

2021 Pulse Regional Variety Trials

ONE OF THE pillars of best management practices for every crop is selecting one or more varieties that are well-suited to your growing environment and spread production risk. The Alberta Pulse Growers (APG) continues to fund the pulse regional trials as the information generated empowers farmers to make informed decisions.

The tables in this publication report the yield data across the five APG zones (please refer to map). In 2021 the sites for each zone were as follows: Zone 1 - Taber, Stirling; Zone 2 - Vulcan, Oyen, Olds, Three Hills, Lacombe, Consort; Zone 3 – Andrew, Fort Saskatchewan, Westlock; Zone 4 - Fort Vermilion, Manning, Smoky River; Zone 5 - Forestburg, Stettler, Vermilion, St. Paul. Of the 70 tests planted in 2021 only 50 tests provided usable data for the following RVT tables.

Protocols for seeding, weed, insect and disease management, pre-harvest and harvest management are reviewed and standardized each year to ensure consistency of results across co-operators.

Yield of the check variety is indicated in bold, with test varieties reported as a percentage of that check variety. All sites were inspected at three points during the growing season. Data were statistically analyzed to ensure validity. Please be aware direct variety comparisons should only be made with the check.

New this year, the soybean table now presents the three zones where soybean is produced (1, 4, 5). Moving to the zone format provides better regional specific performance of the varieties. As the historical data hasn't been provided to

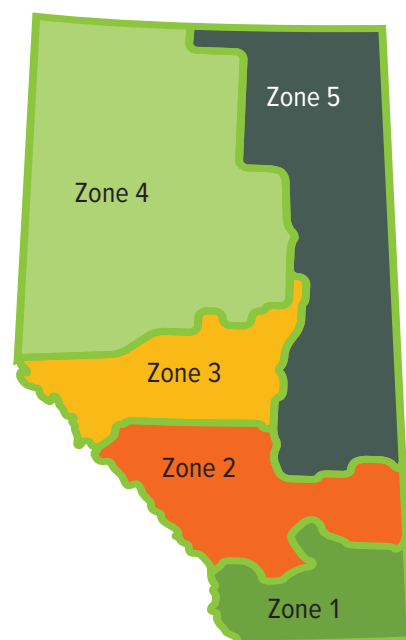
APG, zone information isn't available for the previously tested soybean varieties in the lower portion of the table.

Row spacing for the dry bean trials has been restricted to the narrow row spacing only since 2019. The following link will take you to the dry bean wide row RVT data presented in 2020 <https://www.seed.ab.ca/variety-trials/special-crops/>

Along with funding it takes a team of dedicated people to establish a regional variety trial program. There are many steps including: seed set-up, planting plots, maintaining plots, harvesting, and analysis. Thanks to all those involved in making this process work — Robyne Davidson and Trina Dubitz from Lakeland College for seed set-up, the site cooperators, and a committee of dedicated seed variety contributors, plant breeders, pathologists, and researchers who review and ensure the data is presented accurately.

Additional information and specifics on management at each site including seeding date, soil fertility, in-crop herbicide and fungicide applications, etcetra can be found on the Alberta Pulse Growers website, or download the APG app at <http://www.albertapulservt.com/DownloadApp.aspx>.

Questions about the tables or general pulse agronomy? Email Jenn Walker, jwalker@albertapulse.com or connect with us on Twitter @APGResearch and @APGExtension.



