

RVT BARLEY, WHEAT, TRITICALE, FLAX, AND OATS

REGIONAL VARIETY TRIALS: SUPPORTING THE ADOPTION OF NEW GENETICS

The Alberta Cereal and Flax Regional Variety Trials serve as a valuable resource for producers across the province. By evaluating both new and established crop varieties under local growing conditions, the trials provide reliable, data-driven insights that help farmers make informed management decisions. This work plays an important role in enhancing crop productivity, strengthening farm profitability, and advancing plant breeding and agricultural research throughout Alberta.

Gateway Research Organization (GRO) was proud to host one of the trial locations, where comprehensive and high-quality data was successfully collected on barley, wheat, triticale, flax and oats. The original plan was to conduct all the trials at a single site. However, we identified a significant wild oat history at the selected site. To manage this issue, Avadex MicroActiv herbicide (Group 15) was applied prior to seeding. As a result, the RVT oat trial was established approximately two miles away at separate site to ensure optimal trial conditions and data integrity. The results from the GRO site met all standards for inclusion in the Alberta Seed Guide, ensuring that producers have access to dependable and regionally relevant information when selecting varieties for their operations.

This report presents the data collected specifically from the GRO sites in Westlock. While these results offer valuable insights into variety performance under local conditions, it is important to recognize that data from a single site and a single growing season does not provide a complete picture. For a more comprehensive and dependable evaluation based on multiple sites and multiple years of testing, readers are encouraged to consult the January 2026 edition of the Alberta Seed Guide.

Producers should also recognize that some entries included in the trials may require several more years of testing before they are commercially available. Ongoing participation in and support of these trials are essential to ensuring the continued development and successful adoption of improved crop genetics across Alberta.

AGRONOMIC INFORMATION: SITE #1: PIBROCH

Seeded: Barley, Wheat, Triticale, and Flax May 05, 2025

Seeding:

Fabro zero-till drill

Seeding depth: 1 ¼ inch for Barley and Wheat, ¾ inch for Triticale and Flax

Seeding Rates:

270 plants/m² – Barley

330 plants/m² – Wheat (CWRS, CPSR, CWSP, SWS)

310 plants/m² - Triticale

800 plants/m² - Flax

Seed treatment: Teraxxa F4 @ 300 ml/100 kg of seed; Except for Flax (Untreated)

Fertilizer/ac

Fall 2024 by Producer: 11-16-16-10 @ 240 lbs/ac

26.4 lbs/ac Actual N 38.4 lbs/ac Actual P

38.4 lbs/ac Actual K 24.0 lbs/ac Actual S

Additionally, 82-0-0 @ 102.4 lbs/ac

84.0 lbs/ac Actual N
 2025 Spring Applied
 Side-banded
 For Barley: 19.5-0-26.0-6.5 @ 51 lbs/ac
 10.0 lbs/ac Actual N; 0 lbs/ac Actual P; 13.0 lbs/ac Actual K; 3.0 lbs/ac Actual S
 For Wheat and Triticale: 19.5-0-26.0-6.5 @ 154 lbs/ac
 30.0 lbs/ac Actual N; 0 lbs/ac Actual P; 40.0 lbs/ac Actual K; 10.0 lbs/ac Actual S
 Seed Placed (for all cereals): 11-52-0 @ 53.5 lbs/ac
 5.9 lbs/ac Actual N; 27.8 lbs/ac Actual P
 Seed Placed (Flax): 11-52-0 26.7 lbs/ac
 2.9 lbs/ac Actual N; 13.9 lbs/ac Actual P
 Herbicide
 Pre-seeding
 Avadex MicroActiv @ 19.3 lbs/ac on April 30, 2025
 Barley, Wheat and Triticale: 2,4-D @ 300 ml/acre on June 3, 2025
 Bison 400 L @ 200 ml/acre on June 18
 Flax Buctril M @ 400 ml/acre on June 3, 2025
 Buctril M @ 400 ml/acre on July 7, 2025
 Rainfall Recorded: May 1 to August 31, 2025: 192.2 mm (73% of long-term average)
 Desiccant: Reglone Ion @ 2.6 l/ac on September 10, 2025 (Flax Only)
 Harvested:
 Barley: August 25, 2025
 Wheat: August 28, 2025
 Triticale: September 5, 2025
 Flax: October 10, 2025

BARLEY:

Barley is a highly adaptable cereal crop cultivated worldwide for a broad range of purposes, including livestock feed, malting, and human consumption. **In the 2025 Barley Regional Variety Trial, 19 entries (varieties) were evaluated, the majority of which were two row types recognized for their uniform kernel characteristics.** Approximately 30 percent of the entries were experimental lines and are being considered for future registration. The trial included feed, food, and malt barley, offering valuable insight into the performance of each category and their most appropriate uses.

