10.2	12.9	13.0	11.9	11.8	12.5	8.9	10.3	9.0	13.5	10.7	11.3	100
Pomerelle	SW	9.6	12.1	11.0	11.8	12.3	11.8	9.0	10.3	9.2	11.6	10.0	10.8	95
Scarlet	HR	11.6	14.0	14.4	15.5	13.7	14.2	12.3	12.2	12.1	14.1	13.4	13.4	119
Tara (WA 7824)	HR	12.6	14.3	14.9	14.8	13.3	14.2	11.5	11.7	11.8	14.2	13.1	13.3	118
Treasure	SW	10.1	12.3	11.1	11.6	12.9	11.7	9.3	10.8	8.9	11.9	9.9	10.9	97
Wawawai	SW	10.6	12.0	12.1	12.3	11.8	11.7	10.4	10.4	9.5	13.0	10.7	11.3	100
Whitebird	SW	9.7	11.8	11.2	11.8	11.8	11.8	11.5	10.2	9.9	12.1	10.1	11.1	98
Winsome	HW	10.6	12.6	12.2	11.9	12.1	12.4	10.6	10.2	10.1	12.6	10.3	11.4	101
WPB 936	HR	12.5	13.7	16.2	15.5	14.2	13.8	11.1	12.6	12.1	15.1	14.2	13.7	121
Yecora Rojo	HR	12.1	13.3	14.7	14.3	13.8	14.3	11.4	12.6	11.9	15.7	13.5	13.4	119
Zak (WA 7850)	SW	10.1	13.0	12.0	11.9	11.4	11.7	9.2	10.3	9.2	11.4	10.9	11.0	97
Bonus	HR	—	—	—	—	—	—	10.6	—	—	—	—	—	—
Brooks	HR	—	—	—	—	—	—	10.7	—	—	—	—	—	—
California Red	Oat	—	—	—	—	—	—	—	—	—	—	16.3	—	—

Table 11 continued. —2000 statewide variety testing program, spring grain protein across locations in Oregon.

Variety or line ¹	Market class ²	Location											Average	Across site % of average
		Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soils	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio		
		Protein % (12% moisture)												
Cayuse	Oat	—	—	—	—	—	—	—	—	—	—	14.0	—	—
Express	HR	—	—	—	—	—	—	12.7	—	—	—	—	—	—
Gabo	Triticale	—	—	—	—	—	—	8.9	—	—	—	—	—	—
Jay	Oat	—	—	—	—	—	—	—	—	—	—	18.0	—	—
Kanota	Oat	—	—	—	—	—	—	—	—	—	—	17.6	—	—
Kargo	Triticale	—	—	—	—	—	—	8.5	—	—	—	—	—	—
Lamont	Oat	—	—	—	—	—	—	—	—	—	—	18.4	—	—
Lars	HR	12.4	—	—	—	—	13.3	—	—	—	—	—	—	—
M94-4393	Triticale	—	12.2	11.8	11.4	—	14.2	9.0	13.2	9.8	11.2	10.5	—	—
Migo	Triticale	—	—	—	—	—	—	9.1	—	—	—	—	—	—
ML 037C(6-2)	SW	11.1	13.1	—	—	13.2	13.0	—	10.7	—	12.5	—	—	—
ML 107-184(2)	HW	11.3	—	—	—	—	—	10.8	—	—	—	—	—	—
ML 107-3,1	HW	11.0	12.8	—	—	11.7	13.1	11.2	10.9	—	14.0	—	—	—
Montezuma	Oat	—	—	—	—	—	—	—	—	—	—	17.4	—	—
Norlander	HR	13.7	—	—	—	—	15.0	—	—	—	—	—	—	—
Penawawa (10 seeds/ft ²)	SW	—	—	—	—	—	12.9	—	10.5	—	14.1	—	—	—
Penawawa (40 seeds/ft ²)	SW	10.6	12.4	12.4	11.4	12.6	—	9.6	—	10.1	—	10.9	11.3	100
PG 12111	Triticale	—	—	—	—	—	—	10.1	—	—	—	—	—	—
PG 2166	Triticale	—	—	—	—	—	—	9.3	—	—	—	—	—	—
PG 303	Triticale	—	—	—	—	—	—	9.2	—	—	—	—	—	—
PG 40611	Triticale	—	—	—	—	—	—	8.9	—	—	—	—	—	—
PG 61307	Triticale	—	—	—	—	—	—	8.7	—	—	—	—	—	—
Provena	Oat	—	—	—	—	—	—	—	—	—	—	16.6	—	—
Richard	Oat	—	—	—	—	—	—	—	—	—	—	16.2	—	—
Standard	HR	—	—	—	—	—	—	9.8	—	—	—	—	—	—
Trical 2700	Triticale	—	12.3	11.5	11.8	—	13.7	9.2	12.3	9.8	10.6	9.3	—	—
Vista oat	Oat	—	—	—	—	—	—	—	—	—	—	15.9	—	—
Wanad	Triticale	—	—	—	—	—	—	8.2	—	—	—	—	—	—
X-7468-5	Oat	—	—	—	—	—	—	—	—	—	—	15.3	—	—
Trial Mean		10.9	12.7	12.7	12.6	12.4	12.6	10.0	10.8	10.4	13.1	12.3 (11.3 / 16.6*)		
CV		6	3	4	3	4	4	10	4	7	5	8		
PLSD (0.05)		1.0	0.6	0.7	1.6	1.2	0.7	0.7	0.7	1.7	0.8	0.8		
PLSD (0.10)		0.8	0.5	0.6	0.6	0.7	0.6	1.4	0.6	0.97	0.8	1.3		
Pr>F		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

¹All seed was treated with fungicide and insecticide (Gaucho) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot for all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²SW=soft white, HW=hard white, HR=hard red.