SOYBEAN

Variety	Overall Yield	Overall Station years of Testing	Herbicide Tolerance	Zone 1 (Irrigated)		Zone 4		Zone 5		Relative Days to Maturity ¹	TSW ² (g)	Company Maturity Rating	Hilum Color	IDC Rating ³ (T-ST-S)
				Yield (%)	Site Years	Yield (%)	Site Years	Yield (%)	Site Years					
Varieties tested in the 2021 trials; (Yield and agronomic data only directly comparable to NSC Watson RR2Y)														
NSC Watson RR2Y (kg ha-1)	2182			2816										
NSC Watson RR2Y	100	16	RR2Y	100	8	100	3	100	5	112	151	000.8	Imperfect Yellow	ST
Akras R2	112	11	R2	129	5	72	2	94	4	2	147	00.3	Black	T
Amirani R2 ☉*	115	16	R2	110	8	132	3	105	5	-9	154	000.5	Yellow	ST
Previously tested varieties (Yield and agronomic data only directly comparable to McLeod R2)														
McLeod R2	100	36	R2	100	29					123	156	00.3	Black	ST
NSC Watson RR2Y	93	21	RR2Y	90	18					-11	151	000.8	Imperfect Yellow	ST
Devo R2X	94	8	R2	94	6					-3	139	00.2	Brown	ST
DKB0005-44	90	8	RR2X	91	7					-4	138	000.5	Black	ST
DKB0009-89	93	8	RR2X	92	7					-6	160	000.9	Black	T
Nocoma R2	93	17	R2	89	14					-5	155	000.8	Black	ST
S003-L3	103	13	RR	103	12					-7	174	00.3	Brown	ST
S006-W5	108	13	RR2Y	109	12					-5	133	00.5	Imperfect Yellow	S
S007-Y4	108	17	RR2Y	108	16					-1	150	00.5	Imperfect Yellow	ST
S0007-B7X	79	8	RR2X	78	7					-10	141	0.007	Buff	ST
S0009-M2	97	20	RR2Y	97	19					-9	147	000.9	Imperfect Yellow	ST
TH33003R2Y	102	24	R2Y	101	19					-1	140	00.3	Brown	ST
Torro R2	97	21	R2	91	18					-2	141	00.1	Black	ST

Remarks: Straight combining is the commonly used method of harvest. Swathing soybean can result in excessive field losses (up to 25 per cent) due to shattering. Approximately four beans or one to two pods per square foot represent a yield loss of one bushel per acre. XX = Insufficient information to describe. Irrigated sites included: Stirling and Taber. New registration with insufficient data to describe: BY Rundle XT. ☉* = pending PBR protection. All varieties in this table are Roundup Ready or Roundup Ready Xtend type. RR2/RR2Y indicates Genuity® Roundup Ready 2 Yield® soybean variety; R2X/RR2X indicates Roundup Ready 2 Xtend® soybean variety. RR1 indicates Roundup Ready 1 technology.

¹Maturity is reported as +/- days relative to NSC Watson RR2Y. ²TSW: Thousand Seed Weight. ³Iron Deficiency Chlorosis Ratings: T = Tolerant (<-1.7), ST = Semi-Tolerant (1.8-2.3), S=Susceptible (>2.3).

LENTIL

Market Class	Variety	Zone:								Agronomic Characteristics:					Disease Tolerance: ⁶	
		Overall Yield	Overall Station Years of Testing	1		2		5		TSW ² (g)	Plant Height (cm)	Maturity Rating ³	Cotyledon Colour ⁴	Seed Coat Colour ⁵	Ascochyta	Anthracnose
				Yield ¹ (%)	Site Years	Yield (%)	Site Years	Yield (%)	Site Years							
Varieties tested in the 2021 trials, (Yield and agronomic data only directly comparable to CDC Maxim)																
	CDC Maxim (kg ha-1)	2726		2897		2011		2813								
Small Red	CDC Maxim (CL)	100	55	100	42	100	10	100	8	40	34	E/M	R	GR	G	G
Large Green	CDC Lima (CL) [Ⓞ]	89	26	90	10	85	8	90	8	67	34	M/L	Y	G	G	VP
Small Red	CDC Impulse (CL) [Ⓞ]	104	35	104	17	106	10	96	8	47	36	E/M	R	GR	G	G
	CDC Nimble (CL) [Ⓞ]	102	14	120	4	96	6	91	4	38	39	E/M	R	GR	G	G
	CDC Proclaim (CL) [Ⓞ]	102	31	105	14	100	9	98	8	40	35	E/M	R	GR	G	G
	CDC Simmie (CL) ^{Ⓞ*}	100	14	110	4	101	6	90	4	39	37	E/M	R	GR	G	G
Previously tested varieties (Yield and agronomic data only directly comparable to CDC Maxim)																
Extra Small Red	CDC Impala (CL)	93	20	93	20	XX	XX	XX	XX	31	35	E	R	GR	G	G
	CDC Imperial (CL)	82	17	82	17	XX	XX	XX	XX	30	35	E	R	GR	G	G
	CDC Rosie	97	19	102	17	XX	2	XX	XX	30	35	E/M	R	GR	G	G
	CDC Roxy [Ⓞ]	99	17	97	11	104	4	XX	2	28	33	E/M	R	GR	G	G
Small Red	CDC Dazil (CL)	94	25	93	23	XX	2	XX	XX	34	35	E/M	R	GR	G	F
	CDC Imax (CL)	100	19	100	19	XX	XX	XX	XX	46	37	E/M	R	GR	G	F
	CDC Redberry	96	17	96	17	XX	XX	XX	XX	44	37	E	R	GR	G	G
	CDC Redcliff	110	14	110	14	XX	XX	XX	XX	39	36	E/M	R	GR	G	F
	CDC Scarlet	102	19	105	17	XX	2	XX	XX	38	35	E/M	R	GR	G	F
Large Red	CDC KR-1	104	23	104	21	XX	2	XX	XX	52	39	M	R	GR	G	G
Small Green	CDC Invincible (CL)	96	28	96	26	XX	2	XX	XX	33	35	E	Y	G	G	G
	CDC Kermit [Ⓞ]	103	8	92	4	XX	2	XX	2	31	32	E/M	Y	G	G	G
Medium Green	CDC Imigreen (CL)	79	14	79	14	XX	XX	XX	XX	61	43	M	Y	G	G	VP
	CDC Impress (CL)	85	14	85	14	XX	XX	XX	XX	52	38	M	Y	G	G	P
Large Green	CDC Greenland	88	14	88	14	XX	XX	XX	XX	67	39	M/L	Y	G	G	VP
	CDC Greenstar	92	9	XX	XX	XX	XX	XX	XX	63	37	M/L	Y	G	G	F
	CDC Impower (CL)	81	23	81	21	XX	2	XX	XX	67	41	M/L	Y	G	G	VP
	CDC Improve (CL)	84	23	84	21	XX	2	XX	XX	71	38	M	Y	G	F	VP