Feed barley is primarily grown to provide livestock with a high energy and easily digestible source of nutrition. Breeding efforts focus on improving yield, biomass production, and nutritional quality to ensure these varieties remain reliable and effective for animal feed. In contrast, malt barley is developed to meet the strict quality standards of the brewing and distilling industries, where it is processed into malt for the production of beer, whiskey, and other beverages.

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BARLEY RVTs - GRO 2025

	Variety	2 or 6 Row	Yield (% of AAC Synergy)	Height (cm)	Bushel Weight (lb/bu)	1000 KWT (g)
1	AAC SYNERGY (155 bu/ac)	2	100%	87.3	48.7	50.6
2	AC METCALFE	2	95%	85.3	48.9	49.6
3	CDC COPELAND	2	95%	93.3	47.6	48.5
4	AAC PRAIRIE	2	97%	90.3	48.1	50.1
5	AB DRAM	2	90%	85.0	49.2	48.8
6	SY STANZA	2	108%	67.3	47.7	52.7
7	CDC ARMSTRONG*	2	86%	90.7	55.1	47.6
8	CDC PRISTINE*	2	84%	90.0	54.7	41.6
9	CDC AUSTENSON	2	100%	87.3	49.4	49.8
10	AAC STOCKTON	2	101%	90.0	47.8	49.7
11	AS LAFLEUR	2	91%	86.7	49.4	50.9
12	AS MANON	2	101%	88.3	48.5	53.6
13	FB21106	2	105%	78.0	48.5	51.3
14	FB21704	2	104%	84.3	48.9	50.9
15	FB23113	2	107%	80.3	48.6	53.0
16	FB23618	2	113%	83.7	48.6	52.1
17	TR22669	2	101%	69.7	48.6	50.0
18	RICHER	6	103%	104.0	46.2	48.0
19	WCI FORTIFY (FB22816)	6	111%	93.3	47.4	41.6
	Average		6126.3 g/plot	86.1	49.0	49.5
	ANOVA p-value		<0.0001	<0.0001	<0.0001	<0.0001
	CV%		2.0	2.2	0.8	1.4

Values followed by different letters (ie a,b,c) are statistically different. Values followed by the same letter (ie a+ab, abc+bc) are NOT statistically different. If the p-value is less than 0.05, then there are significant differences in the described trait. (ie ANOVA p-value of >0.05 means there are no statistical differences in the trait between any of the varieties.)

*Hulless Barley

In conclusion, the 2025 Barley RVT trial highlights clear performance differences among the evaluated varieties. **SY STANZA** was the top-performing registered variety in this trial and also demonstrated strong yield potential in the 2024 RVT results, indicating consistent and reliable performance across years. The **FB23618**, a newly supported line for registration, performed exceptionally well and will be distributed by FP Genetics in near future.

As expected, the hulless varieties CDC PRISTINE and CDC ARMSTRONG produced comparatively lower yields. Plant height showed considerable variation, ranging from 67 cm to 104 cm. Differences were also observed in both bushel weight and thousand kernel weight.

Statistical analysis confirms that these differences are significant. However, because the results are based on a single site year, they should be interpreted with caution. For a more dependable evaluation of long-term performance, it is advisable to consider multiple site-year data, such as the results published in the January 2025 Alberta Seed Guide.

WHEAT:

Canada's wheat classification system is a framework designed to categorize wheat varieties based on their quality, functionality, and end-use suitability. It ensures consistency and reliability in wheat production, processing, and export. Managed by the Canadian Grain Commission (CGC), the system helps producers, marketers, and buyers understand the quality of Canadian wheat.

In 2025, GRO conducted two wheat trials. The first trial focused on CWRS wheat varieties, comprising 2 entries, while the second trial included all other wheat classes (CPSR, CWSP, and CWSWS) and featured 15 entries.