*Due to large differences in grain protein, first number is average of wheat and triticale, second number is average of oats.

Table 12. — 2000 statewide variety testing program, spring barley day of the year heading and heights across locations in Oregon.

Variety or line ¹	Market class ²	Corvallis	K-Falls mineral soil	K-Falls organic soils	Madras	Ontario	K-Falls mineral soil	K-Falls organic soil	Madras	Ontario	Scio
Heading (day of year)						Plant height (inches)					
Bancroft	2RM	161	177	201	167	153	35	30	25	33	35
Baronesse	2RF	163	177	203	168	153	27	29	27	33	33
BCD 47 (Othello)	2RF/M	161	177	199	168	159	24	41	18	29	31
Belford	Hooded	161	175	203	166	149	39	33	36	41	29
Chinook	2RM	163	177	203	168	153	34	32	24	35	29
Farmington (WA9504-94)	2RF/M	167	179	204	173	162	30	30	24	31	23
H3860224	2RF/M	164	177	199	171	155	32	30	24	33	28
Harrington	2RM	164	177	199	167	157	32	33	25	33	28
Orca	2RF	160	172	201	164	153	33	28	30	36	28
Sara-I	Hooded	157	173	199	165	151	38	34	34	39	28
Steptoe	6RF	157	172	196	167	155	30	35	27	37	27
Tango	6RF	157	174	197	163	153	33	28	35	37	26
Valier	2RF	162	177	203	168	157	31	32	30	37	24
Xena (BZ594-19)	2RF	161	176	200	168	159	32	32	27	34	22
B-1202	2RF/M	166	177	204	—	—	31	30	—	—	—
DA587-124	6RF/M	—	174	199	—	—	22	26	—	—	—
Galena	2RM	—	179	201	—	—	28	33	—	—	—
Gallatin	2RF	—	—	—	—	—	—	—	—	—	—
Garnet	2RM	163	177	203	169	158	29	30	29	37	29
Gus	6RF	—	175	203	—	—	24	30	—	—	—
Jersey	2RF	165	178	200	—	—	28	41	—	—	—
Millennium	6RF	—	—	—	—	154	—	—	—	34	—
Morex	6RM	156	175	—	—	—	40	—	—	—	—
Nebula	6RF	—	177	199	—	—	30	31	—	—	—
Sprinter	6RF	169	181	201	—	—	27	32	—	—	—
Statehood	6RF	—	174	196	—	—	32	30	—	—	—
UC 960	—	—	173	202	—	—	25	27	—	—	—
Washford	2RF	161	—	—	—	—	—	—	—	—	—
Westford	Hooded	—	—	—	—	—	—	—	—	—	23
Trial Mean		162	176	201	168	155	31	32	28	35	28

¹All seed was treated with fungicide and Gaucho (insecticide) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot.²2R=two-row, 6R=six-row, F=feed, M=malt, F/M=may be considered for malt.

Table 13. — 2000 statewide variety testing program, spring barley grain yield across locations in Oregon.

