

2024 GREEN PEA VARIETY TRIAL REPORT



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Trial notes

The 2024 Green Pea Variety Trial was conducted at the Nibler Farm near Milton-Freewater, OR (45.9867, -118.2889). We would like to thank Gary Nibler for providing the field, land preparation, and weed control for the trial and H.T. Rea Farming for providing sample processing equipment.

Winter precipitation (October 1 to March 31) at the nearby (~7 miles) [Walla Walla Regional Airport](#) was 10.7 inches for 2023-2024, 91% of normal and up from 9.6 inches in 2022-202. Precipitation from April through June was 3.53 inches for 2024, 69% of normal for this period and up from 2.3 inches in 2023. Heat units to harvest were calculated using a lower threshold of 40 °F with data from the nearby (~5 miles) [Milton-Freewater AgriMet weather station](#).

The trial was sown on April 18, 2024, with a five foot-wide, five-row plot drill (Hege Maschinen GmbH, Germany) with 12-inch row spacing. For comparison, the trial was sown on April 21 in 2023. The 35 commercial and experimental lines were sown at a rate of 1000 seeds per plot (100 ft²) with four replications. The first replication was arranged by ascending heat units to maturity (provided by the seed companies) for demonstration and the second, third and fourth replications were randomly assigned (Table 1). Plot dimensions were 5 feet by 20 feet with five-foot alleyways between plots.

Stand counts were taken on May 29, 2024, by randomly placing a 1 by 5-foot quadrat within but perpendicular to the length of the plot and counting the number of emerged plants (Table 3).

Bloom began May 29, 2024, and was determined by the appearance of first blooms in each variety (Table 3). Node count (including subterranean nodes) for first bloom was determined on three plants from each plot and averaged. The latest variety bloomed on June 12, 2024.

Plot harvest began on June 27, 2024, several weeks later than the first harvest on June 13 in 2023. Harvest concluded on July 3rd, 2024. Yield was determined from two combined subsamples of 25 square feet from two plots for each variety (Table 3). Samples were vined and cleaned before being weighed. After weighing, a subsample of approximately 150 mL of cleaned peas was run through a tenderometer to determine tenderometer score.

Plot yield was extrapolated to pounds per acre. The adjusted yield for 100 tenderometer score was also calculate. The average yield from the year 2024 was 2332lb/acre, higher than 2023 which was 2029lb/acre. The average adjusted yield according to 100 tenderometer score was 2431lb/acre. Some elk damage has been observed during the trial and some varieties had severely suffered from it. Despite the variance from the animal selection and lower rainfall during the growing season the ideal maturity was achieved by some varieties.

Seed provided by:

Brotherton Seed Co., Inc.

115 N. 1st Street
Warden, WA 98857
(509) 765-1816

<http://brothertonseed.com>

Crites Seed, Inc.

212 College Street
Moscow, ID 83843
(208) 882-5519

<http://www.critesseed.com>

Pure Line Seeds, Inc.

1700 W 1st Street
Warden, WA 98857
(509) 349-2374

<https://purelineseed.com>

Gallatin Valley Seed Company

PO Box 190011
Boise, ID 83719
(208) 288-5481

<https://gallatinvalleyseed.com/>

For more information

OSU Extension Service – Umatilla County: Green Pea Resources

<https://extension.oregonstate.edu/umatilla-mf/green-peas>

Green Pea Nutrient Management Inland Northwest – east of the Cascades (EM 9140)

<https://catalog.extension.oregonstate.edu/em9140>

Peas, Processing – Eastern Oregon

<https://horticulture.oregonstate.edu/oregon-vegetables/peas-processing-eastern-oregon-0>

Crop Profile for Peas (Green) in Idaho

<https://ipmdata.ipmcenters.org/documents/cropprofiles/IDpeas-green.pdf>

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Table 1. 2024 Green Pea Variety Trial plot layout, sown on April 18, 2024.