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CWRS RVTS - GRO 2025

	Variety	Yield (% of AAC Brandon)	Height (cm)	Bushel Weight (lb/bu)	1000 KWT (g)
1	AAC BRANDON (98 bu/ac)	100%	83.7	66.7	39.6
2	AAC CRAVEN	104%	82.3	68.7	38.5
3	AAC DARBY VB	88%	92.7	68.5	37.7
4	AAC OAKMAN VB	88%	83.0	67.8	35.5
5	AAC SPIKE	93%	73.3	68.7	35.6
6	AAC STOUGHTON	108%	87.3	68.7	38.1
7	AAC WALKER	95%	82.3	69.2	38.8
8	AAC WALSH	99%	82.7	68.9	43.4
9	AAC WESTKING	102%	82.0	68.8	41.3
10	AAC WHEATLAND VB	103%	84.3	69.0	39.7
11	BAKER	108%	80.3	67.7	38.9
12	BREADWINNER	99%	82.0	68.5	42.9
13	AAC AHEAD VB (BW1141)	95%	85.3	68.0	40.8
14	AAC RIVERS VB (BW1143)	99%	85.7	68.5	41.4
15	BW5115	101%	78.0	68.0	37.1
16	CDC POWER CL PLUS	97%	75.0	67.9	37.9
17	DONALDA	90%	81.3	69.2	38.3
18	FLAME	97%	83.0	67.7	37.5
19	GARDE	84%	74.0	68.0	33.8
20	LAR19-22824	96%	79.0	68.6	43.1
21	PALISADE	93%	80.7	69.1	41.9
22	ZEALAND	90%	98.3	68.0	38.3
Average		4565.8	82.6	68.4	39.1
ANOVA p-value		<0.0001	<0.0001	0.001	<0.0001
CV%		2.8	2.4	0.9	2.2

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To conclude, the CWRS Regional Variety trial evaluated 22 varieties using **AAC Brandon** as the yield check. Yields ranged from 84 percent to 108 percent of AAC Brandon, with **AAC Stoughton** and **BAKER** leading at 108 percent, followed by **AAC Craven** at 104 percent and **AAC Wheatland VB** at 103 percent. Plant height averaged 82.6 cm, with **ZEALAND** standing tallest at 98.3 cm and **AAC Spike** the shortest at 73.3 cm. Test weight averaged 68.4 lb per bushel and was generally strong across varieties. The thousand kernel weight averaged 39.1 g, ranging from 33.8 g for **GARDE** to 43.4 g for **AAC Walsh**. These results come from a single site and should be interpreted with caution until confirmed by multi-site, multi-year trials.

CPSR / SP / SWS RVTS - GRO 2025

	Variety	Yield (% of AAC Brandon)		Height (cm)		Bushel Weight (lb/bu)		1000 KWT (g)	
1	AAC BRANDON (98 bu/ac)	100%	bcde	82.3	ab	66.3	bcde	40.3	bcde
2	AAC AWESOME	105%	ab	83.7	a	66.5	abcde	41.3	b
3	AAC CAMROSE	91%	f	76.3	cde	66.7	abcde	38.0	cde
4	AAC GALORE	110%	a	77.3	bcd	65.5	de	41.0	bcd
5	AAC GOODWIN	92%	ef	77.3	bcd	68.9	ab	37.7	e
6	AAC PENHOLD	90%	f	71.3	efg	69.0	a	41.1	bc
7	AC ANDREW	94%	def	74.0	def	66.4	abcde	37.2	ef
8	AC SADASH	102%	abcd	79.0	abcd	66.6	abcde	37.9	de
9	ALOTTA	110%	a	80.0	abc	64.8	de	50.8	a
10	FIERCE	89%	f	70.7	fg	68.2	abc	32.7	g
11	WPB BANFF VB (GP266)	103%	abc	75.3	cdef	64.1	e	41.2	b
12	WPB CANMORE (GP267)	103%	abc	67.0	g	65.7	cde	40.9	bcd
13	CDC WARBURG (HY2152)	96%	cdef	78.3	bcd	68.3	abc	41.4	b
14	UA BRYNN (HY2161)	93%	ef	71.7	efg	67.4	abcd	40.2	bcde
15	RECOIL	90%	f	75.3	cdef	66.7	abcde	34.5	fg
Average		4724.2	g/plot	76.0	cm	66.7	lbs/bu	39.7	g/1000 seeds
ANOVA p-value		<0.0001		<0.0001		<0.0001		<0.0001	
CV%		2.833		2.3		1.3		2.6	