Variety or line ¹	Market class ²	Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soils	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	Average
Grain Yield (lb/a, 10% moisture)													
Bancroft	2RM	4617	3991	6355	5361	4951	1474	4097	3241	4282	2505	2887	3978
Baronesse	2RF	5110	4491	5852	4814	7242	2345	5273	3474	4945	2454	3615	4510
BCD 47 (Othello)	2RF/M	6793	4520	5721	3781	5937	1898	4497	3183	5226	2131	3217	4264
Belford	Hooded	2910	1150	3852	3413	3238	1543	3503	2040	2786	2049	2639	2648
Chinook	2RM	4536	3827	5421	3088	6474	1569	4309	3043	4676	1843	2766	3778
Farmington (WA9504-94)	2RF/M	5983	4152	6214	5861	5272	1961	4412	3701	6014	2465	2727	4433
Garnet	2RM	4349	3782	4965	3915	5093	1906	4854	3356	4751	2451	3093	3865
H3860224	2RF/M	5967	3911	5906	5446	6008	2312	4265	3249	5294	2495	3366	4384
Harrington	2RM	4766	3595	5188	4031	5239	1967	4481	3527	5051	2148	2953	3904
Orca	2RF	5694	4097	5500	5131	5389	2101	3772	2875	4102	2126	2473	3933
Steptoe	6RF	4498	3995	5140	4620	6791	2297	4417	3177	5027	1940	2661	4051
Tango	6RF	4965	4187	4935	4313	4695	2288	4736	3893	5337	1852	2405	3964
Valier	2RF	4072	3216	4775	3691	4199	2111	4676	3263	5356	2496	3377	3748
Xena (BZ594-19)	2RF	5997	4324	6048	4580	6490	2201	4837	3493	5312	2033	3546	4442
B-1202	2RF/M	5620	—	5074	4131	—	—	—	—	—	—	—	—
DA587-124	6RF/M	—	—	5308	3564	—	—	—	—	—	—	—	—
Galena	2RM	—	—	4841	3776	—	—	—	—	—	—	—	—
Gallatin	2RF	—	—	—	—	—	—	—	3265	—	—	—	—
Gus	6RF	—	—	4127	5923	—	—	—	—	—	—	—	—
Jersey	2RF	6633	—	5121	1940	—	—	—	—	—	—	—	—
Millennium	6RF	—	—	—	—	—	—	—	—	5594	—	—	—
Morex	6RM	4345	—	4861	—	—	—	—	—	—	—	—	—
Nebula	6RF	—	—	6692	5937	—	—	—	—	—	—	—	—
Sara-I	Hooded	4671	—	4221	5417	3634	955	1722	—	2007	866	2629	—
Sprinter	6RF	6377	—	3928	5270	—	—	—	—	—	—	—	—
Statehood	6RF	—	—	5050	5414	—	—	—	—	—	—	—	—
UC 960	—	—	—	4509	3663	—	—	—	—	—	—	—	—
Washford	2RF	2744	—	—	—	—	—	—	—	—	—	—	—
Westford	Hooded	—	—	—	—	—	—	—	—	—	—	2041	—
Trial Mean		5032	3803	5144	4462	5376	1929	4257	3252	4735	2124	2900	3977
CV		11	15	10	13	16	11	13	10	15	12	9	
PLSD (0.05)		940	943	857	922	1422	369	944	555	1145	411	450	
PLSD (0.10)		782	782	716	770	1181	306	784	461	952	341	374	
Pr>F		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

¹All seed was treated with fungicide and Gaucho (insecticide) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot at all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²2R=two-row, 6R=six-row, F=feed, M=malt, F/M=may be considered for malt.

Table 14. — 2000 statewide variety testing program, spring barley grain yield across locations in Oregon expressed as a percent of trial average.

Variety or line ¹	Market class ²	Corvallis	Hermiston	K-Falls	K-Falls	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	Average
				mineral soil	organic soil								
Yield as a percent of average													lb/a
Bancroft	2RM	92	105	124	120	92	76	96	100	90	118	100	3978
Baronesse	2RF	102	118	114	108	135	122	124	107	104	116	125	4510
BCD 47 (Othello)	2RF/M	135	119	111	85	110	98	106	98	110	100	111	4264
Belford	Hooded	58	30	75	76	60	80	82	63	59	96	91	2648
Chinook	2RM	90	101	105	69	120	81	101	94	99	87	95	3778
Farmington (WA9504-94)	2RF/M	119	109	121	131	98	102	104	114	127	116	94	4433
Garnet	2RM	86	99	97	88	95	99	114	103	100	115	107	3865
H3860224	2RF/M	119	103	115	122	112	120	100	100	112	117	116	4384
Harrington	2RM	95	95	101	90	97	102	105	108	107	101	102	3904
Orca	2RF	113	108	107	115	100	109	89	88	87	100	85	3933
Steptoe	6RF	89	105	100	104	126	119	104	98	106	91	92	4051
Tango	6RF	99	110	96	97	87	119	111	120	113	87	83	3964
Valier	2RF	81	85	93	83	78	109	110	100	113	118	116	3748
Xena (BZ594-19)	2RF	119	114	118	103	121	114	114	107	112	96	122	4442
B-1202	2RF/M	112	—	99	93	—	—	—	—	—	—	—	—
DA587-124	6RF/M	—	—	103	80	—	—	—	—	—	—	—	—
Galena	2RM	—	—	94	85	—	—	—	—	—	—	—	—
Gallatin	2RF	—	—	—	—	—	—	—	100	—	—	—	—
Gus	6RF	—	—	80	133	—	—	—	—	—	—	—	—
Jersey	2RF	132	—	100	43	—	—	—	—	—	—	—	—
Millennium	6RF	—	—	—	—	—	—	—	—	118	—	—	—
Morex	6RM	86	—	94	—	—	—	—	—	—	—	—	—
Nebula	6RF	—	—	130	133	—	—	—	—	—	—	—	—
Sara-I	Hooded	93	—	82	121	68	50	40	—	42	41	91	—
Sprinter	6RF	127	—	76	118	—	—	—	—	—	—	—	—
Statehood	6RF	—	—	98	121	—	—	—	—	—	—	—	—
UC 960	—	—	—	88	82	—	—	—	—	—	—	—	—
Washford	2RF	55	—	—	—	—	—	—	—	—	—	—	—
Westford	Hooded	—	—	—	—	—	—	—	—	—	—	70	—
Trial mean yield (lb/a)		5032	3803	5144	4462	5376	1929	4257	3252	4735	2124	2900	—

¹All seed was treated with fungicide and Gaucho (insecticide) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot at all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²2R=two-row, 6R=six-row, F=feed, M=malt, F/M=may be considered for malt.

