Agronomic Crop Variety Testing in Fairbanks, Alaska, 1948-2013

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Introduction

Agronomic crop variety testing has been conducted in Alaska ever since the Russians established agricultural villages in the early 1800s to support the activities of the Russian American Company. Ninilchik is the only remaining settlement of those original villages founded as agricultural stations. After Alaska became a territory of the United States, the United States Department of Agriculture (USDA) established the Alaska Agricultural Experiment Station (AAES) at Sitka and a number of farms to continue the evaluation and cultural development of agronomic crops in the territory. These included Sitka (1898-1932), Kodiak (1989-1925), Kenai (1898-1908), Rampart (1900-1925), Copper Center (1903-1908), Fairbanks (1906-present), and Matanuska (1917-present) (Hanscom 1998). Of these farms, Rampart on the Yukon River was the main location for testing and breeding agronomic crops at the beginning of the 20th century. Like the early Russian American Company agricultural station crops, many of the varieties tested were of Russian and Finnish origins. It was at Rampart that George W. Gasser of the Agricultural Research Service (USDA-ARS 1908-1928 and UAF 1928-1945) successfully bred the first agronomic crop for Alaska, 'Trapmar' (Rampart spelled backwards), a hooded, six-row, hulless spring forage barley released in 1920 (Wooding 1979). The selections that led to this new variety were also tested at the Fairbanks and Matanuska experiment farms to determine its suitability for production in all the major agricultural regions of the state. From the 1920s through the early 1960s, this was one of the standard varieties against which all other new barley varieties were compared across the state.

Since the early 1950s, the Matanuska Experiment Farm has been the location of all of the small grain plant breeding programs. Experimental breeding lines developed by USDA-ARS plant breeder Roscoe L. Taylor (1953-1987) were tested against the standard varieties for a number of years. Testing and evaluation of the breeding selections were also done at the Fairbanks Experiment Farm to determine the suitability of these new varieties for production in the interior of Alaska. This resulted in the eventual joint USDA-ARS/Agricultural and Forestry Experiment Station (AFES) release of 'Lidal' feed barley (1972), 'Weal' hooded barley (1978), 'Otal' feed barley (1981), 'Datal' feed barley (1981), and 'Thual' hulless barley (1981). Also released during this time were 'Nip' black oat (1957), 'Toral' yellow oat (1977), 'Ceal' yellow oat (1978), 'Gasser' hard red spring wheat (1953), 'Chena' hard red spring wheat (1975), 'Ingal' hard red spring wheat (1981), 'Nogal' hard red spring wheat (1981), 'Vidal' hard red spring wheat (1981), and 'Bebral' winter rye (1981). Of these varieties, 'Otal', 'Weal', 'Thual', 'Toral', and 'Ingal' became the new standard varieties for all new varieties that were tested in Alaska after the early 1980s (Van Veldhuizen et al., 2016).

Beginning in the late 1980s with the hiring of an AFES plant breeder, Steven M. Dofing (1988-1999), small grain variety evaluations were done at the Matanuska and Fairbanks experiment farms with an emphasis on determining the genetic diversity of small grains from around the circumpolar north. Information from the genetic diversity study led to crossing existing Alaska barley varieties with new northern European barley strains for improved vigor, yield, and quality. This resulted in the eventual AFES release of 'Finaska' feed barley (2001), 'Wooding' feed barley (2006), and 'Sunshine' hulless barley (2009) (Van Veldhuizen et al., 2014). The improved characteristics of 'Sunshine' have made it the new standard variety for hulless barley, replacing 'Thual' in the late 2000s (Van Veldhuizen et al., 2016).

With the release of 'Sunshine' hulless barley there has been an increased interest in growing grains in a small-scale garden setting for personal use in Alaska.*

For more information on growing grains on a small scale in Alaska, refer to the publication "Growing Small Grains in

*As judged by the authors' dramatically increased number of invitations to speak on the subject at conferences and by the receipt of requests (e-mails, phone calls, face-to-face visits) for more information on the grain after publications were released.

Your Garden" (AFES Circular 135) by Bob Van Veldhuizen (2010), which is available online through the publications link of the School of Natural Resources and Extension (SNRE) at www.uaf.edu/snre/research/publications/. Due to budget reductions, the plant breeding position has since been eliminated.

The Fairbanks Experiment Farm in the 1990s was the site where research was conducted concerning selections of open-pollinated oilseed varieties that are better adapted to Alaska growing conditions. These selections were tested against known oilseed varieties over a number of years for early maturity, high yields, and quality. This resulted in the eventual unofficial release in 2008 of 'Midnight Sun-flower', a dwarf open-pollinated oilseed sunflower (Van Veldhuizen, 2009), and in 2014 of 'Deltana', an open-pollinated Polish canola.

Crop breeding programs from around the circumpolar north have continually developed new varieties to improve yields, disease resistance, fertilizer use efficiency, and overall crop quality. As this work continues, testing varieties of traditional and nontraditional crops determines which varieties are best adapted to any particular climatic, soil, and geographic location within the state of Alaska. New varieties with a wide range of characteristics are selected for testing, with emphasis on early maturity because of Alaska's short growing season. Secondary characteristics that are used to select varieties for testing are the reported high yield and quality, because these characteristics reduce input costs and increase the value of the final product for the producer. The performance of selected new varieties is evaluated against the known performance of the standard varieties mentioned previously. These standard varieties are those that have consistently performed well at a given geographic location over several years. Older varieties are constantly being replaced with newer ones that have been shown to be better adapted to a particular geographic location.

Characteristics that are evaluated against those of the standard varieties are seed and, in some cases, forage or biomass yield (pounds/acre and bushels/acre), plant growth characteristics (percent lodging and plant height), quality (test weight in pounds/bushel), and maturity (growing degree days and date to 50% maturity). Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. That low temperature point for crops in this report is the freezing point of water, 32 degrees (F). The GDD calculation for each day is added to the preceding GDD value to determine the cumulative value over a given period. This cumulative value is used to determine the needed heat units for a particular crop or variety to reach a specific physiological growth stage. The time required for any variety to reach a specific physiologic growth stage can vary greatly from one year to another and from one location to another. This time frame, however, is correlated with the number of warm days or heat units received during each growing season. As an example, the typical number of days from planting to 50% physiological maturity is around 85 days for barley grown in Interior Alaska. This is about 2400 GDD. In a warm year, the number of days to 50% maturity might be only 80 days and in a cool year as much as 100 days, or a 20-day difference. However, GDD for both years would be very close to the average 2400 GDD.

There is no such thing as the perfect variety. Some varieties are adapted to a wide range of climatic and geographic locations while others are more specific in their adaptation. The change in elevation of a few hundred feet or a move of a few miles can have a considerable effect on the performance of any variety. Also, cultural practices such as tillage, fertilizer rates, planting date, seeding rate, pest control, and a multitude of other factors can also influence crop yields. This is especially noticeable in northern environments such as Alaska. Lack of successful maturity and yield of a specific variety or crop indicates that it is not well adapted to the climatic or geographic location in which it was tested. However, just because there was a crop failure of a specific variety does not mean that it might not be successfully grown somewhere within the state. The old adage, "If you don't like the weather here, wait five minutes or move five miles," holds true for the production of crops as well. However, the probability of success in attempting to produce those crops or varieties will likely be low.

Fairbanks Area Test Site Characteristics

Agronomic crop variety testing has been ongoing ever since the establishment of the Agricultural and Forestry Experiment Station, Fairbanks Experiment Farm on West Tanana Drive of the UAF campus in 1906. Originally, agronomic variety testing and fertilizer trials were divided into upland and lowland test sites. The upland sites were on West Ridge, where the current buildings are now, and the northeastern portion of the Georgeson Botanical Garden, then known as the Demonstration Garden.

UPLAND SITE

The main upland test site was located on the north side of West Tanana Drive on a southfacing 3-7% slope at an elevation of approximately 550 feet. This is a Fairbanks silt loam (Mulligan, 2004) that has been conventionally farmed for 100 years. This was the primary site where research into the evaluation of crop varieties was conducted up to the early 1960s. Varieties for evaluation were planted in a single row 20 feet long. The middle 16 feet were used for evaluation and yields. A rod as a unit of measure is 16 feet long, and so these plots were known as rod row plots. They were planted with a V-belt single-row seeder called a rod row seeder. All crops were planted into soil that had been summer fallowed

the previous season. Also, large quantities of animal manures have been added to the fields over the years, which has made the soil quite uniform, with high levels of available nitrogen, phosphorus, and potassium. This soil is a deep, well-drained, silty, micaceous loess that was originally vegetated by a white spruce/birch/aspen forest. The soil is slightly acidic with a pH range of around 5.5-5.8.

LOWLAND SITE

The lowland test site is located on the lower fields below the Alaska Railroad tracks south of West Tanana Drive. This site is a slightly south-facing 0-3% slope with an elevation of approximately 500 feet. Large-scale agronomic crop variety evaluations, seed increases, fertility trials, and tillage method experiments have been conducted here since the early 1920s. It is the current location for all agronomic crops studies and has been since the mid-1960s. This is a Tanana mucky silt loam (Mulligan, 2004) that was conventionally farmed for about 80 years. Similar to the upland site, large quantities of animal manures have been added to the fields over the years, which has made the soil quite uniform with high levels of available nitrogen, phosphorus, and potassium. This soil is a deep, poorly drained, silty, micaceous loess over alluvium in the floodplain of the Tanana River that was originally vegetated by a black spruce/birch/willow forest. There is permafrost at varying depths from 15 to 50 inches below the surface. At much greater depths there is a uniform layer of river gravels. When the native vegetation was cleared for farming, the permafrost table was lowered and drainage was improved significantly. Because of the gravel layer, there was not any significant thermokarst disturbance of the surface horizons from the melting permafrost, which resulted in a fairly level, highly productive soil.

There is a perched water table above the new permafrost table at about 27 feet deep and the main water table is located about 65 feet deep. This is an alluvial soil so there is a high concentration of calcium carbonate and calcium sulfate salts dissolved in the groundwater. These salts are brought to the surface by soil capillary rise because evaporation is greater than the precipitation in the area. These salts make the soil slightly alkaline to neutral in acidity, with a pH range of about 7.0-7.5.

The average date of planting for Fairbanks for the years 1948-2013 was May 14. Date of planting and fertilizer rate studies done by F.J. Wooding (1973) and C.W. Knight (1989) in Fairbanks found that planting in late May to early June can cause delayed maturity and reduced yields and test weights. On the other hand, it is important not to work this soil too early when it is still too wet because a hard surface crust can result and impede emergence. Also, soil temperatures in early May are around 40°F. Wet soils tend to be even colder. This causes delayed and uneven germination, resulting in poor stands.

For the Fairbanks area, the average total precipitation for the month of May for the years 1948-2013 was only 0.49 inch, with most of that falling in the last half of the month (Fig. 1). This means that most of the soil moisture needed for successful seed germination and seedling establishment comes from spring snowmelt or residual moisture from the previous year. The average cumulative GDD for the month of May in the Fairbanks area were 505 (degrees F) (Fig. 2). This is sufficient for germination and emergence of most cool-season small grains and oilseeds. Under average soil and weather conditions, 50% emergence usually occurs 7 to 10 days after planting. Planting on the average date will then result in an average 50% emergence on May 26. However, planting date and the following 50% emergence date are highly variable. They can be delayed in a cool, wet spring because soil conditions are too cold and wet for early tillage. By contrast, planting can occur early in a warm, dry spring, but there may be a delay in germination due to insufficient soil moisture.

Average June rainfall for the study period (1948-2013) was 1.35 inches with the precipitation events evenly scattered throughout the whole month (Fig. 1). Average cumulative GDD to the end of June were 1325 (Fig. 2). Among years, June does not appear to be as variable in GGD as May. By the last week of June through the first week in August, grain varieties usually have heads fully emerged from the flag leaf, and oilseed varieties will be in full flower. The seed begins to fill as nutrients are translocated. The actual time to 50% heading or flowering is highly dependent on the species. Average time to 50% headed for true grain varieties such as barley was June 28 (1266 GDD), oat was July 2 (1384 GDD), and wheat was August 1 (2268 GDD). Average time to 50% flowering for pseudo-cereals like buckwheat was July 3 (1422 GDD). Average time to 50% flowering for pulse crops like field peas was July 7 (1546 GDD). Average time to 50% flowering for oilseed varieties was June 29 for flax (1301 GDD), June 27 for canola (1237 GDD), and July 11 for sunflowers (1668 GDD). Even years that had a delay in germination and emergence will reach the 50% headed or flowering physiologic growth stage during this period.

July and August were the rainiest months for the study area. The average total precipitation was 1.70 inches for July and 1.64 inches for August (Fig. 1). The end of July resulted in an average of 2240 cumulative GDD and by the end of August the average was at 2984 cumulative GDD (Fig. 2). The accumulation of GDD for this period was relatively low because the average daily temperature decreased. By the end of August, there was even less of a variation between years in GDD compared with the previous months.

By late July to early August most of the crops had reached the 50% maturity physiologic growth stage. This is when the seed is mature enough to germinate but not yet ripe enough for harvest. Heavy precipitation events accompanied by high wind during this period can cause severe lodging of tall, weak-stemmed varieties. Lodging is the bending or breaking of grain

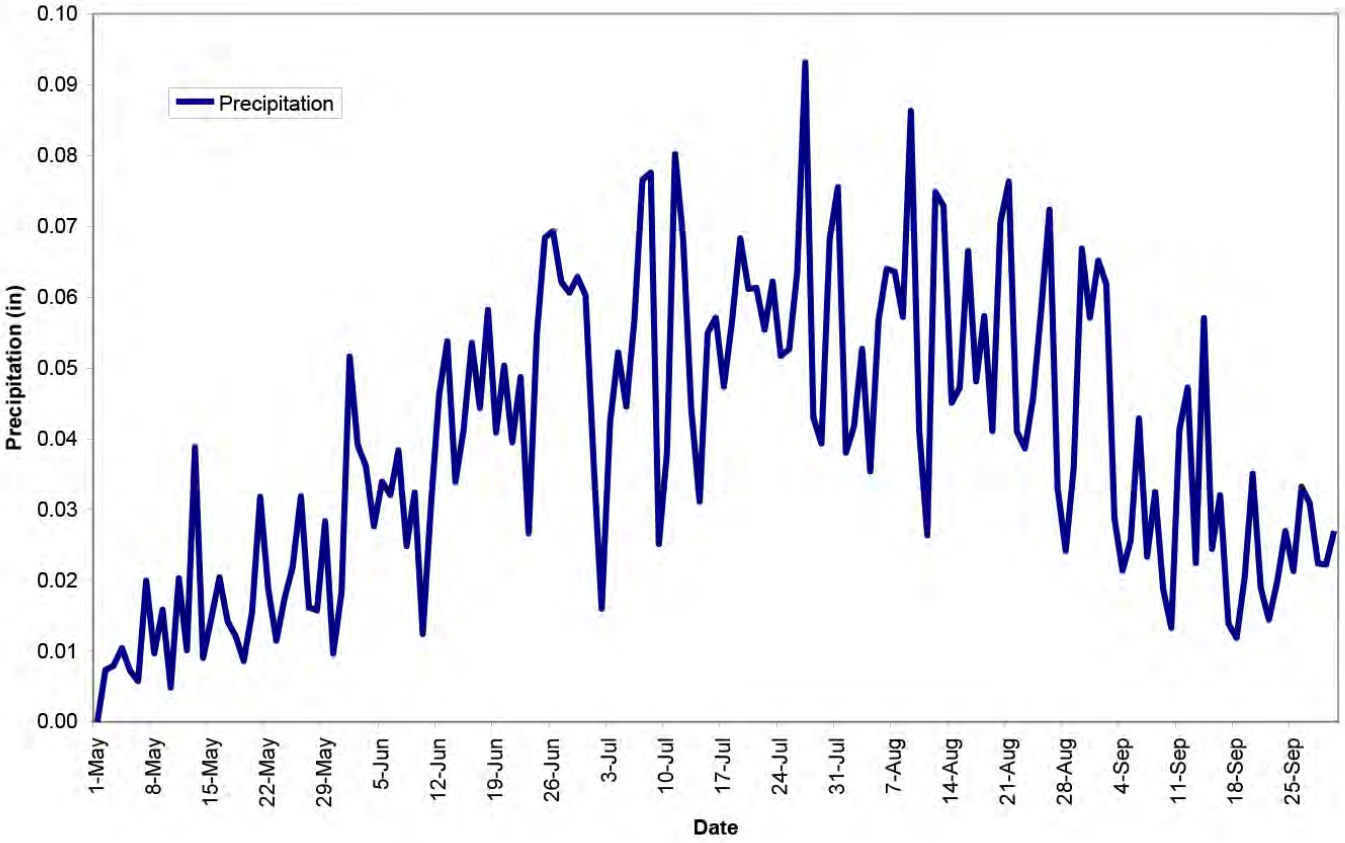

Figure 1. Average daily growing season precipitation for the Fairbanks area, 1948-2013.

stems that puts the seed heads near the ground, making harvest difficult.

Maturity for agronomic crops is defined as the point where the seed is physiologically mature. Given the right conditions, the seed is capable of germination at this time. However, the seed is not ripe and ready to harvest yet. The seed will still be very high in moisture content and can be easily damaged. The average time to 50% maturity for the Fairbanks area was August 10 with 2510 cumulative GDD. Like the date to 50% heading or flowering, the 50% maturity dates are variable depending on the species. In the Fairbanks area, average time to 50% maturity for true grain varieties such as barley was August 1 (2268 GDD), oat was August 8 (2457 GDD), and wheat was August 15 (2639 GDD). Average time to 50% maturity for pseudo-cereals like buckwheat was September 6 (3018 GDD). Average time to 50% maturity for pulse crops like field peas was August 5 (2373 GDD). Average time to 50% maturity for oilseed varieties was August 22 for flax (2794 GDD), August 15 for canola (2639 GDD), and September 7 for sunflowers (3102 GDD). Cooler temperatures can cause most grain to reach 50% maturity two weeks later than average.

September's average total precipitation for this period was 0.88 inches, with the greatest portion falling during the first half of the month (Fig. 1). An average of 3368 cumulative GDD occurred in September (Fig. 2).

In general, during late August to early September, the seed is ripening and losing moisture. Harvest can be scheduled when the seed has reached ripeness and has low moisture content. Individual precipitation events can delay harvest, but care must be taken not to delay too long because a precipitation event near the end of the month, such as a wet, heavy snow, can cause excessive lodging and make harvest impossible. Late August to early September is also when the first killing frosts can occur (temperatures below the freezing point of water). With late-maturing varieties or those that produce an abundance of late tillers, this can result in green, high-moisture seed at harvest and lower total yields.

Agronomic Crop Variety Trial Tables

This report provides basic information on small grain and oilseed variety testing conducted from 1948 through 2013 at the University of Alaska Fairbanks Agricultural and Forestry Experiment Station, Fairbanks Experiment Farm. It includes variety trial research done by the following Fairbanks Experiment Farm Agronomy Program leaders: John C.