Remarks: Weight, diameter and thickness of lentil seeds were dependent upon environmental conditions and agronomic factors. In 2021 two trials were grown in Zone 1; three trials in Zone 2; and two trials in Zone 5. New registrations with insufficient data to describe: CDC Jimini, CDC Grimm. [Ⓞ] = Protected by PBR (UPOV 91), ^{Ⓞ*} = pending PBR protection. CL= Clearfield variety. NR = not registered with CFIA. XX = Insufficient data to describe. ¹Yields are reported relative to CDC Maxim (CL). CDC Maxim belongs to Small Red Market Class. ²Thousand Seed Weight. ³Maturity: E = Early, M = Medium, L = Late, VL = Very Late. ⁴Cotyledon Color: R = Red, Y = Yellow, G = Green; ⁵Seed Coat Color/Patterns: G = Green, GR = Grey, BR = Brown, FG = French Green, T = Tan, MRB = Marbled. ⁶Disease tolerance: VP = Very Poor, P = Poor, F = Fair, G = Good.

FABABEAN

Variety	Type	Overall Yield	Overall Station	Years of Testing	Relative Maturity ¹	Plant Height (cm)	Thousand Seed Weight (g)	Flower Color ²
Varieties tested in the 2021 trials (Yield and agronomic % of check data only directly comparable to Snowbird)								
Snowbird (kg/ha)		5295						
Snowbird	Zero Tannin	100	72	E	89	478	W	
CDC 219-16 [Ⓢ]	Zero Tannin	100	36	E	83	358	W	
DL Tesoro [Ⓢ] * VUA	Zero Tannin	107	36	M	89	571	W	
Fabelle [Ⓢ]	Tannin	114	46	M	94	534	C	
Malik * NR	Tannin	97	69	M	83	632	C	
Previously tested varieties: 2013 - 2015 (Yield and agronomic data only directly comparable to Snowbird)								
Snowbird	Zero Tannin	100	72	E	89	478	W	
CDC Snowdrop	Zero Tannin	88	23	E	87	351	W	
Tabasco	Zero Tannin	85	15	M	86	374	W	

Remarks: All coloured flower types have seed coats that contain tannins and may be suitable for export food markets if seed size and quality match customer demand. Varieties tested for a minimum three years are considered fully tested. New registration with insufficient data to describe: DL Nevado. [Ⓢ] = Protected by PBR (UPOV 91), ^{Ⓢ*} = pending PBR protection, **VUA** = Variety Use Agreement applied (<http://seeds-canada.ca/variety-use-agreement/>). NR = Variety not registered with CFIA. * Contract Varieties.

¹Maturity: E = early, M = medium, ML = medium late, L = late; ²Flower Colour: W = white flower, zero tannin; C = coloured flower, tannin.