Table 15. — 1999 statewide variety testing program, spring barley grain yield across locations in Oregon.

Variety or line ¹	Market class ²	Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soil	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	Average	11-site % of average
Grain Yield (lb/a, 10% moisture)														
Bancroft	2RM	5864	3796	4198	4136	1989	1176	4946	3093	3168	2943	3573	3535	88
Baronesse	2RF	6902	5416	5048	5427	2388	1592	6921	3495	5328	3070	4125	4519	112
BCD 12	2RF/M	6552	5581	3899	4607	3243	1118	4535	3259	4384	2577	3481	3930	98
BCD 22	2RF/M	6118	4926	4113	5277	3161	1266	5346	3455	4836	2815	3552	4079	101
Chinook	2RM	6117	3610	3995	4247	2754	1374	6101	3322	5104	2817	3757	3927	97
Farmington (WA9504-94)	2RF	6597	5540	4067	5833	3425	1264	6416	3110	5177	2591	3278	4300	107
MT920073	2RF/M	6268	3684	4406	4551	2772	1452	6036	3583	5104	3173	3150	4016	100
Orca	2RF/M	4897	2994	3454	5169	3281	1314	4898	3071	4425	2801	2701	3546	88
Steptoe	6RF	6525	3290	4682	4589	1650	1421	6227	3641	4531	3068	3191	3892	97
Tango	6RF	5981	3425	4276	3727	1770	1341	5984	3617	5077	2858	2820	3716	92
Valier	2RF	6607	4346	4153	4919	2318	1525	5972	3284	5431	3010	3606	4106	102
Xena	2RF	6866	4138	4619	4929	2660	1629	6798	3343	5541	3122	3979	4329	107
BCD 47 (Othello)	2RF/M	6181	4158	4145	—	3718	1336	5768	2994	4424	2680	3482	—	—
C-32	2RM	—	5190	4163	—	—	—	6360	—	4891	—	—	—	—
Galena	2RM	—	5262	4008	5603	—	—	6200	—	4401	—	—	—	—
Idagold	2RF	—	6217	4051	—	—	—	6740	—	5316	—	—	—	—
B 1202	2RF/M	—	—	3983	4976	—	—	—	—	—	—	—	—	—
Gallatin	2RF	—	—	4066	4504	—	—	—	—	—	—	—	—	—
Gus	6RF	—	—	3226	5736	—	—	—	—	—	—	—	—	—
Gustoe	6RF	—	—	3494	5941	—	—	—	—	—	—	—	—	—
Trial Mean		6260	4473	4101	4951	2702	1370	5953	3328	4856	2886	3438	4029	
CV		374	1000	732	803	816	157	1064	297	NS ²	NS	659	avg	
PLSD (0.05)		310	831	609	668	676	130	884	246	NS	NS	546		
PLSD (0.10)		4	13	11	10	18	7	11	5	21	9	11		
Pr>F		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.71	0.15	0.01		

¹All seed was treated with fungicide and Gaucho (insecticide) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot at all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²2R=two-row, 6R=six-row, F=feed, M=malt, F/M=may be considered for malt, NS=nonsignificant interaction.

Table 16. — 1998-2000 spring barley grain yield across locations in Oregon.