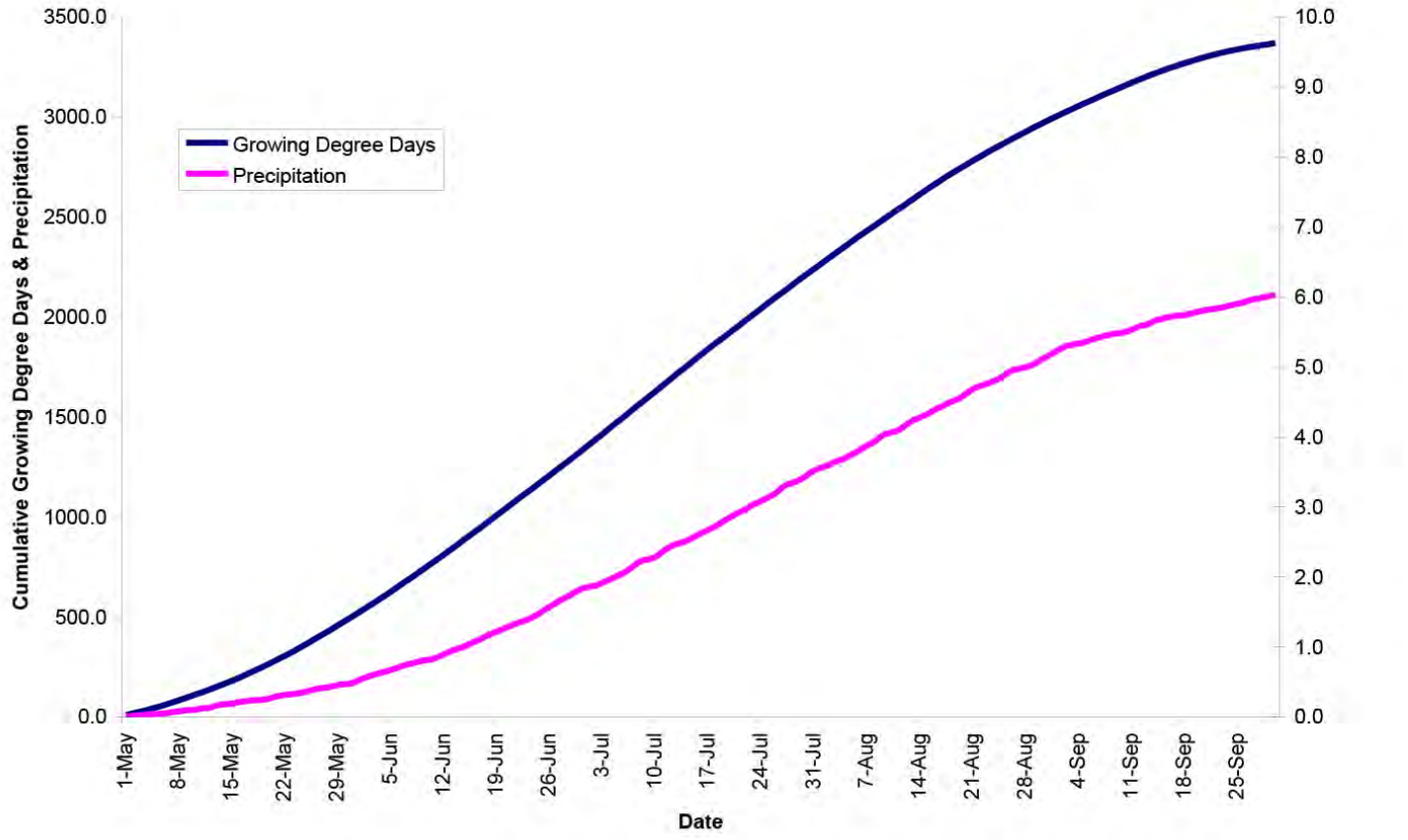

Figure 2. Average cumulative growing degree days and precipitation for the Fairbanks area, 1948-2013.

Brinsmade (1946-1964), Dr. Frank J. Wooding (1970-1993), Dr. Charles W. Knight (1978-2002), and Dr. Mingchu Zhang (2002-present). The crops are grouped into general sections based on the agronomic characteristics of the plant and on the potential success of producing a ripe, high-quality, high-yielding product.

- True cereal grain crops, which are annual grasses that form seed heads. The seeds are eaten whole or processed into flours.
- Pseudo-cereal crops, which are annual broad-leaved plants where the seed is treated similarly to cereal grains.
- Pulse crops, which are annual legumes with seed that is harvested dry at maturity (from the Latin *puls*, meaning porridge).
- Edible and industrial oilseed crops, which are annual broad-leaved plants with seeds high in extractable oils.
- Tuber-producing crops, which are annual broad-leaved plants that form edible tubers below ground (note that potatoes are not a part of this publication).

Each of the different crops are compared with a standard variety: 'Otal' barley, 'Toral' oat, 'Ingal' wheat, 'Pennquad' buckwheat, 'NorLin' flax, 'Express' field pea, 'Reward' Polish canola, and 'Midnight Sun-flower' dwarf sunflower. The comparisons include yields and growing degree days (GDD) to 50% maturity. In many cases there was no data collected because the variety or crop was not very well adapted to Alaska growing conditions. In these cases the notation N/D is given for no data.

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True Cereal Crops – Barley

Tanana Valley Barley Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Straw Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
					6-row feed, spring						
Abyssinian	Ethiopia	6	2096	44	57	50	N/D	57	7-Aug	11	2271.5
AC Albright	Alberta	14	4524	94	122	49	1706	53	26-Jul	-1	1940.3
AC Lacombe	Alberta	3	5892	123	160	46	N/D	27	5-Aug	9	2218.3
AC Stacey	Alberta	3	5249	109	142	46	N/D	22	6-Aug	10	2245.6
Acanthus	Sweden	1	2112	44	57	54	N/D	12	23-Jul	-4	1854.3
Agneta	Sweden	5	6008	125	163	47	N/D	18	1-Aug	5	2108.5
Alaska Black	Alaska	4	2352	49	64	52	N/D	70	8-Aug	12	2297.9
Algiers	Algeria	1	N/D	N/D	N/D	N/D	N/D	5	27-Jul	0	1968.8
Amy	Colorado	1	N/D	N/D	N/D	N/D	N/D	25	10-Aug	14	2350.1
Andie	India	1	N/D	N/D	N/D	N/D	N/D	85	26-Jul	-1	1940.3
Anoidium	Ontario	1	864	18	23	48	N/D	10	25-Jul	-2	1911.9
Arra	Finland	11	4338	90	117	46	N/D	31	29-Jul	2	2025.3
Arve	Finland	6	5769	120	156	47	N/D	14	31-Jul	4	2080.7
Asa	Sweden	7	990	21	27	50	N/D	54	28-Jul	1	1996.6
Asplund	Norway	11	2315	48	63	51	N/D	33	1-Aug	5	2108.5
Atlas 46	California	2	2232	47	60	49	N/D	15	26-Jul	-1	1940.3
Austrian Early	Austria	1	N/D	N/D	N/D	N/D	N/D	55	29-Jul	2	2025.3
Azure	Idaho	2	3469	72	94	46	N/D	33	2-Aug	6	2136.3
Baidori No. 10	Japan	2	N/D	N/D	N/D	N/D	N/D	0	3-Aug	7	2163.2
Baitori	Japan	1	N/D	N/D	N/D	N/D	N/D	N/D	7-Sep	42	2946.2
Bamse	Sweden	3	6114	127	166	48	N/D	10	2-Aug	6	2136.3
Barbless	Ontario	4	1277	27	35	47	N/D	50	4-Aug	8	2190.9
Bay	Michigan	4	1668	35	45	51	N/D	13	30-Jul	3	2053.2
Bedford	Manitoba	2	5280	110	143	44	N/D	5	24-Jul	-3	1883.4
Belli	Idaho	1	N/D	N/D	N/D	N/D	N/D	40	5-Aug	9	2218.3
Benghazi	Libya	6	1952	41	53	42	N/D	24	11-Aug	15	2376.1
Bere	Scotland	1	2698	56	73	36	N/D	95	30-Jul	3	2053.2
Bjarko Select 01009	Sweden	1	1776	37	48	51	N/D	10	21-Jul	-6	1795.6
Black Abyssinian	Ethiopia	1	N/D	N/D	N/D	N/D	N/D	25	26-Jul	-1	1940.3
Bode	Norway	4	4027	84	109	44	N/D	28	1-Aug	5	2108.5
Bohemia	Hungary	1	N/D	N/D	N/D	N/D	N/D	30	25-Jul	-2	1911.9
Bomnbori	Japan	1	N/D	N/D	N/D	N/D	N/D	15	19-Jul	-8	1737.9
Bongie	Algeria	1	N/D	N/D	N/D	N/D	N/D	N/D	20-Sep	55	3132.0
Bonneville	Utah	1	1248	26	34	48	N/D	0	1-Aug	5	2108.5
Br 3902	Ontario	3	N/D	N/D	N/D	N/D	N/D	37	8-Aug	12	2297.9
Br 6505-5	Ontario	2	N/D	N/D	N/D	N/D	N/D	35	6-Aug	10	2245.6

Tanana Valley Barley Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Straw Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Br 6505-21	Ontario	2	N/D	N/D	N/D	N/D	N/D	31	7-Aug	11	2271.5
Br 6505-31-1	Ontario	2	N/D	N/D	N/D	N/D	N/D	40	8-Aug	12	2297.9
Brandon	Manitoba	2	1310	27	35	49	N/D	5	3-Aug	7	2163.2
Brier	Saskatchewan	3	5625	117	152	45	N/D	50	8-Aug	12	2297.9
Brock	Ontario	2	N/D	N/D	N/D	N/D	N/D	25	3-Aug	7	2163.2
Brown Abyssinian	Ethiopia	6	2432	51	66	46	N/D	42	6-Aug	10	2245.6
Brutus	Peru	1	N/D	N/D	N/D	N/D	N/D	70	29-Jul	2	2025.3
California Mariout	California	1	1200	25	32	47	N/D	N/D	3-Aug	7	2163.2
Cape	Australia	1	N/D	N/D	N/D	N/D	N/D	30	27-Jul	0	1968.8
Cathy	Idaho	1	N/D	N/D	N/D	N/D	N/D	25	10-Aug	14	2350.1
Cebada 97A	Spain	1	1824	38	49	53	N/D	90	6-Aug	10	2245.6
Champion	Russia	1	2352	49	64	51	N/D	37	22-Jul	-5	1824.8
Champlain	New York	1	1338	28	36	52	N/D	40	4-Aug	8	2190.9
Chervonetz	Russia	1	1584	33	43	52	N/D	10	27-Jul	0	1968.8
Clemson Awnless	South Carolina	1					N/D	5	25-Jul	-2	1911.9
Conquest	Manitoba	2	1200	25	32	47	N/D	15	30-Jul	3	2053.2
Conway Type A	New Mexico	1	N/D	N/D	N/D	N/D	N/D	20	6-Aug	10	2245.6
Corre 42		1	N/D	N/D	N/D	N/D	N/D	50	29-Jul	2	2025.3
Cougbar	Washington	2	3542	74	96	46	N/D	44	2-Aug	6	2136.3
Crocket	Sweden	1	1872	39	51	52	N/D	10	22-Jul	-5	1824.8
Datal	Alaska	20	3777	79	102	47	N/D	45	26-Jul	-1	1940.3
Diamond	Alberta	1	4224	88	114	49	N/D	N/D	4-Aug	8	2190.9
Delores		1	N/D	N/D	N/D	N/D	N/D	25	10-Aug	14	2350.1
Donnes	Norway	5	1722	36	47	51	N/D	51	26-Jul	-1	1940.3
Dore	Sweden	10	2471	51	67	51	N/D	48	29-Jul	2	2025.3
Early Hannchen I	Sweden	3	5280	110	143	55	N/D	90	28-Jul	1	1996.6
Edda	Sweden	22	3006	63	81	51	N/D	26	1-Aug	5	2108.5
Empress	Alberta	2	4608	96	125	46	N/D	25	30-Jul	3	2053.2
Erectoid Betzes	Montana	1	2242	47	61	53	N/D	10	29-Jul	2	2025.3
Etu	Sweden	1	4560	95	123	48	N/D	N/D	3-Aug	7	2163.2
Feebar	South Dakota	4	1632	34	44	49	N/D	29	3-Aug	7	2163.2
Fenia	Norway	3	2016	42	55	52	N/D	25	25-Jul	-2	1911.9
Finaska	Alaska	14	3953	82	107	47	1316	18	25-Jul	-2	1911.9
Finnaska (experimental)	Finland	6	3360	70	91	48	N/D	25	30-Jul	3	2053.2
Finnish Crow	Finland	1	1872	39	51	53	N/D	60	27-Jul	0	1968.8

Tanana Valley Barley Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Straw Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Forrest	Manitoba	2	1190	25	32	63	N/D	40	4-Aug	8	2190.9
Frontier	Manitoba	1	2112	44	57	47	N/D	25	10-Aug	14	2350.1
Frozoff	Russia	1	1824	38	49	54	N/D	19	30-Jul	3	2053.2
Galt	Alberta	3	3819	80	103	47	N/D	35	31-Jul	4	2080.7
Gatami	Japan	1	N/D	N/D	N/D	N/D	N/D	20	24-Jul	-3	2053.2
Gateway 63	Alberta	13	1205	25	33	52	N/D	24	26-Jul	-1	1940.3
Glacier Select	Montana	4	1920	40	52	52	N/D	26	29-Jul	2	2025.3
Gold Thayre	England	1	2160	45	58	53	N/D	N/D	25-Aug	-2	1911.9
Goodwill	Australia	1	N/D	N/D	N/D	N/D	N/D	50	3-Aug	7	2163.2
Grandin	North Dakota	7	1782	37	48	53	N/D	34	28-Jul	1	1996.6
Good Grandpa	Idaho	1	N/D	N/D	N/D	N/D	N/D	0	10-Aug	14	2350.1
Han River	China	1	N/D	N/D	N/D	N/D	N/D	75	26-Jul	-1	1940.3
Hankkija 72802	Finland	2	4368	91	118	49	N/D	N/D	26-Jul	-1	1940.3
Hankkija 673	Finland	1	3696	77	100	51	N/D	N/D	2-Aug	6	2136.3
Hannchen	Sweden	1	N/D	N/D	N/D	N/D	N/D	26	1-Aug	5	2108.5
Harukudo	Japan	1	N/D	N/D	N/D	N/D	N/D	20	22-Jul	-5	1824.8
Heartland	Manitoba	3	2001	42	54	45	N/D	0	3-Aug	7	2163.2
Hiland	Idaho	1	2880	60	78	47	N/D	25	10-Aug	14	2350.1
Hillsa	India	3	1984	41	54	47	N/D	5	9-Aug	13	2323.8
Hodge	Turkmenistan	1	N/D	N/D	N/D	N/D	N/D	95	31-Jul	4	2080.7
Holt		6	2748	57	74	52	N/D	51	3-Aug	7	2163.2
Husky	Saskatchewan	5	1616	34	44	53	N/D	30	30-Jul	3	2053.2
Hyproly (high protein)	Sweden	1	672	14	18	44	N/D	25	13-Aug	17	2427.9
Hyproly Normal (high protein)	Sweden	1	912	19	25	44	N/D	25	13-Aug	17	2427.9
III-42-41	Saskatchewan	4	1104	23	30	53	N/D	10	27-Jul	0	1968.8
Improved Tennessee Winter	Virginia	1	2304	48	62	52	N/D	85	6-Aug	10	2245.6
Ireland	Ireland	3	2016	42	55	52	N/D	13	2-Aug	6	2136.3
Ivanovka	Russia	1	1584	33	43	48	N/D	60	2-Aug	6	2136.3
Ja 2/43	Finland	4	1908	40	52	53	N/D	31	7-Aug	11	2271.5
Jackson	Alberta	7	3036	63	82	46	N/D	24	27-Jul	0	1968.8
Jadar II	Bosnia	4	2127	44	58	54	N/D	46	2-Aug	6	2136.3
Johnston	Manitoba	2	4848	101	131	45	N/D	N/D	2-Aug	6	2136.3
Jokioinen 0660	Finland	6	1714	36	46	50	N/D	39	2-Aug	6	2136.3
Jokioinen 1103	Finland	4	4512	94	122	48	N/D	25	24-Jul	-3	1883.4
Jokioinen 1315	Finland	4	4368	91	118	48	N/D	25	24-Jul	-3	1883.4

Tanana Valley Barley Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Straw Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Jokioinen 1599	Finland	4	6871	143	186	47	N/D	31	2-Aug	6	2136.3
Jokioinen 1632	Finland	5	4794	100	130	47	N/D	30	1-Aug	5	2108.5
Jotun	Norway	5	1510	31	41	49	N/D	46	1-Aug	5	2108.5
Jubilee	Manitoba	5	1957	41	53	50	N/D	25	10-Aug	14	2350.1
July	Denmark	1	2208	46	60	53	N/D	10	26-Jul	-1	1940.3
Karin	Sweden	3	5498	115	149	46	N/D	10	31-Jul	4	2080.7
Karlsbyg	Sweden	1	1680	35	45	53	N/D	17	25-Jul	-2	1911.9
Kashu	India	1	N/D	N/D	N/D	N/D	N/D	0	21-Jul	-6	1795.6
Katano	Japan	1	N/D	N/D	N/D	N/D	N/D	0	25-Jul	-2	1911.9
Kedaka Rokkaku	Japan	1	N/D	N/D	N/D	N/D	N/D	N/D	6-Sep	41	2929.6
Keystone	Pennsylvania	1	811	17	22	47	N/D	0	2-Aug	6	2136.3
Kirkkola	Finland	2	1920	40	52	52	N/D	4	18-Jul	-9	1709.0
Kirkkola	Finland	4	1920	40	52	52	N/D	30	27-Jul	0	1968.8
Klondike	Manitoba	1	4128	86	112	51	N/D	N/D	4-Aug	8	2190.9
Kobai Sai	Japan	1	N/D	N/D	N/D	N/D	N/D	0	7-Aug	11	2271.5
Kober	Ethiopia	1	3120	65	84	49	N/D	N/D	1-Aug	5	2108.5
Kosho	Japan	3	1392	29	38	56	N/D	20	31-Jul	4	2080.7
Kremovo	Russia	1	1584	33	43	54	N/D	20	30-Jul	3	2053.2
Kwan	India	1	N/D	N/D	N/D	N/D	N/D	65	3-Aug	7	2163.2
Lapin	Finland	7	2640	55	71	52	N/D	29	1-Aug	5	2108.5
Leduc	Saskatchewan	1	4224	88	114	42	N/D	N/D	4-Aug	8	2190.9
Liberty	South Dakota	2	737	15	20	47	N/D	10	30-Jul	3	2053.2
Lico I	Colorado	3	2496	52	68	47	N/D	25	11-Aug	15	2376.1
Lidal	Alaska	29	3970	83	107	48	N/D	29	26-Jul	-1	1940.3
Liland	Norway	1	N/D	N/D	N/D	N/D	N/D	60	22-Jul	-5	1824.8
Lincoln	California	6	2808	59	76	47	N/D	64	8-Aug	12	2297.9
Lioness	Russia	1	N/D	N/D	N/D	N/D	N/D	85	2-Aug	6	2136.3
Loviisa	Finland	5	5978	125	162	48	N/D	15	3-Aug	7	2163.2
Lyallpur	Pakistan	2	N/D	N/D	N/D	N/D	N/D	43	26-Jul	-1	1940.3
Machine	Norway	2	1800	38	49	53	N/D	10	19-Jul	-8	1737.9
Makishu	Japan	1	N/D	N/D	N/D	N/D	N/D	15	24-Jul	-3	1883.4
Mars	Minnesota	6	854	18	23	51	N/D	10	3-Aug	7	2163.2
Maskin	Norway	7	1425	30	39	52	N/D	23	24-Jul	-3	1883.4
Massy	Ontario	1	3648	76	99	41	N/D	N/D	6-Aug	10	2245.6
MCB 145	Saskatchewan	2	1296	27	35	53	N/D	5	29-Jul	2	2025.3
McFadden	South Dakota	1	N/D	N/D	N/D	N/D	N/D	65	3-Aug	7	2163.2
Meloy	Oregon	1	N/D	N/D	N/D	N/D	N/D	10	24-Jul	-3	1883.4
Melvin	Saskatchewan	4	4080	85	110	50	N/D	N/D	1-Aug	5	2108.5