FIELD PEA – GREEN

Variety	Overall Yield	Overall Station Years of Testing	Zone:										Agronomic Characteristics:			Disease Tolerance ⁴ :				Seed Coat Breakage	Seed Coat Dimpling ⁵
			1		2		3		4		5		Ma-turity Rating ¹	Vine Length (cm)	TSW ² (g)	Stand-abil-ity ³ (1 - 9)	Mycos-phaer-ella Blight	Fusar-ium Root Rot	Bleach-ing		
			Yield (%)	Site Years	Yield (%)	Site Years	Yield (%)	Site Years	Yield (%)	Site Years	Yield (%)	Site Years									
Varieties tested in the 2021 trials; (Yield and agronomic data only directly comparable to CDC Limerick)																					
CDC Limerick (kg/ha)	4619		3767		4397		5486		4598		4962										
CDC Limerick	100	143	100	22	100	45	100	22	100	38	100	17	M	78	211	3.0	I	I	G	VG	G
Blueman [Ⓢ]	106	68	108	10	106	19	99	10	107	15	107	14	M	81	214	2.6	I	I	G	G	G
CDC Forest [Ⓢ]	107	68	113	10	112	19	102	10	105	15	105	14	M	81	236	2.2	I	I	G	G	G
Garde	94	27	102	2	97	9	83	4	91	6	95	6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Previously tested varieties																					
AAC Comfort [Ⓢ]	101	55	104	10	104	15	99	7	100	12	98	11	M - L	78	253	3.3	I	I	G	G	F
CDC Greenwater	106	42	106	8	109	10	105	6	106	14	97	4	L	74	230	2.8	I	MR	G	F	F
CDC Spruce [Ⓢ]	105	55	101	10	108	15	109	7	103	12	107	11	M	81	254	2.3	I	I	G	G	F
Varieties tested in 2013 2014 (Yield and agronomic data only directly comparable to CDC Patrick)																					
CDC Patrick (kg/ha)	4732		5083		4543		5591		4305		5060										
CDC Patrick ⁺	100	109	100	16	100	34	100	12	100	32	100	14	M	79	186	4.4	I	MR	G	G	G
CDC Raezer	105	52	91	8	107	17	94	5	107	16	118	6	M	89	227	4.2	MS	MR	G	G	G
CDC Tetris ⁺	106	52	102	8	105	17	93	5	110	16	116	6	L	91	215	4.4	I	MR	G	G	G
Varieties tested in 2004 2012 (Yield and agronomic data only directly comparable to Cooper)																					
Cooper (kg/ha)	4724		4947		4316		5435		4835		4244										
Cooper ⁺	100	121	100	18	100	34	100	14	100	36	100	19	L	76	270	3.6	MS	I	F	F	G
CDC Striker	96	39	XX	XX	115	7	107	4	89	21	92	4	M	72	255	3.0	I	MR	G	G	G

Remarks: CDC Tetris is an Espace type with blocky seed shape. All the green pea varieties listed in the table are powdery mildew resistant except CDC Striker that is susceptible. New registration with insufficient data to describe: CDC Rider. [Ⓢ] = Protected by PBR (UPOV 78), ^{Ⓢ*} = Protected by PBR (UPOV 91), XX = Insufficient data to describe. NA = data is not available. ⁺ Flagged for possible removal in 2023. ¹Maturity: E = Early, M = Medium, L = Late. ²Thousand Seed Weight, g. ³Standability: 1 = Erect, 9 = Flat. ⁴Disease Tolerance to: MS = Moderately Susceptible, I = Intermediate, MR = Moderately Resistant, R = Resistant. ⁵Seed Coat Dimpling: VG = Very Good (0 - 5%), G = Good (6 - 20%), F = Fair (21 - 50%).