Variety or line ¹	Market class ²	Corvallis	Hermiston	K-Falls mineral soil	LaGrande	Lexington ³	Madras	Moro ³	Ontario	Pendleton	Scio	Average
Yield (lb/a, 10% moisture)												
1998												
Bancroft	2RM	4156	3936	4670	4086	—	3787	—	2522	3894	3019	3759
Baronesse	2RF	4203	4147	4726	4070	—	4083	—	3278	3414	2877	3850
Chinook	2RM	3896	3873	4859	3299	—	3319	—	1717	3773	2633	3421
Orca	2RF	3841	3071	4938	3557	—	2663	—	3526	4320	3266	3648
Steptoe	6RF	2759	3349	4712	3903	—	3922	—	1765	3946	3077	3429
1998 trial average yield (lb/a)		3722	3602	4535	3928	—	4411	—	2753	3959	2961	3734
1999												
Bancroft	2RM	5864	3796	4198	1989	1176	4946	3093	3168	2943	3573	3475
Baronesse	2RF	6902	5416	5048	2388	1592	6921	3495	5328	3070	4125	4429
Chinook	2RM	6117	3610	3995	2754	1374	6101	3322	5104	2817	3757	3895
Orca	2RF	4897	2994	3454	3281	1314	4898	3071	4425	2801	2701	3384
Steptoe	6RF	6525	3290	4682	1650	1421	6227	3641	4531	3068	3191	3823
1999 trial average yield (lb/a)		6260	4473	4101	2702	1370	5953	3328	4856	2886	3438	3937
2000												
Bancroft	2RM	4617	3991	6355	4951	1474	4097	3241	4282	2505	2887	3840
Baronesse	2RF	5110	4491	5852	7242	2345	5273	3474	4945	2454	3615	4480
Chinook	2RM	4536	3827	5421	6474	1569	4309	3043	4676	1843	2766	3847
Orca	2RF	5694	4097	5500	5389	2101	3772	2875	4102	2126	2473	3813
Steptoe	6RF	4498	3995	5140	6791	2297	4417	3177	5027	1940	2661	3994
2000 trial average yield (lb/a)		5032	3803	5144	5376	1929	4257	3252	4735	2124	2900	3855
1998-2000 average												
Bancroft	2RM	4905	3811	4636	3274	—	4718	—	3635	3338	3193	3621
Baronesse	2RF	4978	3854	4727	3516	—	4832	—	3821	3227	3239	3704
Chinook	2RM	5004	3830	4781	3701	—	4849	—	3929	3107	3230	3725
Orca	2RF	5142	3847	4830	3862	—	4884	—	4112	2980	3218	3771
Steptoe	6RF	5192	3918	4846	4111	—	5019	—	4228	2797	3171	3817
Average yield 1998-2000 (lb/a)		5044	5044	3852	4764	—	3693	—	3945	3090	3693	3728
1998-2000 percent of trial average												
Bancroft	2RM	97	99	97	89	—	97	—	92	108	99	97
Baronesse	2RF	99	100	99	95	—	99	—	97	104	101	99
Chinook	2RM	99	99	100	100	—	99	—	99	101	101	100
Orca	2RF	102	100	101	105	—	100	—	104	96	100	101
Steptoe	6RF	103	102	102	111	—	103	—	107	91	99	102

¹All seed was treated with fungicide and Gaucho (insecticide) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot at all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²2R= two-row, 6R = six-row, F= feed, M = malt, F/M = may be considered for malt.

³Moro had high variability in 1998, making comparisons meaningless. Lexington was added in 1999.

Table 17. — 2000 statewide variety testing program, spring barley test weight across locations in Oregon.

Variety or line ¹	Market class ²	Corvallis	Hermiston	K-Falls	K-Falls	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	Average	11-site
				mineral soil	organic soils									% of average
Test weight (lb/bu)														
Bancroft	2RM	54.4	55.6	53.8	54.3	56.5	50.1	56.8	51.3	56.2	55.4	52.1	54.2	103
Baronesse	2RF	55.2	54.9	53.3	54.0	57.8	53.0	57.2	50.9	55.9	55.5	52.6	54.6	103
BCD 47 (Othello)	2RF/M	55.4	54.0	54.4	45.8	54.8	54.4	56.8	54.0	54.9	55.6	53.2	53.9	102
Belford	Hooded	44.3	47.6	45.5	51.2	49.0	46.2	51.6	42.9	50.1	50.3	43.7	47.5	90
Chinook	2RM	54.9	56.0	51.9	52.2	58.4	50.1	56.7	49.3	55.7	54.8	53.3	53.9	102
Farmington (WA9504-94)	2RF/M	54.0	53.5	53.5	53.3	56.1	50.1	56.6	51.6	55.3	55.4	51.5	53.7	102
Garnet	2RM	53.5	55.1	53.0	52.1	56.6	51.7	57.0	54.0	56.7	55.1	50.9	54.2	102
H3860224	2RF/M	55.0	55.6	54.4	51.0	57.1	52.2	57.0	53.9	57.1	56.6	53.8	54.9	104
Harrington	2RM	53.3	54.1	53.9	52.7	56.0	51.9	57.6	48.8	55.5	55.2	52.1	53.7	102
Orca	2RF	55.4	56.4	53.8	51.9	57.4	53.6	55.4	51.2	57.8	56.4	55.3	55.0	104
Steptoe	6RF	48.6	50.9	49.8	50.4	53.7	49.9	54.2	49.5	53.9	53.8	46.6	51.0	96
Tango	6RF	49.3	50.9	49.8	49.0	53.2	50.4	54.4	47.2	53.3	53.8	47.7	50.8	96
Valier	2RF	54.2	56.1	53.9	54.0	55.5	54.1	57.7	50.1	55.7	55.7	53.8	54.6	103
Xena (BZ594-19)	2RF	55.5	55.7	53.4	53.9	56.4	52.0	57.2	51.0	56.7	54.8	52.5	54.5	103
B-1202	2RF/M	53.6	—	51.7	52.0	—	—	—	—	—	—	—	—	—
DA587-124	6RF/M	—	—	51.8	50.9	—	—	—	—	—	—	—	—	—
Galena	2RM	—	—	52.1	54.5	—	—	—	—	—	—	—	—	—
Gallatin	2RF	—	—	—	—	—	—	—	49.9	—	—	—	—	—
Gus	6RF	—	—	49.6	54.2	—	—	—	—	—	—	—	—	—
Jersey	2RF	55.6	—	52.6	49.1	—	—	—	—	—	—	—	—	—
Millennium	6RF	—	—	—	—	—	—	—	—	54.2	—	—	—	—
Morex	6RM	51.2	—	52.3	—	—	—	—	—	—	—	—	—	—
Nebula	6RF	—	—	51.1	53.1	—	—	—	—	—	—	—	—	—
Sara-I	Hooded	46.3	—	49.2	51.4	52.5	46.6	51.3	—	50.6	52.4	43.0	—	—
Sprinter	6RF	52.9	—	49.7	52.9	—	—	—	—	—	—	—	—	—
Statehood	6RF	—	—	49.4	49.7	—	—	—	—	—	—	—	—	—
UC 960	—	—	—	47.4	50.3	—	—	—	—	—	—	—	—	—
Washford	2RF	41.3	—	—	—	—	—	—	—	—	—	—	—	—
Westford	Hooded	—	—	—	—	—	—	—	—	—	—	37.5	—	—
Trial Mean		52.1	54.0	51.7	51.8	55.3	51.0	55.8	50.3	54.9	54.7	49.9	52.9	—
CV		1	2	1	3	2	1	1	3	2	1	2		
PLSD (0.05)		0.9	1.5	1.1	2.4	2.0	1.0	0.8	2.3	1.8	1.3	1.4		
PLSD (0.10)		0.8	1.2	0.9	2.0	1.7	0.8	0.7	1.9	1.5	1.1	1.2		
Pr>F		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