Replication 1		Replication 2		Replication 3		Replication 4	
Plot	Variety	Plot	Variety	Plot	Variety Name	Plot	Variety Name
101	PLS 534	201	PLS 602	301	GVS 518	401	BSC 799
102	Austin	202	GVS 435	302	EXP 631	402	Gusty
103	GVS 435	203	Serge	303	PL 0122	403	PLS 534
104	PLS M 14	204	FP2278	304	Eden	404	PLS 613-89
105	Ambler	205	BSC 599	305	BSC 599	405	PLS 167
106	PLS 228	206	PLS 595	306	BSC 737	406	EXP 631
107	PLS 613-89	207	PLS 228	307	CS-492AF	407	PLS M 14
108	Portage	208	CS-560DAF	308	Gusty	408	PLS 595
109	CS-560DAF	209	PLS 566	309	EXP 612	409	PLS 228
110	Gusty	210	CS-552F	310	FP2278	410	CS-550AF
111	CS-550AF	211	EXP 612	311	CS-550AF	411	EXP 757
112	EXP 754	212	Portage	312	Ambler	412	BSC 599
113	PLS 167	213	CS-553AF	313	EXP 710	413	GVS 518
114	CS-492AF	214	PLS 534	314	CS-557AF	414	CS-557AF
115	Serge	215	EXP 757	315	PLS 613-89	415	CS-552F
116	GVS 518	216	Naches	316	CS-441AF	416	CS-553AF
117	CS-552F	217	EXP 710	317	Portage	417	Serge
118	PLS 602	218	Ambler	318	Serge	418	CS-560DAF
119	CS-553AF	219	PLS M 14	319	CS-553AF	419	Ambler
120	Eden	220	CS-557AF	320	CS-552F	420	EXP 754
121	FP2278	221	CS-560DAF	321	BSC 799	421	Naches
122	PL 0122	222	PLS 613-89	322	GVS 435	422	BSC 737
123	PLS 566	223	EXP 649	323	EXP 649	423	PLS 566
124	PLS 595	224	Austin	324	EXP 757	424	EXP 710
125	BSC 737	225	Gusty	325	PLS 228	425	Austin
126	EXP 710	226	PLS 167	326	Austin	426	EXP 649
127	CS-441AF	227	Eden	327	PLS M 14	427	Eden
128	BSC 799	228	GVS 518	328	PLS 602	428	CS-492AF
129	EXP 612	229	EXP 631	329	PLS 566	429	GVS 435
130	EXP 631	230	CS-492AF	330	PLS 595	430	CS-441AF
131	BSC 599	231	BSC 737	331	PLS 167	431	PL 0122
132	CS-557AF	232	CS-441AF	332	Naches	432	PLS 602
133	EXP 757	233	PL 0122	333	PLS 534	433	EXP 612
134	Naches	234	BSC 799	334	CS-560DAF	434	FP2278
135	EXP 649	235	EXP 754	335	EXP 754	435	Portage

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Table 2. 2024 Green Pea Variety Trial entries with leaf type, seed weight, germination rate, node, and heat units to maturity information provided by participating seed companies.

Company	Variety	Seeds/lb	% Germ	Leaf Type	Node first bloom	Heat Units (40°F)
BROTHERTON	Gusty	2362	98	afila	12	1370
BROTHERTON	EXP 754	2090	90	—	—	1430
BROTHERTON	BSC 737	3007	90	afila	16	1560
BROTHERTON	EXP 710	2465	93	—	—	1560
BROTHERTON	BSC 799	2499	99	afila	15-17	1590
BROTHERTON	EXP 612	2190	98	afila	15	1590
BROTHERTON	EXP 631	2477	98	—	—	1590
BROTHERTON	BSC 599	2314	98	—	—	1600
BROTHERTON	EXP 757	2326	96	—	—	1620
BROTHERTON	EXP 649	2341	95	—	—	1650
CRITES	Ambler	3197	97	afila	10	1285
CRITES	Portage	3006	98	afila	10	1325
CRITES	CS-560DAF	2609	99	afila	11	1365
CRITES	CS-550AF	2111	96	afila	12	1375
CRITES	CS-492AF	2340	99	afila	13	1460
CRITES	CS-552F	2494	99	normal	13	1490
CRITES	CS-553AF	2655	94	afila	14	1520
CRITES	Eden	3546	97	afila	14	1540
CRITES	CS-441AF	2236	95	afila	15	1570
CRITES	CS-557AF	2082	98	afila	15	1600
CRITES	Naches	2579	95	afila	16	1640
PURE LINE	PLS 602	3561	96	afila	15	1500
PURE LINE	PLS 534	1989	99	—	10	1200
PURE LINE	PLS 595	2410	90	—	14	1550
PURE LINE	PL 0122	6129	98	—	16	1550
PURE LINE	PLS M 14	3150	97	—	9	1240
PURE LINE	PLS 228	2430	96	—	11	1300
PURE LINE	PLS 613-89	3436	96	afila	11	1320
PURE LINE	PLS 167	2912	95	afila	11	1430
PURE LINE	Serge	2168	95	afila	14	1460
PURE LINE	PLS 566	2025	97	afila	13	1550
GALLATIN	FP2278	2562	94	—	—	1540
GALLATIN	Austin	2128	94	—	—	1240
GALLATIN	GVS 518	2954	93	afila	12	1485
GALLATIN	GVS 435	2445	93	afila	10	1240