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Mensury	Ontario	1	N/D	N/D	N/D	N/D	N/D	20	1-Aug	5	2108.5
Mingo	Ontario	1	5232	109	142	43	N/D	N/D	5-Aug	9	2218.3
Minnesota 17	Minnesota	4	1800	38	49	49	N/D	12	2-Aug	6	2136.3
Minnesota Barbless	Minnesota	1	N/D	N/D	N/D	N/D	N/D	N/D	1-Aug	5	2108.5
Modoc	California	1	N/D	N/D	N/D	N/D	N/D	20	4-Aug	8	2190.9
Montcalm	Michigan	5	2436	51	66	52	N/D	40	5-Aug	9	2218.3
Moore	Wisconsin	7	1757	37	48	52	N/D	14	1-Aug	5	2108.5
N.D.B. 113	North Dakota	3	925	19	25	45	N/D	28	27-Jul	0	1968.8
N.D.B. 116	North Dakota	2	1483	31	40	44	N/D	25	2-Aug	6	2136.3
N.D.B. 117	North Dakota	1	1288	27	35	49	N/D	10	11-Aug	15	2376.1
N.D.B. 118	North Dakota	1	1711	36	46	48	N/D	25	22-Jul	-5	1824.8
N.D.B. 119	North Dakota	1	1272	26	34	0	N/D	25	26-Jul	-1	1940.3
N.D.B. 123	North Dakota	1	1135	24	31	49	N/D	10	12-Aug	16	2401.5
N.D.B. 124	North Dakota	2	1489	31	40	50	N/D	20	9-Aug	13	2323.8
N.D.B. 125	North Dakota	2	1807	38	49	50	N/D	25	7-Aug	11	2271.5
N.D.B. 126	North Dakota	1	1875	39	51	48	N/D	40	6-Aug	10	2245.6
N.D.B. 127	North Dakota	1	2199	46	60	48	N/D	75	6-Aug	10	2245.6
Nalib	India	1	N/D	N/D	N/D	N/D	N/D	70	3-Aug	7	2163.2
Newal	Alberta	3	N/D	N/D	N/D	N/D	N/D	40	13-Aug	17	2427.9
Nobel	Alberta	2	3962	83	107	47	N/D	35	31-Jul	4	2080.7
Nordlys	Norway	4	4508	94	122	45	N/D	33	29-Jul	2	2025.3
Nova	Washington	1	3840	80	104	43	N/D	N/D	10-Aug	14	2350.1
Nurupor	India	1	N/D	N/D	N/D	N/D	N/D	0	22-Jul	-5	1824.8
Odessa	Russia	1	N/D	N/D	N/D	N/D	N/D	40	1-Aug	5	2108.5
Ogara	Japan	1	N/D	N/D	N/D	N/D	N/D	0	22-Jul	-5	1824.8
Olli	Finland	17	2672	56	72	50	N/D	30	28-Jul	1	1996.6
Ollinohra	Finland	4	2016	42	55	51	N/D	25	29-Jul	2	2025.3
Olsok	Norway	3	5014	104	136	48	N/D	25	31-Jul	4	2080.7
Onda	Washington	1	3264	68	88	35	N/D	N/D	1-Aug	5	2108.5
Opdal	Norway	3	1704	36	46	51	N/D	27	25-Jul	-2	1911.9
Orayo	Japan	6	1788	37	48	49	N/D	36	7-Aug	11	2271.5
Otal	Alaska	33	3841	77	104	48	N/D	34	27-Jul	0	1968.8
Otello	Italy	6	2640	55	71	48	N/D	33	9-Aug	13	2323.8
Otra	Finland	20	3237	67	88	46	N/D	47	29-Jul	2	2025.3
Paavo	Finland	7	4512	94	122	51	N/D	N/D	2-Aug	6	2136.3
Pannier	Idaho	3	474	10	13	49	N/D	30	14-Jul	-13	1589.9
Parkland	Manitoba	9	1410	29	38	50	N/D	39	1-Aug	5	2108.5
Paso	Mexico	1	N/D	N/D	N/D	N/D	N/D	80	4-Aug	8	2190.9
Peatland	Switzerland	2	N/D	N/D	N/D	N/D	N/D	5	19-Aug	23	2576.8

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Peru	Peru	1	N/D	N/D	N/D	N/D	N/D	85	10-Aug	14	2350.1
Peruvian 19	Peru	1	N/D	N/D	N/D	N/D	N/D	30	24-Jul	-3	1883.4
Pioneer	England	9	1463	30	40	50	N/D	52	25-Jul	-2	1911.9
Pirkka	Finland	8	1909	40	52	53	N/D	53	30-Jul	3	2053.2
Plush	Manitoba	4	1968	41	53	52	N/D	12	3-Aug	7	2163.2
Pohto	Finland	4	5766	120	156	48	N/D	30	4-Aug	8	2190.9
Pokko	Finland	11	4572	95	124	45	N/D	17	31-Jul	4	2080.7
Polarbyg	Sweden	2	1584	33	43	48	N/D	12	27-Jul	0	1968.8
Polaris	Alberta	4	4848	101	131	48	N/D	N/D	31-Jul	4	2080.7
Presto	Sweden	6	2108	44	57	53	N/D	42	28-Jul	1	1996.6
Rapur	Ethiopia	1	1344	28	36	53	N/D	85	5-Aug	9	2218.3
Rasput	Russia	1	N/D	N/D	N/D	N/D	N/D	95	2-Aug	6	2136.3
Ripa	Sweden	3	5744	120	156	48	N/D	17	2-Aug	6	2136.3
Russia	Russia	1	N/D	N/D	N/D	N/D	N/D	70	3-Aug	7	2163.2
S - 48 - 5	Saskatchewan	4	N/D	N/D	N/D	N/D	N/D	61	4-Aug	8	2190.9
Samson	Alberta	3	2160	45	58	43	N/D	0	10-Aug	14	2350.1
Sacremento	California	4	1920	40	52	47	N/D	18	17-Aug	21	2529.6
Sagatairyo	Japan	1	2496	52	68	54	N/D	95	24-Jul	-3	1883.4
Sanook	Alaska	1	N/D	N/D	N/D	N/D	N/D	95	2-Aug	6	2136.3
Saskatchewan 5210	Saskatchewan	2	N/D	N/D	N/D	N/D	N/D	33	30-Jul	3	2053.2
Shaw	Idaho	1	816	17	22	51	N/D	0	22-Jul	-5	1824.8
Sofut	France	1	N/D	N/D	N/D	N/D	N/D	95	1-Aug	5	2108.5
Stanka	Bulgaria	4	N/D	N/D	N/D	N/D	N/D	0	7-Aug	11	2271.5
Stella	Sweden	5	2640	55	71	51	N/D	21	4-Aug	8	2190.9
Steptoe	Washington	7	3930	82	106	44	N/D	62	1-Aug	5	2108.5
Strom	Alberta	1	3888	81	105	48	N/D	75	31-Jul	4	2080.7
Suwon No. 14	Korea	1	N/D	N/D	N/D	N/D	N/D	N/D	16-Sep	51	3083.9
Suwon No. 31	Korea	1	N/D	N/D	N/D	N/D	N/D	N/D	10-Sep	45	2995.1
Svendal	Alaska	9	3152	66	85	47	N/D	14	26-Jul	-1	1940.3
Swan	Manitoba	2	1280	27	35	49	N/D	10	29-Jul	2	2025.3
Sweden	Sweden	1	2832	59	77	51	N/D	0	16-Jul	-11	1650.7
Swedish Star	Sweden	9	1854	39	50	53	N/D	37	30-Jul	3	2053.2
Taiskomugi	Japan	1	N/D	N/D	N/D	N/D	N/D	N/D	22-Sep	58	3152.4
Tammi	Finland	9	2415	50	65	52	N/D	36	29-Jul	2	2025.3
Tankaize M105	Malaysia	1	N/D	N/D	N/D	N/D	N/D	0	25-Jul	-2	1911.9
Thule	Norway	3	6257	130	169	48	N/D	8	7-Aug	11	2271.5
Titan (awnless)	Alberta	4	896	19	24	49	N/D	0	3-Aug	7	2163.2
Torusuondo	Sweden	2	1632	34	44	47	N/D	5	24-Jul	-3	1883.4

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Trebi	Turkey	2	4512	94	122	52	N/D	N/D	1-Aug	5	2108.5
Triple Bearded Mariout	Libya	1	N/D	N/D	N/D	N/D	N/D	10	6-Aug	10	2245.6
Trophy	North Dakota	1	N/D	N/D	N/D	N/D	N/D	N/D	10-Aug	14	2350.1
Unitan	Montana	1	2112	44	57	44	N/D	20	4-Aug	8	2190.9
Univ of Sask 5-37	Saskatchewan	2	1248	26	34	52	N/D	10	24-Jul	-3	1883.4
Ures	Mexico	1	N/D	N/D	N/D	N/D	N/D	25	2-Aug	6	2136.3
Vale 70	Oregon	1	N/D	N/D	N/D	N/D	N/D	N/D	10-Aug	14	2350.1
Valio	Finland	1	N/D	N/D	N/D	N/D	N/D	20	26-Jul	-1	1940.3
Vantage	Manitoba	6	2604	54	71	50	N/D	11	5-Aug	9	2218.3
Vantmore	Manitoba	2	N/D	N/D	N/D	N/D	N/D	0	5-Aug	9	2218.3
Varde	Norway	7	1865	39	50	52	N/D	48	29-Jul	2	2025.3
Vega	Sweden	4	2412	50	65	52	N/D	48	3-Aug	7	2163.2
Velvon 11	Utah	3	816	17	22	50	N/D	12	10-Aug	14	2350.1
Velvon 5	Utah	1	N/D	N/D	N/D	N/D	N/D	10	4-Aug	8	2190.9
Velvon Hybrid	Utah	2	2112	44	57	50	N/D	25	17-Aug	21	2529.6
Verner	Sweden	3	5368	112	145	49	N/D	3	4-Aug	8	2190.9
Vienna Sommergerste	Austria	2	1782	37	48	57	N/D	38	31-Jul	4	2080.7
Wase Mino	Japan	1	N/D	N/D	N/D	N/D	N/D	N/D	12-Sep	47	3027.1
Waxy Oderbrucker	Wisconsin	1	N/D	N/D	N/D	N/D	N/D	40	2-Aug	6	2136.3
Weibulls 5573	Sweden	1	2094	44	57	53	N/D	25	9-Aug	13	2323.8
Weibulls 5627	Sweden	2	2015	42	55	52	N/D	18	5-Aug	9	2218.3
West China	China	1	N/D	N/D	N/D	N/D	N/D	30	20-Jul	-7	1766.8
Windsor	Alberta	2	4368	91	118	49	N/D	N/D	4-Aug	8	2190.9
Wisconsin 38	Wisconsin	2	N/D	N/D	N/D	N/D	N/D	23	17-Aug	21	2529.6
Wocus	Utah	2	1823	38	49	49	N/D	45	6-Aug	10	2245.6
Wolfe	Alberta	2	N/D	N/D	N/D	N/D	N/D	13	6-Aug	10	2245.6
Wooding	Alaska	13	3783	79	102	48	1774	40	25-Jul	-2	1911.9
York	Ontario	2	1415	29	38	51	N/D	40	2-Aug	6	2136.3
				6-row feed semi-dwarf, spring							
Aappo	Finland	1	4224	88	114	52	N/D	N/D	11-Aug	15	2376.1
Advance	Washington	1	3792	79	103	36	N/D	N/D	1-Aug	5	2108.5
CDC Earl	Saskatchewan	1	4391	91	119	40	N/D	0	31-Jul	4	2080.7
Duke	Saskatchewan	1	3321	69	90	44	N/D	0	1-Aug	5	2108.5
Eero 80	Finland	20	4441	93	120	46	N/D	28	4-Aug	8	2190.9
Kasota	Alberta	4	5356	112	145	47	N/D	13	3-Aug	7	2163.2
Poco	Idaho	1	3936	82	107	47	N/D	N/D	13-Aug	17	2427.9
Stetson	Alberta	1	4775	99	129	40	N/D	0	11-Aug	15	2376.1

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Winchester	Alberta	2	3373	70	91	46	N/D	70	2-Aug	6	2136.3
					2-row feed, spring						
A 4590		6	1231	26	33	56	N/D	52	7-Aug	11	2271.5
Abed Binder	Denmark	4	2544	53	69	56	N/D	34	4-Aug	8	2190.9
Abee	Alberta	2	4464	93	121	53	N/D	20	1-Aug	5	2108.5
Abyssinian	Ethiopia	1	N/D	N/D	N/D	N/D	N/D	80	27-Jul	0	1968.8
Agio	Italy	1	1760	37	48	55	N/D	N/D	30-Jul	3	2053.2
Andre	Washington	2	2672	56	72	52	N/D	0	1-Aug	5	2108.5
Balder	Sweden	16	2083	43	56	55	N/D	29	11-Aug	15	2376.1
Beaver	Utah	1	N/D	N/D	N/D	N/D	N/D	10	24-Jul	-3	1883.4
Blue	Washington	6	1856	39	50	43	N/D	26	6-Aug	10	2245.6
Bolton	Ontario	6	1808	38	49	52	N/D	33	6-Aug	10	2245.6
Bonus	Sweden	11	2694	56	73	56	N/D	41	10-Aug	14	2350.1
Bowman	North Dakota	1	1584	33	43	47	N/D	0	13-Aug	17	2427.9
Campana	Montana	1	N/D	N/D	N/D	N/D	N/D	20	4-Aug	8	2190.9
Carlsberg II	Denmark	7	2387	50	65	54	N/D	38	6-Aug	10	2245.6
Centennial	Alberta	1	4560	95	123	53	N/D	N/D	4-Aug	8	2190.9
CDC Dolly	Alberta	1	6132	128	166	48	N/D	0	7-Aug	11	2271.5
Ciroline	England	6	2094	44	57	55	N/D	24	3-Aug	7	2163.2
Cruzat	Chile	6	2052	43	56	46	N/D	26	13-Aug	17	2427.9
Danish Gold	Denmark	4	2688	56	73	57	N/D	34	8-Aug	12	2297.9
Domen	Norway	5	1908	40	52	54	N/D	15	10-Aug	14	2350.1
Drake	Sweden	2	N/D	N/D	N/D	N/D	N/D	5	17-Aug	21	2427.9
Drost	Denmark	1	1952	41	53	56	N/D	N/D	27-Jul	0	1968.8
Duece	Saskatchewan	3	4022	84	109	52	N/D	10	2-Aug	6	2136.3
Early Carlsberg II	Denmark	1	N/D	N/D	N/D	N/D	N/D	N/D	6-Aug	10	2245.6
Early Freja	Sweden	1	3408	71	92	48	N/D	N/D	10-Aug	14	2350.1
Elrose	Saskatchewan	1	2832	59	77	50	N/D	40	1-Aug	5	2108.5
Erectoides	Montana	3	1616	34	44	53	N/D	10	6-Aug	10	2245.6
Fairfield	Alberta	3	4848	101	131	55	N/D	N/D	4-Aug	8	2190.9
Finland	Finland	4	2280	48	62	55	N/D	28	10-Aug	14	2350.1
Floya	Norway	9	1486	31	40	51	N/D	26	31-Jul	4	2080.7
Freja	Sweden	11	2098	44	57	56	N/D	42	8-Aug	12	2297.9
Gallatin	Montana	2	3925	82	106	52	N/D	10	30-Jul	3	2053.2
Golden Thorpe	England	5	1920	40	52	52	N/D	19	4-Aug	8	2190.9
Halikonohra	Finland	1	2496	52	68	57	N/D	27	29-Jul	2	2025.3
Heindal	Sweden	9	2254	47	61	56	N/D	53	10-Aug	14	2350.1
Herta	Sweden	13	2357	49	64	54	N/D	24	8-Aug	12	2297.9
HV #52	Washington	2	2832	59	77	46	N/D	0	31-Jul	4	2080.7

Tanana Valley Barley Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Straw Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Ingrid	Sweden	2	1848	38	50	55	N/D	25	8-Aug	12	2297.9
Jet (black)	Georgia	1	N/D	N/D	N/D	N/D	N/D	75	2-Aug	6	2136.3
Jokioinen 0640	Finland	6	2228	46	60	56	N/D	18	5-Aug	9	2218.3
Jokioinen 0682	Finland	6	1871	39	51	54	N/D	25	5-Aug	9	2218.3
Jokioinen 0686	Finland	6	2007	42	54	55	N/D	40	8-Aug	12	2297.9
Kenai	Alaska	6	3264	68	88	53	N/D	30	10-Aug	14	2350.1
Kirgizean	Kyrgyzstan	1	N/D	N/D	N/D	N/D	N/D	0	29-Jul	2	2025.3
Krosnoyarski	Russia	7	1584	33	43	52	N/D	36	10-Aug	14	2350.1
Lewis	Montana	2	4768	99	129	50	N/D	60	30-Jul	3	2053.2
Lud	England	2	5088	106	138	54	N/D	N/D	7-Aug	11	2271.5
Maja	Denmark	7	2153	45	58	55	N/D	23	6-Aug	10	2245.6
Mari	Sweden	2	3648	76	99	55	N/D	N/D	30-Jul	3	2053.2
Muyode de Arenda	Chile	6	2604	54	71	54	N/D	20	8-Aug	12	2297.9
Norbert	Saskatchewan	1	3216	67	87	45	N/D	N/D	3-Aug	7	2163.2
Norfut	Russia	1	N/D	N/D	N/D	N/D	N/D	100	1-Aug	5	2108.5
Opal B	Sweden	2	2064	43	56	57	N/D	11	31-Jul	4	2080.7
Otis	Idaho	2	1584	33	43	46	N/D	0	6-Aug	10	2245.6
Palliser	Alberta	4	N/D	N/D	N/D	N/D	N/D	0	9-Aug	13	2323.8
Piroline	Idaho	3	1680	35	45	47	N/D	0	3-Aug	7	2163.2
Puke	Sweden	3	1440	30	39	55	N/D	6	1-Aug	5	2108.5
Reigel	Denmark	9	2408	50	65	56	N/D	34	10-Aug	14	2350.1
Research	Columbia	1	N/D	N/D	N/D	N/D	N/D	5	26-Jul	-1	1940.3
Rika	Sweden	6	2031	46	55	53	N/D	20	8-Aug	12	2297.9
Swalta	Iraq	4	1957	41	53	49	N/D	18	11-Aug	15	2376.1
Tantalus	Denmark	4	2256	47	61	57	N/D	47	7-Aug	11	2271.5
Valier	Montana	1	3599	75	97	49	N/D	27	6-Aug	10	2245.6
W.O. 5425	Turkey	5	1702	35	46	53	N/D	10	10-Aug	14	2350.1
Ymer	Sweden	11	2017	42	55	54	N/D	37	8-Aug	12	2297.9
				2-row feed semi-dwarf, spring							
Icelandic	Iceland	2	3212	67	87	48	N/D	10	20-Jul	-7	1766.8
				6-row hooded forage, spring							
Ben Beardless	Oregon	1	N/D	N/D	N/D	N/D	N/D	80	4-Aug	8	2190.9
Caleso		1	N/D	N/D	N/D	N/D	N/D	10	7-Aug	7	2271.5
Colsess	Colorado	3	2016	42	55	47	N/D	32	8-Aug	12	2297.9
Cornutum	South Africa	1	N/D	N/D	N/D	N/D	N/D	90	21-Jul	-6	1795.6
Culess		1	2448	51	66	59	N/D	N/D	5-Aug	9	2218.3
Karon	Thiland	1	N/D	N/D	N/D	N/D	N/D	25	27-Jul	0	1968.8