¹All seed was treated with fungicide and Gaucho (insecticide) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot at all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²2R=two-row, 6R=six-row, F=feed, M=malt, F/M=may be considered for malt.

Table 18. — 2000 statewide variety testing program, spring barley protein across locations in Oregon.

Variety or line ¹	Market class ²	Corvallis	Hermiston	K-Falls mineral soil	K-Falls organic soils	LaGrande	Lexington	Madras	Moro	Ontario	Pendleton	Scio	Average	11-site % of average
Protein % (12% moisture)														
Bancroft	2RM	15.0	12.3	13.4	13.9	14.3	10.6	11.3	11.1	11.2	13.7	12.9	12.7	102
Baronesse	2RF	13.9	12.1	13.5	15.0	11.9	10.5	8.7	11.2	10.5	13.5	11.9	12.1	97
BCD 47 (Othello)	2RF/M	13.2	13.2	14.5	13.8	14.0	12.3	11.0	12.2	11.6	13.8	13.2	13.0	104
Belford	Hooded	14.6	12.9	13.6	15.8	14.6	11.3	11.1	12.1	11.0	12.9	12.6	13.0	104
Chinook	2RM	14.8	12.2	15.3	15.3	12.7	12.1	12.1	11.7	10.8	14.7	12.9	13.1	105
Farmington (WA9504-94)	2RF/M	12.5	12.3	14.1	14.2	13.4	11.9	9.3	11.7	9.7	13.8	12.9	12.3	99
Garnet	2RM	14.7	12.7	14.4	14.9	14.1	11.1	10.3	11.1	10.4	13.2	12.1	12.6	101
H3860224	2RF/M	13.9	12.1	14.2	13.1	13.3	11.1	11.9	13.0	10.5	12.9	11.7	12.5	100
Harrington	2RM	13.9	12.8	13.5	15.4	13.6	12.2	10.0	11.6	10.9	12.7	12.5	12.7	101
Orca	2RF	14.9	12.0	14.6	12.8	14.2	12.3	12.6	12.2	11.7	13.9	14.4	13.2	106
Steptoe	6RF	11.7	10.7	12.5	12.2	11.3	10.1	10.4	11.7	10.9	12.6	12.4	11.5	92
Tango	6RF	12.4	10.4	12.8	13.6	12.7	9.6	10.8	10.8	10.8	12.3	12.4	11.7	94
Valier	2RF	14.9	11.8	13.5	15.7	15.4	11.0	8.7	9.9	10.2	13.3	12.3	12.4	99
Xena (BZ594-19)	2RF	13.2	11.4	13.5	13.6	13.0	10.7	8.6	11.5	9.9	13.1	11.8	11.9	95
B-1202	2RF/M	13.2	—	15.2	15.3	—	—	—	—	—	—	—	—	—
DA587-124	6RF/M	—	—	13.2	12.7	—	—	—	—	—	—	—	—	—
Galena	2RM	—	—	14.9	15.4	—	—	—	—	—	—	—	—	—
Gallatin	2RF	—	—	—	—	—	—	—	11.7	—	—	—	—	—
Gus	6RF	—	—	13.8	12.8	—	—	—	—	—	—	—	—	—
Jersey	2RF	12.0	—	14.4	14.4	—	—	—	—	—	—	—	—	—
Millennium	6RF	—	—	—	—	—	—	—	—	9.5	—	—	—	—
Morex	6RM	13.8	—	15.0	—	—	—	—	—	—	—	—	—	—
Nebula	6RF	—	—	13.2	12.8	—	—	—	—	—	—	—	—	—
Sara-I	Hooded	14.6	—	14.6	13.8	15.1	12.3	12.3	—	13.0	15.7	13.5	—	—
Sprinter	6RF	11.8	—	14.5	14.2	—	—	—	—	—	—	—	—	—
Statehood	6RF	—	—	12.9	11.5	—	—	—	—	—	—	—	—	—
UC 960	—	—	—	13.7	14.0	—	—	—	—	—	—	—	—	—
Washford	2RF	15.2	—	—	—	—	—	—	—	—	—	—	—	—
Westford	Hooded	—	—	—	—	—	—	—	—	—	—	12.3	—	—
Trial Mean		13.7	12.1	14.1	14.0	13.5	11.2	10.6	11.5	10.7	13.4	12.6	12.5	
CV		4	5	4	3	7	6	10	8	9	5	3		
PLSD (0.05)		0.8	0.9	0.9	0.6	1.6	1.0	1.7	NS ²	1.5	1.0	0.5		
PLSD (0.10)		0.6	0.8	0.7	0.5	1.3	0.8	1.4	1.2	1.6	0.8	0.4		
Pr>F		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.01	0.00	0.00		