FIELD PEA – YELLOW

Variety	Overall Yield	Overall Station	Zone:										Agronomic Characteristics:				Disease Tolerance: ⁴				
			1		2		3		4		5		Maturity Rating ¹	Vine Length (cm)	TSW ² (g)	Standability ³ (1-9)	Mycosphaerella Blight	Fusarium Root Rot	Seed Coat Breakage	Seed Coat Dimpling ⁵	Green Seed Coat ⁶
			Yield (%)	Site Years*	Yield (%)	Site Years*	Yield (%)	Site Years*	Yield (%)	Site Years*	Yield (%)	Site Years*									
Varieties tested in the 2021 trials; (Yield and agronomic data only directly comparable to CDC Amarillo)																					
CDC Amarillo (kg/ha)	5027		3979		4577		5823		5245		5433										
CDC Amarillo	100	134	100	21	100	40	100	21	100	30	100	22	M	81	227	2.4	I	MR	F	F	G
AAC Aberdeen ☉	106	24	112	3	113	7	101	5	112	4	96	5	M	89	243	2.5	I	I	G	G	G
AAC Ardill ☉	106	37	107	6	109	12	107	6	107	5	104	8	M	85	230	2.4	I	MR	G	G	G
AAC Barrhead	99	80	99	13	99	22	98	14	102	16	99	15	E	82	233	2.5	MS	MS	G	G	XX
AAC Carver ☉	107	71	107	11	104	20	107	12	108	15	103	13	E	84	243	2.9	MS	I	G	G	G
AAC Delhi ☉	100	37	104	5	104	12	101	6	106	6	99	8	M	71	288	2.8	MS	I	G	F	G
AAC Lacombe	102	103	107	19	101	35	101	16	106	15	98	18	M	76	258	2.2	MS	I	G	F	G
AAC Profit ☉	107	29	105	4	107	10	105	4	105	5	111	6	M	90	218	2.5	I	I	G	G	G
CDC Canary ☉	103	66	102	11	105	20	100	11	102	11	105	13	E	80	241	2.6	I	I	G	F	G
CDC Inca ☉	103	80	100	13	101	22	110	14	105	17	102	14	M	79	231	2.1	I	I	G	G	F
CDC Lewochko ☉	102	52	104	8	100	16	103	9	103	8	105	11	M	89	233	1.6	I	I	G	G	G
CDC Spectrum ☉	104	66	102	11	102	20	105	11	101	11	107	13	M	78	242	2.1	I	I	G	G	F
LN4228 ☉	94	82	93	14	96	23	92	13	93	19	94	13	M	73	254	2.1	MS	S	F	F	G
Previously tested varieties																					
AAC Chrome ☉	108	38	115	7	109	10	102	7	109	7	106	7	M - L	72	240	2.9	I	I	G	F	G
CDC Athabasca + ☉	95	42	93	8	94	13	99	6	96	7	92	8	M	80	284	2	I	I	F	F	G
CDC Meadow	97	101	100	17	100	28	93	15	97	26	95	15	M	81	205	3.6	MS	I	G	G	G
AAC Peace River	92	49	89	8	94	15	90	5	97	16	82	5	VE	68	217	3.8	S	S	F	G	G
Abarth ☉	98	49	101	8	104	16	83	5	94	14	102	6	M	77	269	3.6	MS	I	F	G	G
Varieties tested in 2005 - 2014 (Yield and agronomic data only directly compared to CDC Meadow)																					
CDC Meadow (kg/ha)	4982		3793		4567		6266		5189		5175										
CDC Meadow	100	111	100	13	100	21	100	14	100	50	100	13	M	82	208	3.5	MS	I	G	G	G
Agassiz †	103	22	99	2	103	3	108	2	103	14	104	1	M	75	234	2.4	MS	I	G	VG	G
CDC Golden †	91	20	86	1	90	1	84	2	92	16	XX	XX	M	76	221	2.5	MS	I	G	G	G
CDC Hornet †	100	31	105	4	102	8	97	4	100	10	96	5	M	89	209	3.7	I	I	F	F	G
CDC Prosper †	93	23	92	1	87	4	91	2	97	13	81	3	E	72	146	3.9	MS	MR	G	F	G
CDC Saffron	103	47	110	8	104	15	99	5	101	13	99	6	M	84	236	4.3	I	I	G	F	G
CDC Treasure †	97	23	103	1	92	4	91	2	99	13	93	3	E	80	213	3.3	MS	I	G	F	F
Hugo †	93	47	104	7	92	13	92	6	96	14	75	7	M	73	210	5.2	I	I	G	F	F
Stella † NR F	80	45	75	7	81	13	83	6	80	12	80	7	M	95	213	3.9	I	I	G	G	F