Tanana Valley Barley Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Straw Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Kusho (blue)	Japan	2	2448	51	66	54	N/D	30	7-Aug	11	2271.5
Lethal Colsess	Colorado	6	2016	42	55	45	N/D	24	3-Aug	7	2163.2
Little Ben	Oregon	4	1884	39	51	48	N/D	28	8-Aug	12	2297.9
Marett Awnless	Virginia	2	2136	45	58	52	N/D	25	25-Jul	-2	1911.9
Moreli Awnless	Italy	1	2016	42	55	49	N/D		5-Aug	9	2218.3
Shimabara	Japan	4	1632	34	44	59	N/D	34	5-Aug	9	2218.3
Sixty Day	Saskatchewan	4	2052	43	56	50	N/D	22	30-Jul	3	2053.2
Warrior	Saskatchewan	9	1658	35	45	45	N/D	15	29-Jul	2	2025.3
Weal	Alaska	29	3282	68	89	43	7874	35	26-Jul	-1	1940.3
Weitz		8	1593	33	43	46	N/D	39	1-Aug	5	2108.5
2-row hooded forage, spring											
Englawnless	England	6	2208	46	60	46	N/D	45	6-Aug	10	2245.6
Haybet	Montana	2	3136	65	85	45	9910	45	21-Jul	-6	1795.6
Hays	Montana	2	3449	72	93	46	9245	10	19-Jul	-8	1737.9
Triceros		1	N/D	N/D	N/D	N/D	N/D	15	23-Jul	-4	1854.3
Tridax (black)		6	1776	37	48	45	N/D	23	31-Jul	4	2080.7
Weal Selection	Alaska	1	4128	86	112	44	N/D	N/D	29-Jul	2	2025.3
6-row hulless hooded forage, spring											
Trapmar (19b)	Alaska	13	2892	48	78	54	N/D	40	7-Aug	11	2271.5
6-row hulless, spring, non-waxy											
Ankob	Ethopia	1	1800	30	49	58	N/D	N/D	28-Jul	1	1996.6
CDC Buck	Saskatchewan	3	3523	59	95	54	N/D	27	1-Aug	5	2108.5
CDC Silky	Saskatchewan	1	4002	67	108	51	N/D	10	5-Aug	9	2218.3
Coeleste	Tibet	5	2160	36	58	58	N/D	64	4-Aug	8	2190.9
Havkninetz	Sweden	1	N/D	N/D	N/D	N/D	N/D	100	13-Aug	17	2427.9
Karamore	Japan	5	2416	50	65	52	N/D	45	3-Aug	7	2163.2
Laurel	Ontario	1	N/D	N/D	N/D	N/D	N/D	0	12-Aug	16	2401.5
Markhinetz	Sweden	4	2340	39	63	62	N/D	39	30-Jul	3	2053.2
Netto	Norway	7	2219	37	60	60	N/D	60	1-Aug	5	2108.5
Peregrine	Alberta	4	2537	42	69	54	N/D	0	22-Jul	-5	1824.8
Shimahom		2	2130	36	58	53	N/D	10	11-Aug	15	2376.1
Sormark	Sweden	8	2314	39	63	62	N/D	59	1-Aug	5	2108.5
Sunshine	Alaska	11	3069	51	83	57	N/D	33	22-Jul	-5	1824.8
Thual	Alaska	24	2911	49	79	56	N/D	68	27-Jul	0	1968.8
Tupper	Saskatchewan	2	4680	78	127	58	N/D	20	2-Aug	6	2136.3
Vamprov	Sweden	8	1831	31	50	61	N/D	62	3-Aug	7	2163.2
6-row hulless semi-dwarf non-waxy, spring											
Falcon	Alberta	7	3953	66	107	55	N/D	5	29-Jul	2	2025.3

Tanana Valley Barley Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Straw Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
2-row hulless non-waxy, spring											
CDC Dawn	Alberta	4	3574	60	97	56	N/D	12	27-Jul	0	1968.8
CDC Freedom	Alberta	2	3473	58	94	58	N/D	0	31-Jul	4	2080.7
CDC Richard	Saskatchewan	4	3136	52	85	60	N/D	47	3-Aug	7	2163.2
HB 3352	Alberta	4	3823	64	104	57	N/D	10	28-Jul	1	1996.6
HB 3433	Alberta	6	3959	66	107	55	N/D	10	30-Jul	3	2053.2
Phoenix	Alberta	4	3328	55	90	56	N/D	23	25-Jul	-2	1911.9
Scout	Saskatchewan	2	3840	64	104	61	N/D	N/D	2-Aug	6	2136.3
Swedish Hulless	Sweden	2	1380	23	37	62	N/D	43	5-Aug	9	2218.3
Tibet Hulless	Tibet	2	2400	40	65	58	N/D	40	21-Aug	25	2621.2
6-row malting, spring											
Argyle	Manitoba	3	4224	88	114	51	N/D	0	12-Aug	16	2401.5
B1202	Colorado	1	4020	84	109	49	N/D	0	12-Aug	16	2401.5
B 1602	Colorado	3	5010	104	136	41	N/D	0	9-Aug	13	2323.8
Beacon	North Dakota	1	3120	65	84	47	N/D	30	3-Aug	7	2163.2
Bonanza	Manitoba	3	3600	75	97	52	N/D	0	11-Aug	15	2376.1
Cree	North Dakota	1	N/D	N/D	N/D	N/D	N/D	N/D	12-Aug	16	2401.5
Crest	Washington	1	3742	78	101	48	N/D	0	12-Aug	16	2401.5
Dickson	North Dakota	1	3360	70	91	47	N/D	40	7-Aug	11	2271.5
Dual	Colorado	1	5405	113	146	39	N/D	0	9-Aug	13	2323.8
Fan	Saskatchewan	6	2208	46	60	52	N/D	35	6-Aug	10	2245.6
Galena	Colorado	1	3656	76	99	48	N/D	0	12-Aug	16	2401.5
Karl	Idaho	1	N/D	N/D	N/D	N/D	N/D	N/D	11-Aug	15	2376.1
Kindred	North Dakota	5	1604	33	43	47	N/D	65	3-Aug	7	2163.2
Larker	North Dakota	2	1053	22	29	49	N/D	50	5-Aug	9	2218.3
M 14	Colorado	1	3048	64	83	48	N/D	0	12-Aug	16	2401.5
Manchurian	North Dakota	12	2121	44	57	48	N/D	56	4-Aug	8	2190.9
Moravian III	Czech Republic	1	N/D	N/D	N/D	N/D	N/D	N/D	11-Aug	15	2376.1
Morex	Minnesota	3	3475	72	94	47	N/D	32	30-Jul	3	2053.2
Paragon	Manitoba	2	N/D	N/D	N/D	N/D	N/D	N/D	3-Aug	7	2163.2
Prilar	South Dakota	1	N/D	N/D	N/D	N/D	N/D	N/D	10-Aug	14	2350.1
Primus II	South Dakota	2	N/D	N/D	N/D	N/D	N/D	N/D	12-Aug	16	2401.5
Stander	Minnesota	3	4967	103	134	45	N/D	0	12-Aug	16	2401.5
Traill	North Dakota	5	1570	33	43	48	N/D	29	2-Aug	6	2136.3
Trophy	North Dakota	1	1700	35	46	50	N/D	40	7-Aug	11	2271.5
2-row malting, spring											
B 1202	Colorado	1	3719	77	101	48	N/D	0	3-Aug	7	2163.2
B 1215	Colorado	2	4690	98	127	48	N/D	0	10-Aug	14	2350.1

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Betzes	Montana	6	2832	59	77	55	N/D		5-Aug	9	2218.3
Crest	Washington	1	3877	81	105	47	N/D	0	7-Aug	11	2271.5
Ellice	Manitoba	3	4000	83	108	49	N/D	10	30-Jul	3	2053.2
Erbet	Montana	1	2400	50	65	53	N/D	N/D	5-Aug	9	2218.3
Ershabet	Montana	2	1728	36	47	50	N/D	N/D	5-Aug	9	2218.3
Fergus	Ontario	2	N/D	N/D	N/D	N/D	N/D	N/D	12-Aug	16	2401.5
Firlbecks III	Germany	2	N/D	N/D	N/D	N/D	N/D	N/D	19-Aug	23	2576.8
Galena	Colorado	1	4037	84	109	47	N/D	0	3-Aug	7	2163.2
Harrington	Saskatchewan	7	4089	85	111	46	N/D	5	12-Aug	16	2401.5
Kimberly	South Africa	1	N/D	N/D	N/D	N/D	N/D	90	25-Jul	-2	1911.9
Klages	Idaho	4	3922	82	106	50	N/D	12	31-Jul	4	2080.7
M 14	Colorado	1	3162	66	86	47	N/D	0	3-Aug	7	2163.2
Proctor	England	1	1245	26	34	56	N/D	N/D	31-Jul	4	2080.7
Shabet	Montana	5	5808	121	157	54	N/D	N/D	5-Aug	9	2218.3
Summit	Manitoba	2	5328	111	144	53	N/D	N/D	4-Aug	8	2190.9
Triumph	Germany	3	4032	84	109	52	N/D	N/D	5-Aug	9	2218.3
					6-row feed, winter						
Cascade	Oregon	1	N/D	N/D	N/D	N/D	N/D	10	3-Aug	7	3059.2
Chang-gi Chosnewgra	China	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Dicktoo	Nebraska	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Kearney	Nebraska	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Kentucky 1	Virginia	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Turkey	Turkey	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Yokozuma	Japan	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
					2-row feed, winter						
Nakano Wase	Japan	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. All barley varieties were compared with 'Otal' spring feed barley as the standard variety.

True Cereal Crops – Oats

Tanana Valley Oat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
				Yellow feed, spring						
4083-6	Japan	3	1047	33	27	41	25	31-Jul	-1	2080.7
4218-8	Japan	3	1291	40	33	39	25	30-Jul	-2	2053.2
49-14	Mexico	1	1632	51	41	41	40	12-Aug	11	2401.5
Abegweit	Ontario	14	2285	71	58	41	22	9-Aug	8	2323.8
Abundance	England	1	N/D	N/D	N/D	N/D	50	28-Aug	27	2766.6
Abyssinian	Ethiopia	1	N/D	N/D	N/D	N/D	50	26-Aug	25	2727.0
Advance	New York	3	1472	46	37	46	13	13-Aug	12	2427.9
Ajax	Manitoba	11	2004	63	51	39	28	7-Aug	6	2271.5
Alaska	Wisconsin	2	1328	42	34	39	23	3-Aug	2	2163.2
Albion	Iowa	1	N/D	N/D	N/D	N/D	25	20-Aug	19	2599.2
Alcot White		1	N/D	N/D	N/D	N/D	80	28-Aug	27	2766.6
Algeuat	France	1	N/D	N/D	N/D	N/D	0	27-Aug	26	2746.9
Alsaman	Saskatchewan	10	2130	67	54	42	24	8-Aug	7	2297.9
Ames 34-118	Iowa	1	2496	78	63	39	25	3-Aug	2	2163.2
Anderson	South Carolina	5	2253	71	57	40	19	14-Aug	13	2454.0
Anthony	Minnesota	8	1728	54	44	40	15	9-Aug	8	2323.8
AO 1680		6	2061	64	52	44	19	8-Aug	7	2297.9
Aristica		2	2224	70	56	41	25	16-Aug	15	2401.5
Astro	New York	1	1440	45	37	42	33	3-Aug	2	2163.2
Athabasca	Alberta	17	3322	104	84	38	10	4-Aug	3	2190.9
Aurea	Finland	8	1982	62	50	42	20	8-Aug	7	2297.9
Avoinede Pirhyarui	India	1	2048	64	52	44	40	1-Aug	0	2108.5
B-0513	Maryland	5	2941	92	75	42	28	22-Aug	21	2643.2
Bambu	Sweden	9	1466	46	37	42	25	8-Aug	7	2297.9
Bambu II	Denmark	6	1515	47	38	43	22	5-Aug	4	2218.3
Bancroft	Georgia	3	2144	67	54	36	5	14-Aug	13	2454.0
Banner	Denmark	8	1447	45	37	41	25	5-Aug	4	2218.3
Bannock	Denmark	10	1576	49	40	43	44	11-Aug	10	2376.1
Basin	Montana	1	1014	32	26	45	10	10-Aug	9	2350.1
Beacon	Ontario	5	1472	46	37	41	5	10-Aug	9	2350.1
Beaver	Ontario	7	2432	76	62	38	21	14-Aug	13	2454.0
Bell	Scotland	3	2357	74	60	43	20	18-Aug	17	2554.2
Beseler II	Germany	5	3048	95	77	43	38	18-Aug	17	2554.2
Big Four	Wisconsin	3	1963	61	50	41	25	20-Aug	19	2599.2
Big Yielder	Pennsylvania	11	2125	66	54	43	37	9-Aug	8	2323.8
Blanche de Roye	France	9	1923	60	49	42	27	9-Aug	8	2323.8

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Blenda	Sweden	7	1899	59	48	43	20	6-Aug	5	2245.6
Blixt	Denmark	8	1899	59	48	42	15	7-Aug	6	2271.5
Boer	South Africa	3	1365	43	35	34	20	16-Aug	15	2504.4
Bonner		1	N/D	N/D	N/D	N/D	N/D	17-Aug	16	2529.6
Branch	Wisconsin	4	2368	74	60	47	20	9-Aug	8	2323.8
Bridger	Montana	6	2000	63	51	43	12	14-Aug	13	2454.0
Burnett	Iowa	5	1353	42	34	42	28	31-Jul	-1	2080.7
Cairchdubach	Germany	3	2005	63	51	39	30	12-Aug	11	2401.5
Calcutta	Australia	1	N/D	N/D	N/D	N/D	10	15-Aug	14	2479.5
Calibre	Saskatchewan	10	3955	124	100	40	10	6-Aug	5	2245.6
Canada Cluster	Ontario	10	2209	69	56	42	30	9-Aug	8	2323.8
Carleton	Oregon	5	1568	49	40	38	16	6-Aug	5	2245.6
Cartier	Quebec	2	1520	48	39	41	23	26-Jul	-6	1940.3
Cascade	Alberta	15	4139	129	105	36	0	5-Aug	4	2218.3
Castleton	Scotland	3	2379	74	60	43	5	23-Aug	22	2665.2
Cavell	Alberta	6	4416	138	112	38	10	2-Aug	1	2136.3
Cayuse	New York	6	1354	42	34	41	0	7-Aug	6	2271.5
Ceal	Alaska	12	2569	80	65	39	10	28-Jul	-4	1996.6
Centore	Oregon	3	1429	45	36	40	25	2-Aug	1	2136.3
Chernigovka	Russia	1	N/D	N/D	N/D	N/D	25	24-Aug	23	2686.3
Cherokee	Kansas	10	1551	48	39	39	23	1-Aug	0	2108.5
Chief	South Dakota	1	2261	71	57	44	35	8-Aug	7	2297.9
Cignee G4	France	2	2512	79	64	38	40	9-Aug	8	2323.8
Cinerea	Sweden	3	2827	88	72	39	33	16-Aug	15	2401.5
Clarion	Maine	3	N/D	N/D	N/D	N/D	25	14-Aug	13	2454.0
Clark	Oregon	1	3424	107	87	38	10	19-Aug	18	2576.8
Climax	North Carolina	9	2172	68	55	42	16	11-Aug	10	2376.1
Clintafe	Iowa	3	N/D	N/D	N/D	N/D	25	15-Aug	14	2479.5
Clintland	Indiana	3	N/D	N/D	N/D	N/D	20	15-Aug	14	2479.5
Clinton	Iowa	13	1004	31	25	38	10	6-Aug	5	2245.6
Cody	Idaho	10	1485	46	38	40	14	9-Aug	8	2323.8
Cody II	Wyoming	1	1558	49	40	41	19	11-Aug	10	2376.1
College Wonder	Michigan	9	2288	72	58	42	13	10-Aug	9	2350.1
Colorado	Colorado	3	2544	80	65	44	0	10-Aug	9	2350.1
Colorado No. 37	Colorado	7	2165	68	55	41	29	13-Aug	12	2427.9
Colorado Select 11	Colorado	1	N/D	N/D	N/D	N/D	25	8-Aug	7	2297.9
Craig	New York	4	N/D	N/D	N/D	N/D	12	15-Aug	14	2479.5
Crown	Sweden	5	2667	83	68	39	34	16-Aug	15	2401.5
Danish	Denmark	1	2560	80	65	43	25	25-Aug	24	2706.5

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Derby	Alberta	1	3654	114	93	38	0	10-Aug	9	2350.1
Dippes Weishafer	Germany	5	2495	78	63	42	18	19-Aug	18	2576.8
Dumont	Manitoba	2	2912	91	74	42	5	1-Aug	0	2108.5
Eagle	Sweden	16	2386	75	61	42	15	10-Aug	9	2350.1
Early Champion	Iowa	1	N/D	N/D	N/D	N/D	50	21-Aug	20	2621.2
Early Miller	Scotland	1	N/D	N/D	N/D	N/D	10	26-Aug	25	2727.0
Eaton	Michigan	7	1099	34	28	35	16	5-Aug	4	2218.3
Echo	Sweden	10	2772	87	70	42	19	11-Aug	10	2376.1
Eckendorfer Froh Borriesa	Germany	2	3328	104	84	45	25	25-Aug	24	2706.5
Eho	Finland	12	2302	72	58	38	17	12-Aug	11	2401.5
Eho Tammisto	Finland	2	1171	37	30	39	10	24-Jul	-8	1883.4
Endress Weiss Hafer	Germany	3	2336	73	59	41	25	18-Aug	17	2554.2
Esa	Finland	1	N/D	N/D	N/D	N/D	25	28-Aug	27	2766.6
Esakaura	Finland	3	2944	92	75	44	35	17-Aug	16	2529.6
Exeter	Manitoba	10	1616	51	41	39	33	10-Aug	9	2350.1
Fidler	Saskatchewan	3	4576	143	116	35	10	14-Aug	13	2454.0
Fishers Wirchenblatter III	Germany	2	4320	135	110	43	50	25-Aug	24	2706.5
Flamingstreue	Germany	10	2184	68	55	43	29	10-Aug	9	2350.1
Florida 167	Florida	1	N/D	N/D	N/D	N/D	0	28-Aug	27	2766.6
Foothill	Alberta	2	4000	125	101	40	5	8-Aug	7	2297.9
Fortune	Saskatchewan	7	1872	59	47	43	35	13-Aug	12	2427.9
Franklin	Ohio	3	2016	63	51	42	10	11-Aug	10	2376.1
Frazer	Manitoba	5	2386	75	61	42	15	13-Aug	12	2427.9
Fundy	Ontario	3	1044	33	26	39	33	1-Aug	0	2108.5
Gamma		1	N/D	N/D	N/D	N/D	0	19-Aug	18	2576.8
Garry	Manitoba	7	1363	43	35	42	18	5-Aug	4	2218.3
Gemini	Alberta	1	4128	129	105	41	25	9-Aug	8	2323.8
Glen	Quebec	7	1678	52	43	43	33	3-Aug	2	2163.2
Glen Innis No. 8	Australia	1	N/D	N/D	N/D	N/D	10	27-Aug	26	2746.9
Golden Rain	Sweden	21	2327	73	59	42	23	11-Aug	10	2376.1
Golden Rustproof	Maryland	5	2563	80	65	41	54	19-Aug	18	2576.8
Goldmine	Iowa	6	1413	44	36	40	22	5-Aug	4	2218.3
Goldwin	New York	6	2144	67	54	39	20	13-Aug	12	2427.9
Goodfield	Wisconsin	2	644	20	16	41	5	26-Jul	-6	1940.3
Gopher	Minnesota	13	2192	68	56	40	17	8-Aug	7	2297.9
Grignonnaise	France	1	N/D	N/D	N/D	N/D	0	28-Aug	27	2766.6
Grizzly	Alberta	4	3680	115	93	40	65	21-Aug	20	2621.2
Guldrugn	Sweden	2	995	31	25	40	25	26-Jul	-6	1940.3

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Guyra	Australia	1	N/D	N/D	N/D	N/D	40	21-Aug	20	2621.2
Harmon	Ontario	6	3936	123	100	41	20	21-Aug	20	2621.2
Haver III Mansholts	Germany	10	2369	74	60	42	23	12-Aug	11	2401.5
Hinoat (high protein)	Saskatchewan	1	2048	64	52	41	N/D	28-Aug	27	2766.6
Hirschbacher	Germany	1	N/D	N/D	N/D	N/D	50	21-Aug	20	2621.2
Honester Imperial Blanca	Spain	2	3200	100	81	44	10	30-Aug	29	2805.1
Hudson	Manitoba	4	3520	110	89	40	0	6-Aug	5	2245.6
Huron	Michigan	1	N/D	N/D	N/D	N/D	0	24-Aug	23	2686.3
Hutcheson	Virginia	1	N/D	N/D	N/D	N/D	0	15-Aug	14	2479.5
Imbros Island	Turkey	1	N/D	N/D	N/D	N/D	10	28-Aug	27	2766.6
Improved Garry	Manitoba	8	1359	42	34	42	29	6-Aug	5	2245.6
Iomine	Iowa	10	1899	59	48	42	34	8-Aug	7	2297.9
Iowa No. 102	Iowa	5	2596	81	66	41	34	19-Aug	18	2576.8
Iowa No. 105	Iowa	6	2166	68	55	38	30	5-Aug	4	2218.3
IS 689	Russia	2	1984	62	50	40	50	7-Aug	6	2271.5
Ithacan	New York	11	2000	63	51	42	21	10-Aug	9	2350.1
Jackson	Michigan	1	N/D	N/D	N/D	N/D	0	21-Aug	20	2621.2
Jalostettu	Finland	1	N/D	N/D	N/D	N/D	40	26-Aug	25	2727.0
Jasper	Alberta	4	3676	115	93	39	5	1-Aug	0	2108.5
Jokioinen 0606	Finland	9	1558	49	40	41	24	4-Aug	3	2190.9
Jokioinen 0670	Finland	1	1201	38	30	38	N/D	19-Jul	-12	1737.9
Kelsey	Ontario	4	4640	145	118	42	30	4-Aug	3	2190.9
Kent	Michigan	2	1776	56	45	43	0	27-Jul	-5	1968.8
Kherson	Russia	7	1830	57	46	37	29	3-Aug	2	2163.2
Kirsches Gelbhafer	Germany	5	2867	90	73	43	29	20-Aug	19	2599.2
Kjuto	Hungary	4	N/D	N/D	N/D	N/D	37	9-Aug	8	2323.8
Kodiak		1	521	16	13	34	N/D	20-Jul	-11	1766.8
Korgen	Norway	2	861	27	22	33	60	19-Jul	-12	1737.9
Kyro	Finland	3	2261	71	57	44	27	4-Aug	3	2190.9
Kyto	Finland	7	1404	44	36	42	34	4-Aug	3	2190.9
Kyto White	Finland	6	2160	68	55	42	10	9-Aug	8	2323.8
Larain	Alberta	8	1451	45	37	43	23	9-Aug	8	2323.8
Larry	Illinois	1	3904	122	99	34	10	3-Aug	2	2163.2
Laurent	Quebec	2	5184	162	132	39	10	1-Aug	0	2108.5
Lazie		3	1803	56	46	35	38	14-Aug	13	2454.0
Legacy	Ontario	1	N/D	N/D	N/D	N/D	10	24-Aug	23	2686.3
Libertas	Netherlands	3	1413	44	36	41	20	30-Jul	-2	2053.2