¹All seed was treated with fungicide and Gaucho (insecticide) prior to planting unless otherwise noted. Seeding rate was 30 seeds per square foot at all locations except Lexington, Pendleton, and Moro, where seeding rate was 20 seeds per square foot unless otherwise noted.

²2R=two-row, 6R=six-row, F=feed, M=malt, F/M=may be considered for malt, NS= nonsignificant interaction.

Table 19. — 2000 western regional spring oat data for Klamath Falls and Corvallis.

Variety or line ¹	Market class	K-Falls		K-Falls		K-Falls		K-Falls		Corvallis
		Corvallis	mineral soil	Corvallis	mineral soil	Corvallis	mineral soil	Corvallis	mineral soil	
		Grain Yield (lb/a)		Test weight (lb/bu)		Height (inches)		Heading (doy) ²		Protein ³
84 Ab 825	Oat	5425	6461	39.6	38.0	40	37	178	181	13.1
87 Ab 5125	Oat	5632	6232	39.7	41.0	36	35	176	176	13.4
87 Ab 5632	Oat	6125	5419	40.4	38.0	41	39	173	181	12.9
87 Ab 4983	Oat	5685	6108	40.0	42.0	34	44	172	180	13.6
89 Ab 4088	Oat	5386	7529	41.3	40.0	42	42	172	178	15.2
90 Ab 1620	Oat	5379	6729	39.6	41.0	37	35	177	180	15.0
90 Ab 1322	Oat	5570	4424	37.6	39.5	35	38	177	181	13.8
91 Ab 406	Oat	5803	5963	38.3	42.0	38	38	175	180	14.6
91 Ab 502	Oat	5880	6211	39.3	39.0	39	35	171	175	14.3
94 Ab 5543	Oat	5785	4424	41.9	39.5	39	42	176	181	14.7
95 Ab 10854	Oat	6057	6348	40.2	41.0	40	40	178	181	13.8
95 Ab 11633	Oat	3601	6137	38.7	40.0	40	41	178	182	17.4
95 Ab 12584	Oat	5572	6603	40.3	40.0	39	37	171	177	12.6
AbSP 19-9	Oat	5721	6649	40.7	43.0	41	43	177	181	14.0
AbSP 9-2	Oat	6162	6140	40.5	43.0	42	45	172	180	13.5
Ajay	Oat	5332	7023	38.3	41.0	33	32	175	180	15.6
Cayuse	Oat	5794	6181	40.0	41.0	42	42	176	179	14.6
CDC Pacer	Oat	6138	4830	40.1	39.5	47	48	173	181	13.1
Celsia	Oat	5589	5911	35.5	43.0	41	47	176	181	13.0
Derby	Oat	5401	7529	38.3	40.0	49	52	173	181	13.0
Monida	Oat	5618	7415	35.0	41.0	44	45	178	181	13.4
ND 930122	Oat	5841	6570	39.9	42.5	41	38	171	178	13.1
Otana	Oat	5965	7333	41.0	41.0	48	51	173	181	13.0
Powell	Oat	5719	6729	39.3	41.0	38	37	178	181	13.9
Rio Grande	Oat	5800	4653	38.2	36.0	39	40	172	178	14.2
X-7468-5	Oat	—	4928	—	39.0	—	44	—	177	—
Whitestone	Oat	5655	5702	41.7	42.0	39	43	173	181	13.7
Belford	Barley	3101	—	58.4	—	38	—	161	—	9.9
Belle	Oat	5302	—	41.7	—	42	—	172	—	13.5
BZ 593-152	Barley	3244	—	42.1	—	44	—	165	—	8.5
BZ 593-159	Barley	3572	—	40.1	—	38	—	163	—	8.9
California Red	Oat	1922	—	43.9	—	44	—	184	—	13.5
Curt	Oat	3947	—	56.4	—	33	—	163	—	14.0
Dirkwin	Wheat	4855	—	37.8	—	35	—	163	—	7.9
Gem	Oat	5449	—	40.1	—	43	—	170	—	15.3
Jay	Oat	5428	—	41.3	—	37	—	166	—	14.5
Kanota	Oat	3451	—	41.4	—	48	—	173	—	17.8
Lamont	Oat	4294	—	40.5	—	41	—	178	—	17.1
Merced Rye	Rye	3023	—	40.8	—	50	—	150	—	7.1
Montezuma	Oat	4244	—	37.4	—	39	—	167	—	15.3
P9213A2-2-4-4-3	Oat	5688	—	47.3	—	43	—	167	—	14.5
P94327A2-2-2-3-3	Oat	5134	—	41.6	—	35	—	159	—	16.6
Provena	Oat	3910	—	38.6	—	40	—	178	—	18.8
Richard	Oat	5719	—	45.1	—	49	—	171	—	13.7
Sara-I	Barley	3767	—	38.2	—	40	—	157	—	11.6
Sierra	Oat	4774	—	42.4	—	41	—	167	—	14.3
Swan	Oat	4404	—	41.9	—	37	—	158	—	14.1
Vista	Oat	5164	—	35.7	—	47	—	171	—	14.9
Washford	Barley	2920	—	37.2	—	37	—	161	—	10.4
Westford	Barley	3548	—	41.5	—	43	—	164	—	8.2
X-7468-5	Oat	5134	—	38.5	—	43	—	180	—	15.2
Trial Mean		4973	6174	40.7	40.5	41	41	171	179	13.6
CV		6	17	2	avg	avg	avg	avg	avg	6
PLSD (0.05)		470	963	1.4						1.2
PLSD (0.10)		393	805	1.2						1.0
Pr>F		0.00	0.00	0.00						0.00