Remarks: Stella is a silage type pea. All the yellow pea varieties listed in the table are powdery mildew resistant. New registrations with insufficient data to describe: AAC Beyond, AAC Julius. ☉ = Protected by PBR (UPOV 78). ☉ = Protected by PBR (UPOV 91). NR = Variety not registered with CFIA. F = Forage type. XX = Insufficient data to describe. *A minimum of 2 years of data and at least 2 sites provides better confidence in plot yields. †Maturity: E = early, M = medium, L = Late. †Thousand Seed Weight: g. †Standability: 1 = erect, 9 = flat. †Disease Tolerance to: S = Susceptible, MS = Moderately Susceptible, I = Intermediate, MR = Moderately Resistant, R = Resistant. †Seed Coat Dimpling: VG = very good (0 - 5%), G = good (6 - 20%), F = fair (21 - 50%). †Green Seed Coat: G = good (0 - 10%), F = fair (11 - 25%). † - Flagged for possible removal in 2023.

DRY BEAN – WIDE ROW

Variety	Type	Site Years 1997 - 2021	Overall Yield (% of check)	Days to Bloom ¹	Days to Maturity	TSW ² (g)	Plant Height (cm)	Lodging ³ (1 - 5)	Growth Habit ⁴
Varieties tested in 2021 trials (Yield and agronomic data only directly comparable to the check within each type)									
AC Black Diamond (kg/ha)			3206						
AC Black Diamond	Black Shiny	51	100	57	102	265	37	2.3	II
AAC Black Diamond 2	Black Shiny	18	102	58	1	258	35	2.5	II
CDC Blackstrap ☹	Black Matte	7	85	57	1	216	24	2.5	II
Island (kg/ha)			3935						
Island	Pinto	32	100	56	98	374	40	3.0	II
AAC Expedition	Pinto	9	77	56	2	389	31	2.8	II
AAC Explorer	Pinto	13	88	55	1	376	34	2.4	II
CDC WM-3 ☹	Pinto	7	92	56	4	364	30	2.7	II
Resolute (kg/ha)			3390						
Resolute	Great Northern	19	100	51	1	349	41	2.6	II
AAC Whitehorse	Great Northern	21	102	51	1	374	41	2.8	II
AAC Whitestar	Great Northern	15	108	54	0	369	43	2.9	II
AAC Y073 (kg/ha)			3137						
AAC Y073	Yellow	7	100	54	99	436	27	1.8	I
AAC Y012	Yellow	13	109	54	0	400	33	1.5	I
AAC Y015	Yellow	9	101	55	-1	399	33	2.3	I
CDC Sunburst (A) ☹	Yellow	4	118	49	-3	405	39	2	I
AAC Cranford (kg/ha)			3131						
AAC Cranford	Cranberry	11	100	55	98	600	32	1.7	I
AC Redbond (kg/ha)			3162						
AC Redbond	Small Red	35	100	52	100	318	40	2.4	II
Previously tested varieties (Yield and agronomic data only directly comparable to the check within each type)									
AC Black Diamond (kg/ha)			3017						
AC Black Diamond	Black Shiny	40	100	57	103	265	38	2.2	II
CDC Blackcomb	Black Matte	11	79	62	0	178	35	1.8	II
Island (kg/ha)			3758						
Island	Pinto	20	100	56	100	369	41	3.0	II
AAC Burdett	Pinto	9	101	55	-6	354	44	2.2	II
CDC WM-2 †	Pinto	15	78	56	2	369	39	2.5	II
Medicine Hat ☹	Pinto	12	93	61	4	354	42	2.4	II
Winchester	Pinto	13	85	56	4	337	40	2.5	II
AAC Tundra (kg/ha)			3570						
AAC Tundra †	Great Northern	13	100	52	97	349	42	2.9	II
AC Polaris †	Great Northern	6	107	62	7	300	37	4.1	II
CDC Sol (kg/ha)			2350						
CDC Sol †	Yellow	14	100	55	104	409	33	1.5	I
Myasi †	Yellow	9	89	63	6	350	34	2.1	I
Viva (kg/ha)			3137						
Viva	Pink	29	100	54	102	258	34	3.8	III

Remarks: A = First year entry (2021), with limited data and only one year of testing these varieties may exhibit highly variable results. ☹ = Protected by PBR (UPOV 78). ☹ = Protected by PBR (UPOV 91). ¹Days to bloom from seeding; ²Thousand Seed Weight; ³Lodging: 1 = erect, 5 = flat. ⁴Growth Habit: I = determinate bush, II = indeterminate bush, and III = indeterminate prostrate. † - Flagged for possible removal in 2023.