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Light Husk	Netherlands	1	N/D	N/D	N/D	N/D	50	26-Aug	25	2727.0
Lightning	Sweden	3	2089	65	53	43	25	6-Aug	5	2245.6
Long Houghton	Wales	3	2272	71	58	40	5	14-Aug	13	2454.0
Mabel	Ontario	2	1360	43	35	37	26	1-Aug	0	2108.5
Maganskii 044	Russia	4	N/D	N/D	N/D	N/D	42	12-Aug	11	2401.5
Maganskii 339	Russia	8	1446	45	37	39	23	3-Aug	2	2163.2
Maine	Maine	1	3136	98	80	44	40	26-Aug	25	2727.0
Maine 340	Maine	10	2047	64	52	43	31	10-Aug	9	2350.1
Marida	Idaho	3	1552	49	39	42	5	1-Aug	0	2108.5
Markton	Turkey	14	1619	51	41	41	35	8-Aug	7	2297.9
Marne	Netherlands	3	1837	57	47	39	25	3-Aug	2	2163.2
Marvelous	England	7	2096	66	53	45	18	15-Aug	14	2479.5
Mazanski	Russia	1	N/D	N/D	N/D	N/D	N/D	4-Sep	34	2895.2
Messkirchev Ianohafer	Germany	2	1824	57	46	44	60	14-Aug	13	2454.0
Mindo	Minnesota	5	989	31	25	38	10	31-Jul	-1	2080.7
Minor	Denmark	10	2264	71	57	43	16	10-Aug	9	2350.1
Minrus	Minnesota	1	N/D	N/D	N/D	N/D	0	24-Aug	23	2686.3
Misdag	Sweden	2	759	24	19	37	68	18-Jul	-13	1709.0
Mission	Montana	2	1952	61	50	42	37	29-Jul	-3	2025.3
Mo. 0-200	Missouri	3	1975	56	50	41	22	10-Aug	9	2350.1
Mo. 04195	Missouri	1	1856	58	47	42	50	4-Aug	3	2190.9
Mongolian	Manitoba	1	1792	56	45	54	25	15-Aug	14	2479.5
Montana	Montana	5	2081	65	53	37	10	15-Aug	14	2479.5
Multica		1	3136	98	80	41	10	15-Aug	14	2479.5
Narne	India	1	1996	62	51	43	40	20-Jul	-11	1766.8
Native des Alps	France	6	2020	63	51	37	42	3-Aug	2	2163.2
Nidar II	Norway	5	1180	37	30	40	31	28-Jul	-4	1996.6
Nizhidanc Hich	Russia	3	1600	50	41	37	20	16-Aug	15	2401.5
No. Aa 676	Scotland	7	1848	58	47	41	21	8-Aug	7	2297.9
No. Aa 689	Scotland	1	2752	86	70	43	25	28-Aug	27	2766.6
No. Aa 712	Scotland	5	2879	90	73	42	15	15-Aug	14	2479.5
No. Ab 6902	Scotland	1	N/D	N/D	N/D	N/D	40	11-Aug	10	2376.1
Norum	Norway	2	688	22	17	37	45	19-Jul	-12	1737.9
Nuprairie	Michigan	6	2465	77	63	44	26	13-Aug	12	2427.9
OAC 72	Ontario	4	N/D	N/D	N/D	N/D	25	15-Aug	14	2479.5
Ogle	Illinois	1	3424	107	87	33	10	3-Aug	2	2163.2
OSU 2238	Ohio	3	1984	62	50	41	0	11-Aug	10	2376.1
Oneida	New York	1	1354	42	34	41	0	30-Jul	-2	2053.2
Orbit	New York	2	1440	45	37	42	33	3-Aug	2	2163.2

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Orn	Sweden	7	2094	65	53	41	24	8-Aug	7	2297.9
Osmo I	Finland	1	N/D	N/D	N/D	N/D	40	26-Aug	25	2727.0
Osmo II	Finland	1	N/D	N/D	N/D	N/D	40	26-Aug	25	2727.0
OT 238	Alberta	2	3161	99	80	34	0	4-Aug	3	2190.9
OT 736	Alberta	2	3103	97	79	34	0	1-Aug	0	2108.5
OT 745	Alberta	2	3553	111	90	38	0	1-Aug	0	2108.5
OT 755	Alberta	2	4012	125	102	32	0	4-Aug	3	2190.9
Ottawa 3928-5-7	Ontario	1	1124	35	29	41	0	22-Jul	-11	1824.8
Overland	Idaho	12	1552	48	39	42	10	9-Aug	8	2323.8
Palomino	North Dakota	3	718	22	18	40	25	24-Jul	-8	1883.4
Park	Montana	9	1165	36	30	42	19	6-Aug	5	2245.6
Pellervo	Finland	1	N/D	N/D	N/D	N/D	50	25-Aug	24	2706.5
Pelso	Finland	3	3125	98	79	41	25	15-Aug	14	2479.5
Pendek	Netherlands	19	1672	52	42	41	10	6-Aug	5	2245.6
Pol	Sweden	8	3285	103	83	30	0	1-Aug	0	2108.5
Polonca	Spain	4	2400	75	61	36	57	21-Aug	20	2621.2
Portage	Wisconsin	2	1206	38	31	44	5	31-Jul	-1	2080.7
Primus II	Sweden	8	1522	48	39	40	17	7-Aug	6	2271.5
Proat	Minnesota	1	2193	69	56	38	0	30-Jul	-2	2053.2
Progress	England	1	N/D	N/D	N/D	N/D	50	30-Aug	29	2805.1
Puhti	Sweden	1	5056	158	128	35	50	5-Aug	4	2218.3
Pureline Potato	England	3	2091	65	53	41	0	22-Aug	21	2643.2
Pusa Hybrid G	Denmark	2	928	29	24	38	0	28-Aug	27	2766.6
Random	Alberta	6	3520	110	89	38	N/D	12-Aug	11	2401.5
Rapida	California	1	N/D	N/D	N/D	N/D	10	22-Aug	21	2643.2
Record	England	12	2286	71	58	42	27	12-Aug	11	2401.5
Reid	Ontario	1	N/D	N/D	N/D	N/D	75	17-Aug	16	2529.6
Rex	Denmark	6	1859	58	47	42	27	8-Aug	7	2297.9
Richland	Iowa	7	1995	63	51	40	29	4-Aug	3	2190.9
Riel	Manatoba	3	3977	124	101	39	0	3-Aug	2	2163.2
Rodney	Manitoba	20	1701	53	43	42	30	5-Aug	4	2218.3
Radnorshire Spring	Wales	3	2677	84	68	38	20	13-Aug	12	2427.9
Roxton	Quebec	8	2869	90	73	42	20	13-Aug	12	2427.9
Rusota	North Dakota	1	N/D	N/D	N/D	N/D	20	24-Aug	23	2686.3
Russell	Ontario	4	1883	59	48	43	25	10-Aug	9	2350.1
S 174	England	5	1592	50	40	40	18	6-Aug	5	2245.6
S 222	England	3	1728	54	44	40	25	12-Aug	11	2401.5
S 81	England	3	1899	59	48	40	5	23-Aug	22	2665.2
S 84	England	12	2456	77	62	43	22	16-Aug	15	2401.5

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Saltzer	Wisconsin	11	2091	65	53	43	36	10-Aug	9	2350.1
Same	Sweden	2	1121	35	28	42	10	27-Jul	-5	1968.8
Santa Fe	Argentina	1	2752	86	70	36	N/D	14-Aug	13	2454.0
Sauk	Wisconsin	6	694	22	18	38	34	9-Aug	8	2323.8
Says	Kansas	3	1171	37	30	40	25	26-Jul	-6	1940.3
Schumaker No. 7	Iowa	1	N/D	N/D	N/D	N/D	25	26-Aug	25	2727.0
Scotchland	Scotland	2	2432	76	62	44	0	20-Aug	19	2599.2
Scotian	Nova Scotia	3	806	25	20	37	18	2-Aug	1	2136.3
Shasta	Idaho	4	N/D	N/D	N/D	N/D	48	23-Aug	22	2665.2
Shefford	Quebec	3	N/D	N/D	N/D	N/D	55	13-Aug	12	2427.9
Shelby	Iowa	8	1952	61	50	44	19	16-Aug	15	2401.5
Shield	Ontario	3	715	22	18	37	0	30-Jul	-2	2053.2
Shlykov No. 8232	Russia	1	N/D	N/D	N/D	N/D	10	28-Aug	27	2766.6
Siberian	Russia	10	2162	68	55	42	26	11-Aug	10	2376.1
Silberhafer	Germany	7	2470	77	63	42	24	10-Aug	9	2350.1
Silver King	Czech Republic	1	1376	43	35	39	0	1-Aug	0	2108.5
Silvermine	Wisconsin	10	2090	65	53	41	39	11-Aug	10	2376.1
Simcoe	Ontario	7	1361	43	35	42	42	3-Aug	2	2163.2
Sioux	Manitoba	4	4000	125	101	39	25	4-Aug	3	2190.9
Sisu	Finland	12	2392	75	61	40	26	13-Aug	12	2427.9
Sisu Tammisto	Finland	2	1066	33	27	42	0	24-Jul	-8	1883.4
Sixty Day	South Dakota	1	1716	54	44	37	40	12-Aug	11	2401.5
Slatilovsky 56	Russia	3	2123	66	54	43	10	16-Aug	15	2401.5
Sol	Sweden	2	1384	43	35	40	0	24-Jul	-8	1883.4
Sol II	Sweden	7	1894	59	48	42	12	7-Aug	6	2271.5
Sovereign	Sweden	2	3744	117	95	44	10	26-Aug	25	2727.0
Spear	South Dakota	1	2016	63	51	37	N/D	26-Aug	25	2727.0
Spontanie	Sweden	1	N/D	N/D	N/D	N/D	0	28-Aug	27	2766.6
Spooner	Wisconsin	2	1453	45	37	42	25	14-Aug	13	2454.0
Star	Sweden	4	N/D	N/D	N/D	N/D	25	13-Aug	12	2427.9
Stormont Iris	Ireland	5	2898	91	74	44	34	21-Aug	20	2621.2
Su 25/357	Finland	6	1235	39	31	38	54	25-Jul	-7	1911.9
Sun II	Denmark	3	2135	67	54	43	15	7-Aug	6	2271.5
Swedish Select	Russia	10	2265	71	57	42	19	11-Aug	10	2376.1
Ta 0252	Ontario	6	1527	48	39	41	22	3-Aug	2	2163.2
Ta 1406	Ontario	6	1451	45	37	43	25	2-Aug	1	2136.3
Tammi	Finland	14	2088	65	53	43	19	10-Aug	9	2350.1
Tammie Tammisto	Finland	5	2421	76	61	43	28	18-Aug	17	2554.2
Tarasouka	Russia	11	2176	68	55	43	21	8-Aug	7	2297.9

Tanana Valley Oat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Tarn Finley	Scotland	7	2090	65	53	35	16	15-Aug	14	2479.5
Tirius II	Sweden	1	N/D	N/D	N/D	N/D	25	16-Aug	15	2401.5
Todaro No. 9	Italy	3	2453	77	62	37	20	16-Aug	15	2401.5
Toral	Alaska	34	3886	123	99	39	10	1-Aug	0	2108.5
Trio	Sweden	7	1845	58	47	44	31	9-Aug	8	2323.8
Tschermake Truhafer	Austria	1	N/D	N/D	N/D	N/D	25	26-Aug	25	2727.0
Tuho	Finland	4	1960	61	50	43	33	10-Aug	9	2350.1
Tuho Tammisto	Finland	3	1630	51	41	42	25	2-Aug	1	2136.3
Tuotto	Finland	5	2920	91	74	41	23	18-Aug	17	2554.2
Ukraine	Russia	1	N/D	N/D	N/D	N/D	10	27-Aug	26	2746.9
Valko	Finland	1	5088	159	129	36	10	26-Aug	25	2727.0
Valor	Saskatchewan	7	1557	49	39	39	23	31-Jul	-1	2080.7
Vanguard	Manitoba	2	3776	118	96	44	13	14-Aug	13	2454.0
Vicland	Wisconsin	11	1411	44	36	40	23	7-Aug	6	2271.5
Victor	England	3	2656	83	67	44	35	16-Aug	15	2401.5
Victorgrain	South Carolina	1	N/D	N/D	N/D	N/D	0	27-Aug	26	2746.9
Victory	Sweden	19	2243	70	57	43	23	12-Aug	11	2401.5
Victory II	Sweden	3	1795	56	46	44	22	8-Aug	7	2297.9
Voll/Selma	Norway	12	1566	49	40	44	10	2-Aug	1	2136.3
Vouti	Finland	1	4704	147	119	37	5	7-Aug	6	2271.5
V-R	Australia	1	389	12	10	34	25	19-Jul	-12	1737.9
W.S. Starn 14535	Sweden	13	2237	70	57	43	21	10-Aug	9	2350.1
Waubay	South Dakota	2	N/D	N/D	N/D	N/D	13	15-Aug	14	2479.5
Weibulls 16084	Sweden	11	1663	52	42	42	18	6-Aug	5	2245.6
Weibulls 16090	Sweden	4	1489	47	38	40	20	31-Jul	-1	2080.7
Weibulls 16178	Sweden	5	1858	58	47	45	19	8-Aug	7	2297.9
Weibulls 16228	Sweden	5	1985	62	50	42	15	5-Aug	4	2218.3
White	France	5	2663	83	68	43	30	23-Aug	22	2665.2
White Spring	Wales	1	N/D	N/D	N/D	N/D	40	30-Aug	29	2805.1
White Winter	Wales	3	2549	80	65	42	10	17-Aug	16	2529.6
Winter Dun	England	2	2752	86	70	42	50	26-Aug	25	2727.0
Winter Turf	England	5	2894	91	73	39	50	14-Aug	13	2454.0
Wisconsin No. 7	Wisconsin	3	2016	63	51	38	55	10-Aug	9	2350.1
Woden	Netherlands	7	2213	69	56	41	19	15-Aug	14	2479.5
Woodstock	Ontario	2	4736	148	120	38	50	26-Aug	25	2727.0
Woodward Winter	Utah	2	1712	54	43	42	13	17-Aug	16	2529.6
Worthy	Michigan	1	N/D	N/D	N/D	N/D	0	24-Aug	23	2686.3
Wyndmera	North Dakota	2	N/D	N/D	N/D	N/D	25	19-Aug	18	2576.8
Zephyr	Minnesota	3	1779	56	45	43	10	4-Aug	3	2190.9

Tanana Valley Oat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
				Black feed, spring						
Argus Black	Sweden	6	1693	53	43	42	32	6-Aug	5	2245.6
Biharia	India	1	N/D	N/D	N/D	N/D	10	28-Aug	27	2766.6
Black	Sweden	1	N/D	N/D	N/D	N/D	50	26-Aug	25	2727.0
Black Rival	England	5	2168	68	55	42	21	15-Aug	14	2479.5
Black Tartar	Australia	7	2185	68	55	38	22	11-Aug	10	2376.1
Engelbrekt II	Sweden	5	1455	45	37	40	24	5-Aug	4	2218.3
Hein II	Norway	8	1919	60	49	42	29	10-Aug	9	2350.1
Hermogul	Sweden	6	1452	45	37	39	24	5-Aug	4	2218.3
Klock Ekstra	Sweden	6	1880	59	48	40	23	3-Aug	2	2163.2
Nip	Sweden	22	3539	111	90	35	10	6-Aug	5	2245.6
Old Island Black	Prince Edward Island	3	2027	63	51	41	25	14-Aug	13	2454.0
Orion	Sweden	9	1766	55	45	41	10	10-Aug	9	2350.1
Orion II	Sweden	12	1441	45	37	40	25	3-Aug	2	2163.2
Orion III	Sweden	6	1562	49	40	41	24	1-Aug	0	2108.5
Sirus	Sweden	6	1698	53	43	42	19	6-Aug	5	2245.6
Sirus II	Sweden	8	2013	63	51	42	18	5-Aug	4	2218.3
Stormogul	Sweden	6	1563	49	40	40	32	5-Aug	4	2218.3
Stormogul II	Sweden	4	1791	56	45	40	19	11-Aug	10	2376.1
Su 25/356	Finland	6	990	31	25	38	52	25-Jul	-7	1911.9
Ylitornio	Finland	5	1295	40	33	37	53	27-Jul	-5	1968.8
				Red feed, spring						
Bates 89	California	1	2535	79	64	34	0	17-Aug	16	2529.6
Belar	Australia	5	1960	61	50	38	31	5-Aug	4	2218.3
Camellia	Louisiana	5	2403	75	61	41	10	18-Aug	17	2554.2
Fulgrain	South Carolina	3	2379	74	60	40	5	14-Aug	13	2454.0
Fulghum Select H.C. 726	Georgia	1	N/D	N/D	N/D	N/D	10	27-Aug	26	2746.9
Fulmer	New York	3	1461	46	37	36	5	13-Aug	12	2427.9
Kanota	Kansas	1	1515	47	38	30	0	15-Aug	14	2479.5
Little	Alabama	12	1927	60	49	40	30	8-Aug	7	2297.9
Montezuma	California	1	2178	68	55	28	0	15-Aug	14	2479.5
Neosho	Idaho	2	1856	58	47	43	0	30-Jul	-2	2053.2
Pert	California	1	2696	84	68	32	0	21-Aug	20	2621.2
Red Algerian	Argentina	1	N/D	N/D	N/D	N/D	0	27-Aug	26	2746.9
Red Rustproof	California	7	2354	74	60	39	24	11-Aug	10	2376.1
Richlands Fulghum	Iowa	1	N/D	N/D	N/D	N/D	10	21-Aug	20	2621.2
Sierra	California	1	2902	91	74	28	0	20-Aug	19	2599.2
Texas Red	Texas	2	2704	85	69	38	50	4-Aug	3	2190.9

Tanana Valley Oat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Texas Red Rustproof	Mexico	3	1856	58	47	39	35	12-Aug	11	2401.5
Victoria	Argentina	5	2407	75	61	44	31	20-Aug	19	2599.2
Victorygrain	South Carolina	1	1888	59	48	40	N/D	14-Aug	13	2454.0
				Hulless, spring						
AC Belmont	Manitoba	5	2888	66	73	43	17	3-Aug	2	2163.2
AC Gwen	Manitoba	4	3012	68	76	42	11	1-Aug	0	2108.5
Disco 22	Ontario	5	3154	79	80	39	26	17-Aug	16	2529.6
Equavena	Quebec	3	2538	58	64	45	3	28-Jul	-4	1996.6
Freedom	Maine	5	2851	65	72	42	0	5-Aug	4	2218.3
James	South Dakota	2	1120	35	28	53	25	9-Aug	8	2323.8
Laurel	Ontario	3	2090	48	53	49	5	31-Jul	-1	2080.7
Mongolian	Saskatchewan	1	2376	54	60	53	10	6-Aug	5	2245.6
Mt - 1	Montana	3	1346	37	34	50	10	7-Aug	6	2271.5
Naked	England	3	1304	32	33	47	13	21-Aug	20	2621.2
Nakota	South Dakota	3	1088	34	28	51	10	7-Aug	6	2271.5
Nemaha	Nebraska	2	1342	38	34	38	10	3-Aug	2	2163.2
Pennuda	Pennsylvania	4	1055	24	27	41	0	4-Aug	3	2190.9
Terra	Saskatchewan	1	3344	76	85	41	0	7-Aug	6	2271.5
Tibor	Alberta	2	2508	57	64	44	0	5-Aug	4	2218.3

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth.
N/D = No Data was collected. All oat varieties were compared with 'Toral' yellow spring oat as the standard variety.