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The CPSR/SP/SWS trial showed clear differences between wheat varieties for yield, height, bushel weight, and kernel size. **AAC GALORE** and **ALOTTA** were the top performers, yielding 110 percent of **AAC BRANDON**, while **AAC AWESOME**, **GP266 (WPB BANFF VB)**, **GP267 (WPB CANMORE)**, and **AC SADASH** also outperformed the check. Plant height varied from 67 cm for **GP267 (WPB CANMORE)** to 83.7 cm for **AAC AWESOME**, with an average of 76 cm across varieties. Bushel weight was highest in **AAC PENHOLD** and **AAC GOODWIN**, averaging 66.7 pounds per bushel. **ALOTTA** stood out for thousand kernel weight at 50.8 grams, well above the average of 39.7 grams. These results come from a single site and should be interpreted with caution until confirmed by multi-site, multi-year trials.

TRITICALE:

Triticale, a hybrid of wheat and rye, has become a valuable crop in Alberta because of its adaptability and high yield potential. It is primarily grown for feed, forage, and grazing. A breeding program led by **Mazen Aljarrah at Western Crop Innovations in Lacombe** is introducing new triticale genetics to the market. These improved genetics mature earlier, have shorter stems to reduce lodging, and show better drought tolerance, making them increasingly appealing to farmers. **In 2025, the RVT Triticale trial evaluated five different entries.**

TRITICALE RVTS - GRO 2025

	Variety	Yield (% of Brevis)		Height (cm)		Bushel Weight (lb/bu)	1000 KWT (g)
1	BREVIS (106 bu/ac)	100%	c	94.3	c	Not analyzed due to lack of data	
2	AB SUNBEAM	112%	a	99.0	bc		
3	PRONGHORN	104%	bc	110.3	a		
4	WCI WIDDICOMBE (T301)	110%	ab	94.7	c		
5	T317	108%	ab	101.7	b		
Average		5494.7	g/plot	100.0	cm		
ANOVA p-value		0.001		<0.0001			
CV%		2.0		1.8			

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In conclusion, **AB SUNBEAM** had the highest yield at 112 percent of **BREVIS**, followed by **WCI WIDDICOMBE** at 110 percent, and T317 at 108 percent. **PRONGHORN** was the tallest at 110.3 cm, while **BREVIS** was the shortest at 94.3 cm. No lodging was observed during the 2025 growing season due to dry weather conditions. Bushel weight and 1000-kernel weight were not analyzed due to missing data. Statistical analysis showed significant differences in yield and height. These results come from a single site and should be interpreted with caution until confirmed by multi-site, multi-year trials.

FLAX:

Flax production is an important part of Canada's agricultural sector, with the country ranking among the world's top producers and exporters of flaxseed. Most flax is grown in the Prairie provinces, with Saskatchewan leading the way, followed by Manitoba and Alberta. The crop thrives in the region's well-drained soils and cooler growing conditions, making it well-suited to the Canadian climate. It is usually planted in May and harvested between mid-September and late October. Flax is also fairly drought-resistant, which is helpful given the often-unpredictable weather in the Prairies. **The thick clay soil in places like Westlock can make it harder for flax to reach its full potential.** GRO volunteered to conduct the RVT flax trial using base funding due to the continued support and strong interest of our board and members. The trial featured four varieties.

FLAX RVTS - GRO 2025

	Variety	Yield (% of CDC Glas)		Height (cm)		Maturity (# of Days)	
1	CDC GLAS (29 bu/ac)	100%	a	57.7	a	124.33	a
2	CDC ESME	105%	a	56.0	a	124.67	a
3	CDC KERNEN	102%	a	55.7	a	121.33	b
4	FP2608	107%	a	56.0	a	125.33	a
Average		1265.1	g/plot	56.3	cm	123.9	
ANOVA p-value		0.104		0.053		0.007	
CV%		2.9		1.3		0.7	

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In the 2025 GRO flax variety trial, **CDC ESME** and **FP2608** (experiment line) showed the highest yields, at 105% and 107% of Check (**CDC Glas**), respectively. Plant heights were similar across all varieties, averaging about 56 cm, while maturity ranged from 121 to 125 days. Statistical analysis shows no significant difference in yield or height, but there is a significant difference in maturity among varieties. These results come from a single site and should be interpreted with caution until confirmed by multi-site, multi-year trials.