Table 3. 2024 Green Pea Variety Trial entries with field data collected from the 2024 trial.

Variety	Stand density (plants/ft ²)	Bloom date	Nodes first bloom	Harvest date	Days to harvest	Heat units (40 °F)	Tenderometer	Yield (lb/acre)	Adjusted yield
PLS 534	2.9	5/31	9	6/27	70	1433	132	3419	3006
Austin	4.7	5/31	11	6/27	70	1433	142	1702	1590
GVS 435	5.1	6/3	11	6/27	70	1433	167	1867	2636
PLS M 14	5.5	5/30	9	6/28	71	1462	80	615 ^b	1313 ^b
Ambler	4.8	6/2	10	6/27	70	1433	146	1510 ^b	1466 ^b
PLS 228	6.3	6/4	11	6/27	70	1433	135	2998 ^a	2774 ^a
PLS 613-89	4.1	6/2	11	6/27	70	1433	122	4506	3910
Portage	5.1	5/29	10	6/27	70	1433	123	3342	2897
CS-560DAF	4.5	6/1	12	6/27	70	1433	157	3108 ^b	3517 ^b
Gusty	5.3	6/4	11	6/28	71	1462	86	1852 ^a	2814 ^a
CS-550AF	4	6/3	11	6/28	71	1462	105	3196	3075
EXP 754	5.1	6/10	15	7/2	75	1587	154	1583	1704
PLS 167	4.9	6/4	10	6/28	71	1462	103	2770	2734
CS-492AF	5.9	6/3	11	6/28	71	1462	107	3071 ^a	3020 ^a
Serge	4.1	6/8	12	7/2	75	1587	147	2147	2108
GVS 518	4.9	6/3	10	6/27	70	1433	92	2916	3590
CS-552F	4.6	6/5	11	7/3	76	1618	114	1878	1673
PLS 602	5.7	6/7	13	7/3	76	1618	174	1352	2614
CS-553AF	3.6	6/10	14	7/3	76	1618	168	1855	2695
Eden	5.1	6/8	12	7/3	76	1618	138	2013	1825
FP2278	4.5	6/5	11	7/3	76	1618	143	2501	2358
PL 0122	5.8	6/12	16	7/2	75	1587	107	572	539
PLS 566	4.5	6/3	11	6/28	71	1462	95	2766 ^a	3154 ^a
PLS 595	4.9	6/8	13	7/3	76	1618	147	2666	2617

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Variety	Stand density (plants/ft ²)	Bloom date	Nodes first bloom	Harvest date	Days to harvest	Heat units (40 °F)	Tendero- meter	Yield (lb/acre)	Adjusted yield
BSC 737	4.2	6/10	15	7/2	75	1587	137	2800	2523
EXP 710	5.7	6/10	16	7/3	76	1618	125	2846	2467
CS-441AF	4.1	6/9	15	7/3	76	1618	148	2036	2021
BSC 799	5.6	6/9	14	7/3	76	1618	146	2896	2812
EXP 612	3.8	6/9	15	7/3	76	1618	151	2301	2373
EXP 631	5.7	6/9	15	7/3	76	1618	95	1725	1967
BSC 599	4.9	6/7	15	7/3	76	1618	155	2435	2664
CS-557AF	6	6/9	15	7/3	76	1618	157	1948	2204
EXP 757	4.3	6/11	15	ND	ND	ND	ND	ND	ND
Naches	6.1	6/10	15	7/3	76	1618	114	1752	1560
EXP 649	4.7	6/9	15	ND	ND	ND	ND	ND	ND

ND = data not collected

^a = Average value of multiple harvest

^b = Severe elk damage