True Cereal Crops – Wheat

Tanana Valley Wheat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
				Hard red, spring						
40 - 31 - 22		3	1325	22	47	62	25	5-Aug	6	2218.3
A. Merle Huff	Iowa	1	532	9	19	61	N/D	9-Aug	10	2323.8
AC Intrepid	Saskatchewan	5	3963	66	140	60	22	1-Aug	2	2108.5
AC Splendor	Saskatchewan	3	2127	35	75	57	20	10-Aug	11	2350.1
Acadin	Quebec	2	1576	26	56	61	75	28-Aug	29	2766.6
Apu	Finland	7	2099	35	74	60	50	11-Aug	12	2376.1
Aguilera	Mexico	1	4800	80	170	62	0	18-Jul	-12	1709.0
Anza	Mexico	1	2040	34	72	60	0	20-Aug	21	2599.2
Asosan	Japan	5	1804	30	64	62	15	19-Aug	20	2576.8
Atson	England	5	1760	29	62	62	40	19-Aug	20	2576.8
B-11	Ethiopia	1	1277	21	45	61	N/D	4-Aug	5	2190.9
Balilla	Italy	1	1195	20	42	59	N/D	8-Aug	9	2297.9

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Bell	Scotland	1	866	14	31	63	N/D	31-Jul	1	2080.7
Benito	Manitoba	1	2760	46	98	62	0	25-Aug	26	2706.5
Betschard	Switzerland	5	2136	36	76	60	26	29-Aug	30	2786.0
Blando 2635	Mexico	1	1020	17	36	62	N/D	12-Aug	13	2401.5
Boart 46	Mexico	1	4440	74	157	61	0	23-Jul	-7	1854.3
Butte	North Dakota	1	3600	60	128	63	10	19-Aug	20	2576.8
Canadian 12	Saskatchewan	1	1217	20	43	64	N/D	2-Aug	3	2136.3
Candcal	California	1	9540	159	338	63	0	20-Jul	-10	1766.8
Canthatch	Manitoba	6	2175	36	77	61	21	20-Aug	21	2599.2
Canuck	Manitoba	2	2860	48	101	62	0	5-Aug	6	2218.3
Capa	Uruguay	1	N/D	N/D	N/D	N/D	N/D	22-Aug	23	2643.2
Carpo	Germany	1	N/D	N/D	N/D	N/D	N/D	20-Aug	21	2599.2
CDC Alsask	Saskatchewan	2	4196	70	149	62	38	9-Aug	10	2323.8
CDC Bounty	Saskatchewan	5	3377	56	120	61	33	2-Aug	3	2136.3
CDC Osler	Saskatchewan	2	4163	69	147	62	20	8-Aug	9	2297.9
Ceres	North Dakota	7	959	16	34	60	13	12-Aug	13	2401.5
Chena	Alaska	17	4112	69	146	58	18	3-Aug	4	2163.2
Chuko	Japan	5	1704	28	60	60	12	21-Aug	22	2621.2
Colano	Colorado	2	1277	21	45	61	N/D	28-Aug	29	2766.6
Columbus	Manitoba	1	3420	57	121	63	0	15-Aug	16	2479.5
Conway	Saskatchewan	1	3285	55	116	61	0	5-Aug	6	2218.3
Crim	Minnesota	2	2700	45	96	61	0	25-Aug	26	2706.5
Diamond II	Sweden	4	1950	33	69	63	31	14-Aug	15	2454.0
Diclow		1	N/D	N/D	N/D	N/D	5	4-Sep	36	2895.2
Drott	Sweden	3	2734	46	97	65	37	14-Aug	15	2454.0
Early Finnish	Kyrgyzstan	5	1754	29	62	59	29	8-Aug	9	2297.9
Early Harvest	California	1	1261	21	45	62	N/D	4-Aug	5	2190.9
Early Sunrise		2	1023	17	36	61	25	2-Aug	3	2136.3
Early Yakutian	Sakha Republic	2	1980	33	70	60	44	2-Aug	3	2136.3
ECM 316	Afganistan	1	N/D	N/D	N/D	N/D	N/D	25-Aug	26	2706.5
Eshimo Shinriki	Japan	5	1594	27	56	61	17	20-Aug	21	2599.2
Federation	Australia	3	4383	73	155	61	13	27-Jul	-3	1968.8
Florelle	Morocco	2	1168	19	41	62	N/D	3-Aug	4	2163.2
Florence	Australia	1	2100	35	74	60	0	20-Jul	-10	1766.8
Ford	Australia	4	1582	26	56	60	29	15-Aug	16	2479.5
Fortuna	Montana	2	5580	93	198	62	50	17-Aug	18	2529.6
Fylgia	Sweden	3	2336	39	83	64	47	15-Aug	16	2479.5
Gabo	Australia	3	2280	38	81	59	20	17-Aug	18	2529.6
Garnet	Ontario	11	1938	32	69	62	29	15-Aug	16	2479.5
Grassland	China	1	1124	19	40	63	N/D	31-Jul	1	2080.7

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Hadakeda Konugi	Japan	6	1688	28	60	60	20	14-Aug	15	2454.0
Haya Komugi	Japan	2	1768	29	63	61	N/D	25-Aug	26	2706.5
Himore No. 83		1	938	16	33	60	N/D	31-Jul	1	2080.7
Hopea	Finland	7	2137	36	76	62	37	14-Aug	15	2454.0
I-40-15	Saskatchewan	4	1860	31	66	60	54	10-Aug	11	2350.1
I-40-16	Saskatchewan	4	1920	32	68	59	69	10-Aug	11	2350.1
I-40-24	Saskatchewan	4	1680	28	60	59	53	10-Aug	11	2350.1
I-40-25	Saskatchewan	8	1739	29	62	60	46	9-Aug	10	2323.8
II-42-19	Saskatchewan	1	N/D	N/D	N/D	N/D	10	28-Aug	29	2766.6
II-42-106	Saskatchewan	1	N/D	N/D	N/D	N/D	0	28-Aug	29	2766.6
II-42-107	Saskatchewan	1	N/D	N/D	N/D	N/D	25	28-Aug	29	2766.6
II-42-108	Saskatchewan	1	N/D	N/D	N/D	N/D	0	28-Aug	29	2766.6
Ideal	Australia	1	1656	28	59	64	N/D	2-Aug	3	2136.3
Illini Chief	Illinois	1	1458	24	52	63	N/D	12-Aug	13	2401.5
Jokioinen 02841	Finland	11	1763	29	62	61	35	12-Aug	13	2401.5
Karn II	Sweden	5	2322	39	82	63	26	18-Aug	19	2554.2
Katepwa	Manitoba	3	3528	59	125	61	0	5-Aug	6	2218.3
Kenya 10866	Kenya	1	6300	105	223	61	0	18-Jul	-12	1709.0
Kenya 9906	Kenya	1	8880	148	315	63	0	20-Jul	-10	1766.8
Kenyon	Saskatchewan	2	4881	81	173	63	0	5-Aug	6	2218.3
Kernia	Algeria	6	2561	43	91	61	38	10-Aug	11	2350.1
Khogot (Chogot)	Russia	14	1792	30	63	59	44	8-Aug	9	2297.9
Kimmo	Finland	12	2132	36	76	64	20	18-Aug	19	2554.2
Kiuro	Japan	7	1976	33	70	62	49	16-Aug	17	2401.5
Laura	Alberta	2	5065	84	179	63	0	6-Aug	7	2245.6
Leader	Saskatchewan	1	4200	70	149	63	30	15-Aug	16	2479.5
Lemhi 66	Idaho	1	4383	73	155	61	25	10-Aug	11	2350.1
Manitou	Manitoba	4	1764	29	62	63	20	17-Aug	18	2529.6
Marquis	Ontario	2	7800	130	276	63	0	11-Aug	12	2376.1
Marroqui	Morocco	1	6060	101	215	62	0	18-Jul	19	1709.0
Mecca	China	1	1815	30	64	64	N/D	8-Aug	9	2297.9
Mentana	Italy	1	9900	165	351	61	0	20-Jul	21	1766.8
Mida	North Dakota	2	979	16	35	61	25	31-Jul	1	2080.7
Miltrum No. 2687	Australia	1	1151	19	41	62	N/D	10-Aug	11	2350.1
MN 7083	Minnesota	1	N/D	N/D	N/D	N/D	N/D	13-Aug	14	2427.9
MN 70113	Minnesota	1	N/D	N/D	N/D	N/D	N/D	16-Aug	17	2401.5
Mocho C9693	Australia	1	1409	23	50	64	N/D	15-Aug	16	2479.5
MT - 6728	Montana	4	4260	71	151	64	0	17-Aug	18	2529.6
N-36	Pakistan	2	1453	24	51	63	10	2-Aug	3	2136.3
Napayo	Manitoba	1	2940	49	104	62	5	22-Aug	23	2643.2

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Narym No. 5	Russia	2	2472	41	88	63	45	20-Aug	21	2599.2
Narym No. 13	Russia	3	713	12	25	63	40	11-Aug	12	2376.1
Naryml	China	1	1500	25	53	60	5	4-Aug	5	2190.9
Neepawa	Alberta	4	3240	54	115	64	5	15-Aug	16	2479.5
Newthatch	Minnesota	3	2099	35	74	61	5	30-Jul	0	2053.2
Ngochen	China	2	1830	31	65	61	50	7-Aug	8	2271.5
No. 2942	Turkey	5	1855	31	66	60	28	21-Aug	22	2621.2
No. 3231	Turkey	4	2202	37	78	59	25	31-Aug	32	2824.2
No. 3274	Turkey	3	2400	40	85	59	25	6-Sep	39	2929.6
Nogal	Alaska	18	3201	53	113	58	24	2-Aug	3	2136.3
Norrona	Norway	2	1324	22	47	62	50	2-Aug	3	2136.3
Norana	Montana	8	2101	35	74	61	53	16-Aug	17	2401.5
Opal	Germany	1	3360	56	119	61	10	15-Aug	16	2479.5
Park	Alberta	19	3681	61	130	60	5	4-Aug	5	2190.9
Peak 72	Idaho	1	5580	93	198	62	50	17-Aug	18	2529.6
Pelor Colorado	Mexico	1	8520	142	302	62	0	20-Jul	-10	1766.8
Pilot	North Dakota	3	3004	50	106	62	0	29-Jul	-1	2025.3
Polk	Minnesota	1	2700	45	96	61	0	13-Aug	14	2427.9
Pondus	Sweden	5	1882	31	67	64	32	20-Aug	21	2599.2
Progress	Wisconsin	3	2793	47	99	63	28	20-Aug	21	2599.2
PT 425	Saskatchewan	3	2237	37	79	57	39	11-Aug	12	2376.1
PT 430	Saskatchewan	3	3060	51	108	57	9	10-Aug	11	2350.1
PT 437	Saskatchewan	3	2569	43	91	57	21	9-Aug	10	2323.8
Queretaro	Mexico	1	5100	85	181	62	0	20-Jul	-10	1766.8
Ramona 44	California	1	5460	91	193	61	0	20-Jul	-10	1766.8
Red Bobs	Saskatchewan	7	1185	20	42	61	27	13-Aug	14	2427.9
Reward	Ontario	3	3130	52	111	63	13	25-Jul	-5	1911.9
Roblin	Manitoba	10	3325	55	118	59	5	4-Aug	5	2190.9
Ruskea	Finland	2	1135	19	40	63	50	31-Jul	1	2080.7
Ruso	Finland	8	5640	94	200	61	0	17-Aug	18	2529.6
Saitama No. 27	Japan	4	1914	32	68	61	15	28-Aug	29	2766.6
Sakhalin 10	China	1	1380	23	49	60	12	8-Aug	9	2297.9
Sakhalin Lutesces 22	China	7	1751	30	62	62	17	18-Aug	19	2554.2
Sakhalin Lutesces 34	China	7	1579	26	56	61	29	14-Aug	15	2454.0
Sapphire	Sweden	3	2008	33	71	63	28	20-Aug	21	2599.2
Sappo	Sweden	1	N/D	N/D	N/D	N/D	N/D	10-Aug	11	2350.1
Saunders	Ontario	20	1764	29	62	62	33	14-Aug	15	2454.0
Selkirk	Manitoba	2	1500	25	53	60	15	17-Aug	18	2529.6
Shepard	Washington	1	1146	19	41	63	N/D	7-Aug	8	2271.5

Tanana Valley Wheat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Sheridan	Montana	2	4260	71	151	64	0	17-Aug	18	2529.6
Siberian Bearded	Russia	3	2472	41	88	63	45	20-Aug	21	2599.2
Siberian Beardless	Russia	3	2101	35	74	61	53	22-Aug	23	2643.2
Shinchunaga	Japan	5	1483	25	53	60	10	17-Aug	18	2529.6
Sin Chunaga	Japan	5	1569	26	56	60	10	20-Aug	21	2599.2
Sinton	Saskatchewan	2	3300	55	117	63	10	12-Aug	13	2401.5
Sintyunago	Japan	5	1390	23	49	59	15	18-Aug	19	2554.2
Skorospielka	Russia	1	N/D	N/D	N/D	N/D	95	26-Aug	27	2727.0
Snogg II	Norway	6	1594	27	56	62	60	10-Aug	11	2350.1
Sonora 64	Mexico	1	N/D	N/D	N/D	N/D	N/D	19-Aug	20	2576.8
Sopu	Finland	12	1900	32	67	60	46	15-Aug	16	2479.5
Spalding Prolific	Hungary	1	1913	32	68	65	N/D	11-Aug	12	2376.1
Sunset	Australia	6	1902	32	67	61	19	15-Aug	16	2479.5
Svenno	Sweden	6	1689	28	60	62	32	12-Aug	13	2401.5
Ta 3291	Ontario	6	1576	26	56	61	29	11-Aug	12	2376.1
Ta 332	Ontario	7	1957	33	69	62	38	16-Aug	17	2401.5
Taava	Finland	5	3120	52	111	63	10	11-Aug	12	2376.1
Tammi	Finland	11	1947	32	69	62	27	14-Aug	15	2454.0
Tapio	Finland	8	5032	84	178	60	0	5-Aug	6	2218.3
Thatcher	Minnesota	20	2175	36	77	61	21	20-Aug	21	2599.2
Touko	Finland	7	1834	31	65	62	39	17-Aug	18	2529.6
Ulla	Finland	6	3403	57	121	57	0	3-Aug	4	2163.2
Victory	Russia	11	2219	37	79	60	44	14-Aug	15	2454.0
Vidal	Alaska	10	2892	48	102	53	0	4-Aug	5	2190.9
Volprice 71		1	1053	18	37	62	N/D	6-Aug	7	2245.6
Weibulls 5583	Sweden	2	2963	49	105	61	25	22-Aug	23	2643.2
Weibulls 6757	Sweden	1	3443	57	122	63	40	22-Aug	23	2643.2
WS 1502	Sweden	1	N/D	N/D	N/D	N/D	N/D	12-Aug	13	2401.5
Yakutinka	Russia	2	1042	17	37	61	50	4-Aug	5	2190.9
Yaqui 50	Mexico	4	2040	34	72	60	12	19-Aug	20	2576.8
				Hard red semi-dwarf, spring						
Arabian	Mexico	1	5880	98	208	63	0	17-Aug	18	2529.6
Cutler	Alberta	3	2518	42	89	57	0	5-Aug	6	2218.3
Explorer	Montana	3	3081	51	109	55	41	10-Aug	11	2350.1
Fletcher	Minnesota	1	5580	93	198	56	20	12-Aug	13	2401.5
Hi-Line	Montana	3	3105	52	110	56	29	10-Aug	11	2350.1
HY 320	Saskatchewan	2	5546	92	196	62	0	6-Aug	7	2245.6
Ingal	Alaska	35	2823	47	100	57	23	30-Jul	0	2053.2
Kitt	Minnesota	1	1764	29	62	62	15	17-Aug	18	2529.6

Tanana Valley Wheat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
McNeal	Montana	3	2889	48	102	55	15	8-Aug	9	2297.9
Mexipak	Mexico	2	1020	17	36	62	0	12-Aug	13	2401.5
MT 0245	Montana	3	2833	47	100	56	49	12-Aug	13	2401.5
Norin No. 5	Japan	4	1531	26	54	61	15	13-Aug	14	2427.9
Norin No. 9	Japan	3	1657	28	59	62	10	16-Aug	17	2401.5
Norin No. 16	Japan	4	1457	24	52	61	5	14-Aug	15	2454.0
Norin No. 20	Japan	2	2862	48	101	61	38	27-Aug	28	2746.9
Norin No. 23	Japan	3	2071	35	73	63	10	19-Aug	20	2576.8
Norin No. 26	Japan	2	2748	46	97	61	18	26-Aug	27	2727.0
Norin No. 29	Japan	2	3184	36	113	62	40	26-Aug	27	2727.0
Norin No. 30	Japan	4	1574	26	56	58	10	16-Aug	17	2401.5
Norin No. 34	Japan	3	2176	36	77	62	5	17-Aug	18	2529.6
Norin No. 36	Japan	3	2158	36	76	61	33	25-Aug	26	2706.5
Norin No. 43	Japan	3	1675	28	59	61	10	19-Aug	20	2576.8
Norin No. 45	Japan	2	688	11	24	60	10	9-Aug	10	2323.8
Norin No. 52	Japan	3	1648	28	58	62	10	19-Aug	20	2576.8
Norin No. 61	Japan	4	1301	22	46	61	15	16-Aug	17	2401.5
Oslo	Colorado	2	4169	69	148	60	0	5-Aug	6	2218.3
Pacific Triple Dwarf	California	1	3240	54	115	64	10	16-Aug	17	2401.5
Springfield	Idaho	1	4800	80	170	55	10	13-Aug	14	2427.9
				Hard red utility, spring						
Blue Sky	Alberta	2	5105	85	181	61	0	6-Aug	7	2245.6
CDC Walrus	Saskatchewan	2	3592	60	127	61	25	9-Aug	10	2323.8
Dundas	Prince Edward Island	2	3360	56	119	61	10	15-Aug	16	2479.5
Gasser	Alaska	30	2682	45	95	58	42	10-Aug	11	2350.1
Glenlea	Manitoba	1	3325	55	118	59	5	15-Aug	16	2479.5
Lazer	Alberta	1	2834	47	100	56	0	17-Aug	18	2529.6
Vernon	Prince Edward Island	2	4620	77	164	62	10	15-Aug	16	2479.5
Wildcat	Alberta	2	4659	78	165	59	0	5-Aug	6	2218.3
				Soft red, spring						
Pitic 62	Mexico	7	5760	96	204	62	0	20-Aug	21	2599.2
				Soft white, spring						
Federation 38	Australia	2	2130	36	75	58	10	30-Jul	0	2053.2
				Durum, spring						
Barrigon	England	1	7320	122	259	60	0	20-Jul	-10	1766.8
Carleton	North Dakota	2	3153	53	112	62	13	20-Aug	21	2599.2
Durum	Maryland	1	4380	73	155	60	0	1-Sep	33	2842.6
Macoun	Saskatchewan	1	4440	74	157	63	10	20-Aug	21	2599.2