RVT BARLEY, WHEAT, TRITICALE, FLAX , AND OATS CONTINUED

AGRONOMIC INFORMATION: SITE #2: RANDY PIDSAOWSKI – SW17-61-26-W4

Seeded Oats on May 1, 2025

Seeding:

Fabro zero-till drill

Seeding depth: 1 inch

Seeding Rates:

300 plants/m² – Oats

Seed treatment: Teraxxa F4 @ 300 ml/100 kg of seed

Fertilizer/ac

2025 Spring Applied

Side-banded:

For Oats: 26.8-1.9-16.0-5.4 @ 373.2 lbs/ac

100 lbs/ac Actual N; 7.2 lbs/ac Actual P; 60.0 lbs/ac Actual K; 20.0 lbs/ac Actual S

Seed Placed:

For Oats: 11-52-0 @ 53/5 lbs/ac

5.9 lbs/ac Actual N; 27.8 lbs/ac Actual P

Herbicide

Buctril M @ 400 ml/ac on June 3, 2025

Rainfall Recorded: May 1 to August 31, 2025: 192.2 mm (73% of long-term average)

Desiccant: None

Harvested: Oats: September 3, 2025

OATS:

Oat production is an important part of the grain sector in Alberta, where farmers grow oats as both a cash crop and a rotational crop alongside wheat and canola. The province is one of Canada's leading oat producers, along with Saskatchewan and Manitoba, contributing significantly to national output in Canada. Alberta's cool growing season and fertile Prairie soils are well suited to high-quality milling oats used for human consumption, as well as feed oats for livestock. A substantial portion of the crop is exported, particularly to the United States, where demand for oat-based food products remains strong. **In 2025, the RVT Oat trial evaluated 12 different entries.**

OATS RVTS - GRO 2025

	Variety	Yield (% of CS Camden)		Height (cm)		Bushel Weight (lb/nu)	1000 KWT (g)
1	CS CAMDEN (153 bu/ac)	100%	d	104.3	bc	Not analyzed due to only 1 rep of data	
2	AAC FEDAK	121%	a	104.7	bc		
3	AAC FETCH	113%	bc	102.0	cd		
4	AAC WESLEY	118%	ab	91.3	e		
5	AC MORGAN	111%	c	108.7	b		
6	CDC ANSON	112%	bc	90.7	e		
7	CDC BYER	112%	bc	102.3	cd		
8	CDC HANK	116%	abc	105.0	bc		
9	CDC WESTGATE	96%	d	124.0	a		
10	OREBOOST	115%	abc	107.0	bc		
11	AAC GLADYS (OT2152)	114%	bc	104.3	bc		
12	OT3125	114%	bc	97.3	d		
Average		4916.6	g/plot	103.5	cm		
ANOVA p-value		<0.0001		<0.0001			
CV%		1.8		1.7			

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To summarize, the RVT Oat trial demonstrated clear differences among varieties for both yield and plant height, with statistical analysis confirming these differences were significant. Compared to the check variety, **CS CAMDEN** (153 bu/ac), all entries except **CDC WESTGATE** (96% of check) produced higher yields. **AAC FEDAK** was the top performer at 121 percent of the check, followed by **AAC WESLEY** at 118 percent, **CDC HANK** at 116 percent, and **OREBOOST** at 115 percent, while **AC MORGAN** yielded 111 percent. Average plant height was 103.5 cm, ranging from 90.7 cm for **CDC ANSON** and 91.3 cm for **AAC WESLEY** to 124.0 cm for **CDC WESTGATE**. Since these results are based on a single site year, they should be interpreted with caution. For a more complete understanding of variety performance across environments and years, please refer to the **2026 Alberta Seed Guide**.

RVT BARLEY, WHEAT, TRITICALE, FLAX , AND OATS CONTINUED

ACKNOWLEDGMENTS:

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GRO would like to extend its sincere appreciation to the financial supporters who have made this program possible. We would like to acknowledge the generous contributions from the **RDAR (Results Driven Agriculture Research)**, **Alberta Grains**, **Western Grains Research Foundation (WGRF)**, **Alberta Seed Processors**, **Alberta Oat**, and the **Alberta and British Columbia Seed Growers Associations**. Their invaluable support, along with the partnership of all industry stakeholders, has played a crucial role in the successful operation and continuation of this program.