¹Seeding rate was 30 seeds per square foot²Doy=day of year.³NIR protein 12% moisture.

Plant Variety Protection (PVP) Notice for the Wheat Variety Winsome

Oregon State University is applying for protection under the U.S. Plant Variety Protection Act for the wheat variety Winsome. PVP law grants OSU a number of ownership rights and restricts certain uses of this variety. OSU has chosen to exercise its legal options to ensure identity and ownership of this variety, but has extended to all interested parties the right to increase and sell certified generations of seed of Winsome. OSU is applying for PVP on Winsome with the Title 5 option, which means that seed of Winsome can be sold only as a class of certified seed. Please be aware that varieties protected by other institutions and private companies may carry additional legal restrictions on seed sales.

PVP Restrictions on the Wheat Variety Winsome

Oregon State University is legally recognized as both the developer and owner of the winter wheat variety Winsome.

Seed of Winsome may be sold by variety name only. "Variety not stated" or "brown bag" sales of seed are not allowed. Seed of Winsome may be sold only as a class of certified seed, per standards established by the Federal Seed Act, the Association of Official Seed Certifying Agencies (AOSCA), and your official state seed certifying agency. Sales of "common" or "brown bag" seed are prohibited.

OSU has chosen to make Winsome available by extending to all growers and seed dealers the right to produce and sell classes of certified seed while retaining other rights and restricting other uses as defined by the PVP Act. Growers may save their own seed whether or not a certified class, for replanting on their own farm, but may not sell seed unless it is a certified class. OSU will not collect a royalty on seed sales. There are no dealer licensing requirements.

The PVP Research Exemption allows for use of Winsome in crossing with other genetic stocks for research and cultivar development efforts. However, under PVP law, Winsome may not be used as a parent of a commercial hybrid cultivar without permission of the owner. Developing a new variety essentially derived from Winsome also is prohibited without permission. That means the variety may not be used as a recurrent parent in backcrossing, or used as a recipient for mutagenesis or other molecular genetic modification, without permission of the owner.

Varieties registered under the Plant Variety Protection Act carry the restrictions listed below. In practice, these restrictions are not uniform among PVP varieties, as owners choose to define "authorized seed dealer" differently. Regarding Winsome, OSU has chosen to extend to all interested growers the right to produce and sell certified classes of seed of Winsome while retaining other rights and restricting other uses as defined in the PVP Act.

General Provisions of Plant Variety Protection (PVP) Law

PVP establishes ownership of a plant variety.

Seed of a variety under PVP may be sold by variety name only. "Variety not stated" or "brown bag" seed sales are prohibited.

Seed may be sold only by authorized dealers, i.e., those authorized by the owner of the plant variety. Seed may be sold only as a class of certified seed when the Title 5 protection option is specified for a PVP variety.

Under the "PVP Grower Saved Seed Exemption," growers may save seed for replanting on their own farms, but may not sell or give seed to any other party.

Under the "PVP Research Exemption," a variety may be used in crosses with other genetic stocks for research and cultivar development efforts. The variety may not be used as a parent of a commercial hybrid cultivar without permission of the owner. Developing a new variety essentially derived from the original variety also is prohibited without permission. That means the variety may not be used as a recurrent parent in backcrossing, or used as a recipient for mutagenesis or other molecular genetic modification, without permission of the owner.

Violators may be prosecuted in court.

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