Tanana Valley Wheat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Wakooma	Saskatchewan	1	2280	38	81	55	0	31-Aug	32	2824.2
Wascana	Saskatchewan	1	4140	69	147	61	0	20-Aug	21	2599.2
				Spelt, spring						
Speltz	South Dakota	2	3420	57	121	51	0	21-Aug	22	2621.2
				Emmer, spring						
Emmer	North Dakota	2	1401	23	50	45	25	16-Aug	17	2401.5
Imperial Amber	Missouri	1	839	14	30	54	N/D	5-Aug	6	2218.3
				Hard red, winter						
Bauermeister	Washington	3	1593	27	56	59	8	30-Jul	0	2949.2
Blackhawk	Nebraska	1	136	2	5	47	0	17-Aug	18	3425.6
Chancellor	Georgia	1	1140	19	40	52	0	1-Sep	33	3738.6
Cheyenne	Nebraska	2	122	2	4	48	0	17-Aug	18	3425.6
Decade	Montana	3	1568	26	56	59	5	27-Jul	-3	2864.8
Finley	Washington	3	1347	22	48	58	28	4-Aug	5	3086.9
Froid	Montana	7	2004	33	71	55	0	10-Aug	11	3246.1
Jerry	North Dakota	3	2221	37	79	60	22	24-Jul	-6	2779.4
Kawvale	Kansas	1	N/D	N/D	N/D	N/D	0	1-Sep	33	3738.6
Kharkov 22	Ukraine	2	445	7	16	50	0	15-Aug	16	3375.5
Lancer	Colorado	2	336	6	12	48	0	15-Aug	16	3375.5
Marmin	Minnesota	1	N/D	N/D	N/D	N/D	N/D	20-Aug	21	3495.2
NB 66403	Nebraska	2	2020	34	72	50	0	10-Aug	11	3246.1
Nebraska - 60	Nebraska	1					0	1-Sep	33	3738.6
Norstar	Alberta	2	779	13	28	64	0	10-Aug	11	3246.1
Omaha	Nebraska	3	859	14	30	51	0	10-Aug	11	3246.1
Pshenktsa Myagkaya	Russia	1	N/D	N/D	N/D	N/D	N/D	20-Aug	21	3495.2
Rida	Norway	1	N/D	N/D	N/D	N/D	N/D	20-Aug	21	3495.2
Roughrider	North Dakota	2	649	11	23	64	0	10-Aug	11	3246.1
Sawmont	Montana	3	1905	32	67	55	0	10-Aug	11	3246.1
Scout 66	Nebraska	2	59	1	2	49	0	17-Aug	18	3425.6
Shoshoni	Nebraska	3	1652	28	59	55	0	10-Aug	11	3246.1
Skjaldar	Norway	1	N/D	N/D	N/D	N/D	N/D	20-Aug	21	3495.2
Sokhalin	Russia	1	N/D	N/D	N/D	N/D	N/D	20-Aug	21	3495.2
Sundance	Alberta	2	653	11	23	63	0	10-Aug	11	3246.1
Trader	Nebraska	2	360	6	13	49	0	15-Aug	16	3375.5
Trapper	Nebraska	3	1411	24	50	51	0	10-Aug	11	3246.1
Turkey	Virginia	1	N/D	N/D	N/D	N/D	N/D	20-Aug	21	3495.2
Varma	Finland	1	N/D	N/D	N/D	N/D	N/D	20-Aug	21	3495.2
Virtus	Sweden	1	N/D	N/D	N/D	N/D	N/D	20-Aug	21	3495.2
Warrior	Nebraska	2	304	5	11	49	0	15-Aug	16	3375.5

Tanana Valley Wheat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Winalta	Alberta	2	206	3	7	48	0	15-Aug	16	3375.5
Yellowstone	Montana	3	2034	34	72	59	10	27-Jul	-3	2864.8
Yogo	Montana	1	N/D	N/D	N/D	N/D	N/D	20-Aug	21	3495.2
Hard white, winter										
MDM	Washington	3	3172	53	112	60	27	6-Aug	7	3141.6
Soft white, winter										
Eltan	Washington	3	2731	46	97	58	43	7-Aug	8	3167.5
Xerpha	Washington	3	2335	39	83	59	10	30-Jul	0	2949.2

*GDD, growing degree days are the cumulative average temperatures above 32ºF to reach 50% maturity. N/D = No Data was collected. All wheat varieties were compared with 'Ingal' hard red spring wheat as the standard variety.

True Cereal Crops – Rye and Triticale

Tanana Valley Rye & Triticale Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Biomass Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Rye, spring											
Gazelle	Saskatchewan	3	5208	93	184	55	N/D	0	21-Aug	22	2621.2
Karlshulder	Germany	1	N/D	N/D	N/D	N/D	N/D	0	21-Aug	22	2621.2
Kodiak	Alberta	1	1371	23	49	63	N/D	0	11-Aug	12	2376.1
Norwegian	Norway	1	1867	33	66	51	N/D	0	21-Aug	22	2621.2
Petkusser	Germany	1	N/D	N/D	N/D		N/D	0	21-Aug	22	2621.2
Prolific	Saskatchewan	7	2275	39	81	55	N/D	10	19-Aug	20	2576.8
Rye, winter											
Bebral	Alaska	4	2487	41	88	46	4046	38	2-Aug	3	3032.3
Belschard		1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Dakold	North Dakota	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Jussi	Finland	1	28	1	1	49	N/D	0	21-Aug	22	3517.2
Oiva	Finland	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Saskatoon	Saskatchewan	5	674	12	24	56	N/D	0	21-Aug	22	3517.2
Siberian	Russia	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Sitnikov	Russia	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Triticale, spring											
Carman	Manitoba	1	6024	108	213	50	N/D	0	21-Aug	22	2621.2
HN 470	Mexico	1	530	9	19	45	N/D	N/D	21-Aug	22	2621.2
Rosner	Manitoba	1	979	17	35	45	N/D	N/D	21-Aug	22	2621.2
6TA 208	California	1	2004	36	71	45	N/D	N/D	21-Aug	22	2621.2
6TA 419	California	1	2994	53	106	46	N/D	N/D	21-Aug	22	2621.2
6TA 518	California	1	3084	55	109	45	N/D	N/D	21-Aug	22	2621.2
Welsh	Manitoba	2	3823	68	135	46	N/D	0	21-Aug	22	2621.2

Tanana Valley Rye & Triticale Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Biomass Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Triticale, winter											
6TA 131	California	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. N/D = No Data was collected. All rye and triticale varieties were compared with 'Ingal' hard red spring wheat as the standard variety.

True Cereal Crops – Wild Rice

Tanana Valley Wild Rice Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Average Maturity (GDD)*
Food grade						
Canadian K	Saskatchewan	1	N/D	N/D	N/D	N/D
Franklin	Minnesota	2	N/D	N/D	21-Sep	3142.7
K2	Minnesota	1	N/D	N/D	N/D	N/D
M1	Minnesota	1	N/D	N/D	N/D	N/D
Eco-region, food grade						
La Ronge	Saskatchewan	1	N/D	N/D	N/D	N/D

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. N/D = No Data was collected.

True Cereal Crops – Canarygrass

Tanana Valley Canrygrass Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Average Maturity (GDD)*
Birdseed, spring								
Elias	Minnesota	3	641	13	47	20	1-Sep	2842.6

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth.

True Cereal Crops – Millet

Tanana Valley Millet Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Lodging (%)	Average Maturity Date	Average Maturity (GDD)*
Proso birdseed, spring							
Abarr	Colorado	1	N/D	N/D	N/D	N/D	N/D
Big Red	Nebraska	1	N/D	N/D	N/D	N/D	N/D
Common White	Colorado	1	N/D	N/D	0	21-Sep	3142.7
Dawn	Nebraska	1	N/D	N/D	N/D	N/D	N/D
Early Fortune	North Dakota	1	N/D	N/D	N/D	N/D	N/D
Early Fortune (large seed)	North Dakota	2	239		0	12-Sep	3027.1

Tanana Valley Millet Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Lodging (%)	Average Maturity Date	Average Maturity (GDD)*
Early Fortune (medium seed)	North Dakota	2	1007	N/D	0	12-Sep	3027.1
Early Fortune (small seed)	North Dakota	2	1025	N/D	0	12-Sep	3027.1
Leonard	Colorado	1	N/D	N/D	N/D	N/D	N/D
Turgahi	Japan	1	N/D	N/D	N/D	N/D	N/D
Yellow	Russia	1	N/D	N/D	N/D	N/D	N/D
Yellow (large seed)	Russia	2	690	N/D	0	12-Sep	3027.1
Yellow (medium seed)	Russia	2	972	N/D	0	12-Sep	3027.1
Yellow (small seed)	Russia	2	702	N/D	0	12-Sep	3027.1
			Foxtail birdseed, spring				
Golden German	Colorado	1	N/D	N/D	0	21-Sep	3142.7
Manta	South Dakota	1	N/D	N/D	N/D	N/D	N/D
			Japanese birdseed, spring				
Japanese	Japan	1	N/D	N/D	0	21-Sep	3142.7

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. N/D = No Data was collected.

Pseudo-Cereal Crops – Buckwheat

Tanana Valley Buckwheat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
				Small seed, spring						
CM-15	Manitoba	4	1502	31	68	43	85	6-Sep	-10	2929.6
Japanese 796	Japan	9	1196	25	54	N/D	47	21-Aug	-27	2621.2
Tartary	Maryland	9	669	14	30	N/D	50	25-Aug	-23	2706.5
				Large seed, spring						
Botan Soba	Japan	1	564	12	26	40	80	25-Sep	8	3177.6
Common	Minnesota	1	1356	28	61	40	85	25-Sep	8	3177.6
Common	New York	1	1344	28	61	40	85	25-Sep	8	3177.6
Hokkaido	Japan	1	N/D	N/D	N/D	N/D	85	25-Sep	8	3177.6
Japanese 784	Japan	9	1221	25	55	N/D	45	24-Aug	-24	2686.3
Mancan	Manitoba	2	554	12	25	37	80	17-Sep	0	3097.2
Manor	Manitoba	1	247	5	11	38	80	17-Sep	0	3097.2
PA Composite	Pennsylvania	1	868	18	39	40	85	25-Sep	8	3177.6
PA-158	Pennsylvania	1	708	15	32	40	85	25-Sep	8	3177.6
Pennquad	Pennsylvania	4	2205	46	100	40	80	17-Sep	0	3097.2
Pioneer	Maryland	9	1276	27	58	N/D	48	21-Aug	-27	2621.2
Shumway Japanese	Illinois	1	1408	29	64	40	80	25-Sep	8	3177.6

Tanana Valley Buckwheat Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Maturity vs. Std. (days)	Average Maturity (GDD)*
Silverhull	Maryland	9	1407	29	64	N/D	48	21-Aug	-27	2621.2
Tempest	Ontario	1	1096	23	50	40	75	25-Sep	8	3177.6
Tetraploid	Maryland	8	469	10	21	N/D	44	29-Aug	-19	3177.6
Tokyo	Maryland	1	1388	29	63	40	75	25-Sep	8	3177.6
Winsor Royal	Minnesota	3	825	17	37	34	85	17-Sep	0	3097.2

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. N/D = No Data was collected. All buckwheat varieties were compared with 'Pennquad' large seed buckwheat as the standard variety.

Pseudo-Cereal Crops – Quinoa

Tanana Valley Quinoa Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Test wt. (lbs/bu)	Lodging (%)	Average Maturity Date	Average Maturity (GDD)*
			Yellow seed, grain					
CO407-78	Colorado	1	234	5	35	0	21-Sep	3142.7
CO407-06	Colorado	1	156	3	36	0	21-Sep	3142.7
CO407-260	Colorado	1	209	4	34	0	21-Sep	3142.7
			Lambsquarter, spring					
Lambsquarter	Alaska	1	56	1	32	0	21-Sep	3142.7

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth.

Pseudo-Cereal Crops – Amaranth

Tanana Valley Amaranth Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Test wt. (lbs/bu)	Biomass Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Average Maturity (GDD)*
			Grain & forage, spring						
1011	Nebraska	2	5	0	34	6026	0	25-Sep	3177.6
477914	Nebraska	2	0	0	0	5213	0	N/D	N/D
K343	Pennsylvania	2	0	0	0	5739	0	N/D	N/D
R158	Pennsylvania	2	0	0	0	4400	0	N/D	N/D

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. N/D = No Data was collected.

Pulse Crops – Field Pea

Tanana Valley Field Pea Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield (%of Std.)	Seed Test wt. (lbs/bu)	Biomass Yield (lbs/acre)	Lodging (%)	Canopy height (in)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (°F)
					Yellow seed tare-leaf, spring							
Express	Sweden	3	1625	27	100	63	9286	50	18	3-Aug	0	2163.2
					Yellow seed normal-leaf, spring							

Tanana Valley Field Pea Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield (%of Std.)	Seed Test wt. (lbs/bu)	Biomass Yield (lbs/acre)	Lodging (%)	Canopy height (in)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
CPB Concorde	England	1	N/D	N/D	N/D	N/D	7391	75	14	4-Aug	1	2190.9
Discovery	England	1	N/D	N/D	N/D	N/D	8824	50	24	8-Aug	6	2297.9
Endeavor	England	1	N/D	N/D	N/D	N/D	8145	50	22	6-Aug	4	2245.6
Grande	Sweden	2	3316	55	204	62	9812	25	26	6-Aug	4	2245.6
Korando	North Dakota	2	330	7	20	60	N/D	75	38	13-Aug	11	2427.9
					Yellow seed semi-leafless, spring							
3383-D		6	1086	18	67	62	N/D	75	32	22-Aug	20	2643.2
3885-C		6	1175	20	72	63	N/D	50	30	25-Aug	23	2706.5
4422-C		6	1132	19	70	63	N/D	25	38	30-Aug	28	2805.1
Alaska 1956	Wisconsin	3	1563	26	96	63	N/D	N/D	N/D	24-Aug	22	2686.3
Anno	Denmark	2	1986	33	122	63	10398	50	20	4-Aug	1	2190.9
Arthur	Manitoba	6	1312	22	81	62	N/D	95	30	22-Aug	20	2643.2
Baroness	England	2	1715	29	106	62	7922	25	22	9-Aug	7	2323.8
Carneval	Sweden	3	2813	47	173	62	9433	25	23	11-Aug	9	2376.1
CDC Yorkton	Saskatchewan	1	N/D	N/D	N/D	N/D	10825	50	26	1-Aug	-2	2108.5
Celeste	France	3	2677	45	165	62	11084	50	18	6-Aug	4	2245.6
Century	Ontario	1	N/D	N/D	N/D	N/D	N/D	50	30	23-Aug	21	2665.2
Choque	France	2	2882	48	177	64	7307	25	22	7-Aug	5	2271.5
Commercial	Australia	3	647	11	40	57	N/D	N/D	N/D	24-Aug	22	2686.3
Dashaway	Wisconsin	6	1420	24	87	63	N/D	10	44	22-Aug	20	2643.2
Early Blue	California	3	570	10	35	61	N/D	N/D	N/D	25-Aug	23	2706.5
Fluo	France	2	2913	49	179	63	11395	25	17	5-Aug	2	2218.3
Foreign		6	947	16	58	62	N/D	25	37	24-Aug	22	2686.3
Highlight	Sweden	3	2968	49	183	52	7472	50	20	6-Aug	4	2245.6
Impala	Netherlands	2	524	9	32	63	9405	25	17	8-Aug	6	2297.9
LU-1-209	Canada	1	N/D	N/D	N/D	N/D	10432	75	21	8-Aug	6	2297.9
Manitoulu	Manitoba	6	1161	19	71	63	N/D	80	34	30-Aug	28	2805.1
Miranda	Netherlands	1	1224	20	75	62	N/D	75	11	9-Aug	7	2323.8
Monshaltes		6	1524	25	94	63	N/D	95	34	22-Aug	20	2643.2
Montana	Netherlands	2	2479	41	153	61	10742	50	17	5-Aug	2	2218.3
Mustang	Denmark	1	N/D	N/D	N/D	N/D	8680	25	20	28-Jul	-6	1996.6
Nette	North Dakota	1	462	10	28	60	N/D	75	37	13-Aug	11	2427.9
Orb	England	2	2654	44	163	62	N/D	50	17	29-Jul	-5	2025.3
Profi	Denmark	2	N/D	N/D	N/D	N/D	11171	50	23	4-Aug	1	2190.9
Ricardo	Netherlands	1	1847	31	114	62	N/D	75	11	10-Aug	8	2350.1
Scorpio	Netherlands	2	2610	44	161	64	10963	75	16	4-Aug	1	2190.9
Spitfire	England	1	N/D	N/D	N/D	N/D	11554	50	22	5-Aug	2	2218.3
Spring D	Denmark	1	2839	47	175	63	N/D	0	21	5-Aug	2	2218.3
Stehgolt	Alberta	1	1897	32	117	63	N/D	50	19	8-Aug	6	2297.9
SV C 37133	Sweden	1	N/D	N/D	N/D	N/D	8145	50	22	8-Aug	6	2297.9
SV C 61414	Sweden	1	N/D	N/D	N/D	N/D	8824	50	24	8-Aug	6	2297.9
SV E 12226	Sweden	1	N/D	N/D	N/D	N/D	10766	50	21	8-Aug	6	2297.9
SV O 32440	Sweden	1	N/D	N/D	N/D	N/D	11270	50	17	8-Aug	6	2297.9
SW Midas	Sweden	3	N/D	N/D	N/D	N/D	N/D	100	25	17-Aug	15	2529.6

Tanana Valley Field Pea Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield (%of Std.)	Seed Test wt. (lbs/bu)	Biomass Yield (lbs/acre)	Lodging (%)	Canopy height (in)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
Trump	Ontario	1	1521	25	94	62	N/D	75	10	9-Aug	7	2323.8
Valley	Ontario	6	964	16	59	63	N/D	75	32	24-Aug	22	2686.3
Voyager	Sweden	1	N/D	N/D	N/D	N/D	10766	50	20	5-Aug	2	2218.3
Green seed normal-leaf, spring												
Clipper	Czech Replubic	1	N/D	N/D	N/D	N/D	10432	75	21	3-Aug	0	2163.2
Patriot	Sweden	2	1987	33	122	63	N/D	50	15	31-Jul	-3	2080.7
Green seed semi-leafless, spring												
Ascona	Alberta	2	N/D	N/D	N/D	N/D	6499	25	19	14-Aug	12	2454.0
CDC Sage	Saskatchewan	1	N/D	N/D	N/D	N/D	N/D	100	25	17-Aug	15	2529.6
Chancellor	Manitoba	6	922.5	15	57	61	N/D	80	61	22-Aug	20	2643.2
CPB Phantom	England	1	N/D	N/D	N/D	N/D	9861	50	18	4-Aug	1	2190.9
Danto	Denmark	2	1896	32	117	62	12379	25	19	7-Aug	5	2271.5
Keoma	Alberta	2	2239	37	138	62	9299	50	18	8-Aug	6	2297.9
Majoret	Sweden	3	1835	31	113	62	10816	25	23	13-Aug	11	2427.9
Promar	Denmark	2	1532	26	94	63	8006	50	17	10-Aug	8	2350.1
Radley	Alberta	1	2395	40	147	63	N/D	25	22	7-Aug	5	2271.5
SW Parade	Sweden	2	N/D	N/D	N/D	N/D	N/D	75	13	17-Aug	15	2529.6
Totem	Sweden	1	N/D	N/D	N/D	N/D	11270	50	17	8-Aug	6	2297.9

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. N/D = No Data was collected. All field pea varieties were compared with 'Express' yellow-seed, semi-leafless field pea as the standard variety.

Pulse Crops – Chickpea

Tanana Valley Chickpea Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield (%of Std.)	Seed Test wt. (lbs/bu)	Lodging (%)	Canopy height (in)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
CDC Xena	Saskatchewan	1	N/D	N/D	N/D	N/D	0	20	28-Sep	57	3197.7

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. N/D = No Data was collected. All chickpea varieties were compared with 'Express' yellow-seed, semi-leafless field pea as the standard variety.

Oilseed Crops – Canola

Tanana Valley Canola Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
Polish edible oilseed, spring (low E & low G)											
AC Sunbeam	Alberta	4	1432	29	94	37	50	93	5-Aug	-9	2218.3
AC Sunshine	Alberta	4	1643	33	108	42	48	7	16-Aug	2	2401.5
Candle	Saskatchewan	6	2499	50	164	64	52	59	1-Sep	18	2842.6
Colt	Sweden	4	1888	38	124	48	49	31	16-Aug	2	2401.5
Deltana (open pollinated)	Alaska	3	1358	27	89	35	50	40	16-Aug	2	2401.5

Tanana Valley Canola Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
Eldorado	Alberta	4	1945	39	128	50	49	53	16-Aug	2	2401.5
Goldrush	Sweden	1	1821	36	120	47	48	50	21-Aug	7	2621.2
Horizon	Sweden	4	1901	38	125	49	49	48	16-Aug	2	2401.5
Hysyn 110	Manitoba	5	1345	27	88	34	48	90	11-Aug	-3	2376.1
Maverick	Sweden	2	1225	24	80	31	44	66	13-Aug	-1	2427.9
Reward	Manitoba	9	1522	30	100	39	48	77	14-Aug	0	2427.9
Tobin	Saskatchewan	10	2046	41	134	52	50	64	23-Aug	9	2665.2
Polish industrial oilseed, spring (low E & high G)											
Span	Saskatchewan	1	1910	38	125	49	44	25	30-Aug	16	2805.1
Torch	Saskatchewan	3	1570	31	103	40	44	25	30-Aug	16	2805.1
Polish industrial oilseed, spring (normal E & high G)											
Echo	Saskatchewan	1	2155	43	142	55	42	25	30-Aug	16	2805.1
Polish industrial oilseed, spring (high E & high G)											
R-500	Saskatchewan	2	2094	42	138	54	51	80	1-Sep	18	2842.6
Reston	Manitoba	1	943	19	62	24	41	25	1-Sep	18	2842.6
Polish/Argentine Hybrid edible oilseed, spring (low E & low G)											
43H57 (RR)	Saskatchewan	3	1848	37	121	47	45	91	16-Aug	2	2401.5
Argentine edible oilseed, spring (low E & low G)											
43A56 (RR)	Saskatchewan	3	1420	28	93	36	45	92	16-Aug	2	2401.5
44A89	Saskatchewan	3	1069	21	70	27	45	70	14-Aug	0	2454.0
AC Excel	Saskatchewan	1	1742	35	114	45	43	10	7-Sep	24	2946.2
Altex	Alberta	4	1815	36	119	46	45	20	1-Sep	18	2842.6
Alto	Alberta	3	1873	37	123	48	45	12	28-Aug	14	2766.6
Andor	Alberta	1	1366	27	90	35	47	25	1-Sep	18	2842.6
Delta	Sweden	3	1876	38	123	48	49	23	28-Aug	14	2766.6
Hyola 357 Magnum (RR)	North Dakota	1	1436	29	94	37	41	100	10-Sep	27	2995.1
Hyola 401	North Dakota	1	918	18	60	24	48	100	10-Sep	27	2995.1
Legend	Sweden	3	1481	30	97	38	44	10	29-Aug	15	2786.0
OAC Trident (TTC)	Ontario	1	1454	29	95	37	44	25	30-Aug	16	2805.1
OAC Triton (TTC)	Ontario	1	894	18	59	23	40	25	1-Sep	18	2842.6
Regent	Manitoba	3	2234	45	147	57	43	22	1-Sep	18	2842.6
Sprite	Canada	1						25	4-Sep	21	2895.2
Tower	Manitoba	4	1883	38	124	48	45	20	1-Sep	18	2842.6
Westar	Saskatchewan	5	1794	36	118	46	46	26	28-Aug	14	2766.6
Argentine edible oilseed, winter (low E & low G)											
Bridger	Idaho	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Cascade	Idaho	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D

Argentine industrial oilseed, spring (low E & high G)											
Midas	Saskatchewan	1	2050	41	135	52	42	25	1-Sep	18	2842.6
Oro	Saskatchewan	1	2065	41	136	53	42	25	1-Sep	18	2842.6
Zephyr	Saskatchewan	1	1645	33	108	42	42	25	1-Sep	18	2842.6
Argentine industrial oilseed, spring (normal E & high G)											
Target	Manitoba	1	1945	39	128	50	42	25	1-Sep	18	2842.6
Turret	Manitoba	1	1900	38	125	49	42	25	1-Sep	18	2842.6

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. N/D = No Data was collected. All canola varieties were compared with 'Reward' Polish canola as the standard variety.

Oilseed Crops – Mustard

Tanana Valley Mustard Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
Yellow edible condiment oilseed, spring											
IdaGold	Idaho	3	1068	21	70	27	46	47	3-Aug	-11	2163.2
Brown edible spice and condiment oilseed, spring											
Kodiak Brown	Idaho	3	1295	26	85	33	46	68	8-Aug	-6	2297.9
Oriental edible oil and spice oilseed, spring											
Pacific Gold	Idaho	3	1340	27	88	34	45	80	10-Aug	-4	2350.1

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. All mustard varieties were compared with 'Reward' Polish canola as the standard variety.

Oilseed Crops – Camilina

Tanana Valley Camelina Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
Edible oilseed, spring											
Blaine Creek	Montana	3	1447	29	95	37	50	45	28-Jul	-18	1996.6
Calena	Austria	3	1080	22	71	28	50	51	19-Aug	5	2576.8
Camena	England	11	872	17	57	22	38	25	30-Jul	-15	2053.2
Celine	France	2	1188	24	78	30	51	61	31-Jul	-14	2080.7
Ligena	Germany	2	1614	32	106	41	51	72	30-Jul	-14	2053.2
Suneson	Montana	3	1229	25	81	31	47	58	29-Jul	-16	2025.3
Willow Creek	Montana	1	1049	21	69	27	48	48	27-Jul	-18	1968.8
Wolff Creek	Montana	1	888	18	58	23	49	48	27-Jul	-18	1968.8
Edible oilseed, winter											
Suneson	Montana	1	672	13	44	17	38	25	30-Jul	-15	2053.2

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. All camelina varieties were compared with 'Reward' Polish canola as the standard variety.

Oilseed Crops – Flax

Tanana Valley Flax Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Biomass Yield (lbs/acre)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
					Industrial oilseed, spring							
1118	North Dakota	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	14-Aug	-20	2454.0
1135	North Dakota	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	11-Aug	-24	2376.1
1155	North Dakota	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	13-Aug	-21	2427.9
1176	North Dakota	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	15-Aug	-19	2479.5
10393/46	North Dakota	1	1400	25	130	36	49	N/D	N/D	1-Sep	-2	2842.6
10408/46	North Dakota	1	1064	19	99	27	48	N/D	N/D	1-Sep	-2	2842.6
10473/46	North Dakota	1	1064	19	99	27	49	N/D	N/D	1-Sep	-2	2842.6
10474/46	North Dakota	1	728	13	68	18	48	N/D	N/D	5-Sep	2	2912.4
6925/40	North Dakota	1	1008	18	94	26	50	N/D	N/D	1-Sep	-2	2842.6
Bison	Maryland	5	833	19	77	21	51	N/D	N/D	21-Aug	-13	2621.2
Blanc	France	1	560	10	52	14	50	N/D	N/D	2-Sep	-1	2860.6
Buda 80	Hungary	1	1344	24	125	34	52	N/D	N/D	1-Sep	-2	2842.6
Chippewa Selection	Ontario	1	504	9	47	13	51	N/D	N/D	5-Sep	2	2912.4
Cirrus	Maryland	1	784	14	73	20	51	N/D	N/D	1-Sep	-2	2842.6
Common White	North Dakota	1	448	8	42	11	50	N/D	N/D	8-Sep	5	2962.6
Concurrent	Netherlands	1	1288	23	120	33	51	N/D	N/D	30-Aug	-4	2805.1
Crystal	North Dakota	1						N/D	N/D	16-Aug	-18	2401.5
Dahlem	Germany	1	1008	18	94	26	51	N/D	N/D	28-Aug	-6	2766.6
Dakota	North Dakota	5	855	15	79	22	48	N/D	N/D	20-Aug	-14	2599.2
Dorst 113	Netherlands	1	1176	21	109	30	52	N/D	N/D	1-Sep	-2	2842.6
Dufferin	Manitoba	1	1188	21	110	30	49	N/D	0	5-Sep	2	2912.4
Eckendorf	Germany	1	1176	21	109	30	50	N/D	N/D	30-Aug	-4	2805.1
Ew 180	Germany	1	728	13	68	18	52	N/D	N/D	1-Sep	-2	2842.6
Ewigen	Germany	1	1120	20	104	28	52	N/D	N/D	1-Sep	-2	2842.6
Formosa	Hungary	1	840	15	78	21	52	N/D	N/D	30-Aug	-4	2805.1
Gercello	Turkey	1	840	15	78	21	52	N/D	N/D	30-Aug	-4	2805.1
Herculese	Hungary	1	1008	18	94	26	51	N/D	N/D	30-Aug	-4	2805.1
Hollandia	Hungary	1	896	16	83	23	52	N/D	N/D	30-Aug	-4	2805.1
Indian Bold	India	1	840	15	78	21	53	N/D	N/D	1-Sep	-2	2842.6
Linott	Ontario	1	512	9	48	13	47	N/D	0	4-Sep	1	2895.2
Liral Crown	Ontario	1	672	12	62	17	54	N/D	N/D	1-Sep	-2	2842.6
Liral Monarch	Ontario	1	1008	18	94	26	50	N/D	N/D	29-Aug	-5	2786.0
Lusatia	Germany	1	1120	20	104	28	50	N/D	N/D	30-Aug	-4	2805.1
McGregor	Manitoba	1	400	7	37	10	50	N/D	0	5-Sep	2	2912.4
Multiple Cross	North Dakota	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	30-Aug	-4	2805.1

Tanana Valley Flax Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Biomass Yield (lbs/acre)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
N.D.R. 714	North Dakota	1	672	12	62	17	51	N/D	N/D	5-Sep	2	2912.4
Noralta	Manitoba	2	1097	20	102	28	50	N/D	0	4-Sep	1	2895.2
NorLin	Manitoba	3	1077	19	100	27	51	2476	0	3-Sep	0	2878.2
Ps 1600	Ontario	1	896	16	83	23	52	N/D	N/D	1-Sep	-2	2842.6
Raja	Ontario	1	504	9	47	13	49	N/D	0	5-Sep	2	2912.4
Redwing	Colorado	5	874	19	81	22	51	N/D	N/D	22-Aug	-12	2643.2
Redwood	North Dakota	5	826	15	77	21	47	N/D	N/D	25-Aug	-9	2706.5
Rembrant	Netherlands	1	896	16	83	23	51	N/D	N/D	30-Aug	-4	2805.1
Rocket	Ontario	5	1035	19	96	26	48	N/D	N/D	24-Aug	-10	2686.3
Sheyenne	Maryland	2	1239	22	115	31	51	N/D	N/D	30-Aug	-4	2805.1
Stormont Gossamer	Ontario	1	784	14	73	20	50	N/D	N/D	1-Sep	-2	2842.6
Tammes	Norway	1	672	12	62	17	51	N/D	N/D	1-Sep	-2	2842.6
Ussuriysk	Russia	1	56	1	5	1		N/D	N/D	2-Sep	-1	2860.6
Victory Select	North Dakota	4	975	17	91	25	46	N/D	N/D	1-Sep	-2	2842.6
Wiersema	North Dakota	1	1176	21	109	30	52	N/D	N/D	1-Sep	-2	2842.6
Industrial fiber, spring												
Arianne	Oregon	2	806	14	75	20	46	3984	0	5-Sep	2	2912.4
Atlas		1	672	12	62	17	52	N/D	N/D	1-Sep	-2	2842.6
Cascade	Oregon	1	737	13	68	19	45	N/D	25	4-Sep	1	2895.2
Viking	North Dakota	2	680	12	63	17	46	3150	0	4-Sep	1	2895.2

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth.
N/D = No Data was collected. All flax varieties were compared with 'NorLin' oilseed flax as the standard variety.

Oilseed Crops – Sunflower

Tanana Valley Sunflower Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Biomass Yield (lbs/acre)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
Dwarf edible oilseed, spring												
Midnight Sun-flower	Alaska	18	1373	55	100	45	24	N/D	0	28-Jul	0	1996.6
Sunwheat semi-dwarf edible oilseed, spring												
Sunwheat 101	Minnesota	3	1938	78	141	63	26	26955	0	4-Sep	38	2895.2
Sunwheat 103	Minnesota	3	2638	106	192	86	26	26955	0	3-Sep	37	2878.2
Common edible oilseed, spring												
Black Russian	Russia	1	N/D	N/D	N/D	N/D	N/D	N/D	0	4-Sep	38	2895.2
CM 400	Manitoba	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
DO 164	Manitoba	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
HA 89	Australia	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
HA 124	Australia	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
HA 300	Australia	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
HA 301	Australia	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D

Tanana Valley Sunflower Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Biomass Yield (lbs/acre)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
HA 303	Australia	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Hysun - 30	North Dakota	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
IS 241	North Dakota	1	2604	104	190	85	22	N/D	0	25-Sep	59	3177.6
IS 891	North Dakota	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
IS 893	North Dakota	1	2195	88	160	72	23	N/D	0	25-Sep	59	3177.6
IS 894	North Dakota	2	2961	118	216	97	23	N/D	0	25-Sep	59	3177.6
IS 897	North Dakota	2	2732	109	199	89	21	N/D	0	25-Sep	59	3177.6
IS 903	North Dakota	2	2156	86	157	70	24	N/D	0	25-Sep	59	3177.6
IS 907	North Dakota	2	2556	102	186	83	24	N/D	0	25-Sep	59	3177.6
IS 1166	North Dakota	1	1296	52	94	42	22	N/D	0	25-Sep	59	3177.6
IS 1210	North Dakota	1	1057	42	77	34	21	N/D	0	25-Sep	59	3177.6
IS 1490	North Dakota	1	1199	48	87	39	21	N/D	0	25-Sep	59	3177.6
IS 1500	North Dakota	1	1148	46	84	37	21	N/D	0	25-Sep	59	3177.6
IS 1500 x 2100	North Dakota	2	3849	154	280	126	25	N/D	0	25-Sep	59	3177.6
IS 1500 x 2490	North Dakota	1	2704	108	197	88	25	N/D	0	25-Sep	59	3177.6
IS 3107	North Dakota	2	2281	91	166	74	24	N/D	0	25-Sep	59	3177.6
IS 3500	North Dakota	1	827	33	60	27	22	N/D	0	25-Sep	59	3177.6
IS 3600	North Dakota	1	291	12	21	9	19	N/D	0	25-Sep	59	3177.6
IS 3800	North Dakota	1	553	22	40	18	19	N/D	0	25-Sep	59	3177.6
IS 7775	North Dakota	2	3062	122	223	100	25	N/D	0	25-Sep	59	3177.6
IS 7785	North Dakota	1	2137	85	156	70	24	N/D	0	25-Sep	59	3177.6
IS 8907	North Dakota	2	3615	145	263	118	26	N/D	0	25-Sep	59	3177.6
IS 8943	North Dakota	1	2235	89	163	73	24	N/D	0	25-Sep	59	3177.6
IS 8944	North Dakota	2	2802	112	204	91	23	N/D	0	25-Sep	59	3177.6
Peredovik	North Dakota	2	2506	100	182	82	22	N/D	0	25-Sep	59	3177.6
RHA 271	North Dakota	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
RHA 274	North Dakota	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
RHA 276	North Dakota	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
RHA 290	North Dakota	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
RHA 299	North Dakota	1	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
S 894 A	Minnesota	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Sunfola 68-2	Hungary	2	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
					Confectionery, spring							
Sundak	North Dakota	2	2983	119	217	97	19	N/D	0	25-Sep	59	3177.6

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth.
N/D = No Data was collected. All sunflower varieties were compared with 'Midnight Sun-flower' dwarf open pollinated sunflower as the standard variety.

Oilseed Crops – Crambe

Tanana Valley Crambe Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
Industrial oilseed, spring											
Glactica	England	1	444	18	29	8	20	0	28-Sep	43	3197.7

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. All crambe varieties were compared with 'Reward' Polish canola as the standard variety.

Oilseed Crops – Safflower

Tanana Valley Safflower Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
Edible and Industrial oilseed, spring											
Oker	Montana	1	0	0	0	0	0	0	N/D	N/D	N/D
S-208	Montana	1	0	0	0	0	0	0	N/D	N/D	N/D
Saffire	Alberta	1	132	3	10	3	12	0	25-Sep	59	3177.6
Sidwell	Montana	1	0	0	0	0	0	0	N/D	N/D	N/D

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. N/D = No Data was collected. All safflower varieties were compared with 'Midnight Sun-flower' dwarf open pollinated sunflower as the standard variety.

Oilseed Crops – Borage

Tanana Valley Borage Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
Industrial oilseed, spring											
Corn Gromwell	England	1	198	5	13	3	23	95	15-Aug	1	2479.5
Purple Viper Bugloss	North Carolina	1	558	13	37	9	23	95	15-Aug	1	2479.5

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. All borage varieties were compared with 'Reward' Polish canola as the standard variety.

Oilseed Crops – Meadowfoam

Tanana Valley Meadowfoam Variety Name	Source	Years Tested	Seed Yield (lbs/acre)	Seed Yield (bu/acre)	Seed Yield % of Std.	Oil Yield (gal/acre)	Seed Test wt. (lbs/bu)	Lodging (%)	Maturity Date	Maturity vs. Std. (days)	Maturity GDD (ºF)
Industrial oilseed, spring											
Foamore	Oregon	1	300	N/D	0	6	0	100	28-Sep	43	3197.7

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth. N/D = Non Data was collected. All meadowfoam varieties were compared with 'Reward' Polish canola as the standard variety.

Tuber Crops – Jerusalem Artichoke

Tanana Valley Jerusalem Artichoke Variety Name	Source	Years Tested	Tuber Yield (lbs/acre)	Biomass Yield (lbs/acre)	Lodging (%)	Average Maturity Date	Average Maturity (GDD)*
			Tuber & forage				
Sunchoke	Illinois	2	997	52005	0	25-Sep	3177.6

*Growing degree days (GDD) are calculated from the average daily temperature minus a standard low temperature at which there can be no continued crop growth.

Agricultural & Forestry Experiment Station Publications

Miscellaneous publications are published by the Alaska Agricultural and Forestry Experiment Station to provide information summarizing research and are usually written for a specific lay audience. They often present information that would otherwise only be available as journal articles or specialized flyers for a limited professional audience. They may consist of secondary information or be a bulletin or journal article summary.

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About the Alaska Agricultural & Forestry Experiment Station

The federal Hatch Act of 1887 authorized establishment of agricultural experiment stations in the U.S. and its territories to provide science-based research information to farmers. There are agricultural experiment stations in each of the 50 states, Puerto Rico, and Guam. All but one are part of the land-grant college system. The Morrill Act established the land grant colleges in 1862. While the experiment stations perform agricultural research, the land-grant colleges provide education in the science and economics of agriculture.

The Alaska Agricultural Experiment Station was not originally part of the Alaska land grant college system. In 1898, the station was established in Sitka, also the site of Alaska's first experiment farm. Subsequent branches were opened at Kodiak, Kenai, Rampart, Copper Center, Fairbanks, and Matanuska. The latter two remain as the Fairbanks Experiment Farm and the Matanuska Experiment Farm. The USDA established the Fairbanks experiment station in 1906 on a site that in 1915 provided land for a college. The land transfer and money to establish the Alaska Agricultural College and School of Mines was approved by the U.S. Congress in 1915. Two years later the Alaska Territorial Legislature added funding, and in 1922, when the first building was constructed, the college opened its doors to students. The first student graduated in 1923. In 1931, the experiment station was transferred from federal ownership to the college, and in 1935 the college was renamed the University of Alaska. When campuses were opened at other locations, the Fairbanks campus became the University of Alaska Fairbanks.

Early experiment station researchers developed adapted cultivars of grains, grasses, potatoes, and berries, and introduced many vegetable cultivars appropriate to Alaska. Poultry and other animal management was also important. This work continues, as does research in soils and revegetation, forest ecology and management, and rural and economic development. As the state faces new challenges in agriculture and resources management, the Agricultural and Forestry Experiment Station continues to bring state-of-the-art research information to the people of Alaska.

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