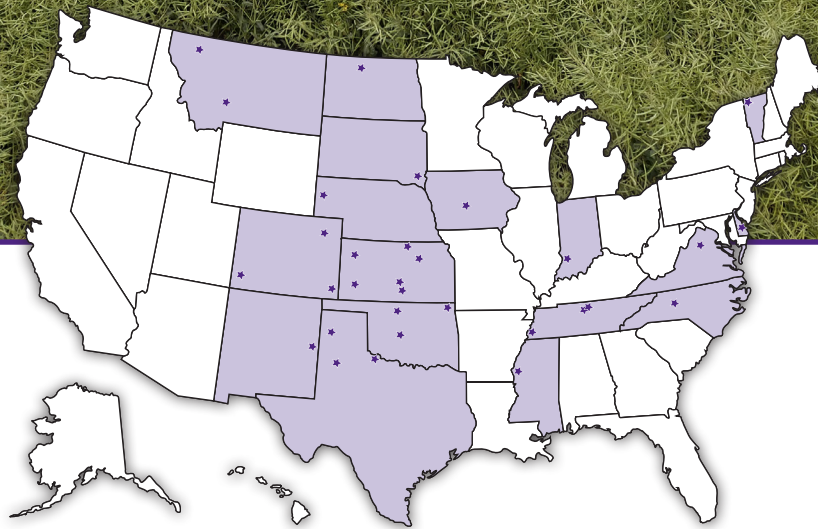


2021

National Winter Canola Variety Trial



Report of Progress 1171

K-STATE
Research and Extension

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

2021 National Winter Canola Variety Trial

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Contribution no. 22-291-S from the Kansas Agricultural Experiment Station

2021 National Winter Canola Variety Trial

Objectives

The objectives of the National Winter Canola Variety Trial (NWCVT) are to evaluate the performance of released and experimental varieties, determine where these varieties are best adapted, and increase the visibility of winter canola across the United States. Breeders, marketers, and producers use data collected from the trials to make informed variety selections. The NWCVT is planted at locations in the Great Plains, Northern Plains, Midwest, and Southeast.

Procedures

Seed for the NWCVT was distributed to 32 test sites in 17 states for the 2020–2021 growing season. The locations receiving seed are illustrated on the map on the front cover. See the back cover for a listing of participating cooperators. Of the 32 entries, 18 are commercial and 14 are experimental. These entries were provided by seven seed suppliers. All entries in the trial were treated with insecticide and fungicide seed treatments to control insects and seedling diseases through the late fall and early winter months.

Open-pollinated and hybrid cultivars were planted in separate, side-by-side trials at sites where all entries were planted. Results for each trial were analyzed individually and are presented in separate tables for each test site.

Management guidelines were provided to cooperators, but previous growing experience influenced final management decisions. All trials were planted in small research plots (approximately 100 ft²) with three or four replications. Cultural practices, site descriptions, growing conditions, and performance data are provided for each harvested location. Results are presented alphabetically by seed supplier. Yield results for some locations include 2-year summaries.

Near infrared spectroscopy was used for total oil and protein analyses. The Kansas State University canola breeding program provided these analyses for all test sites.

The NWCVT continues in the 2021–2022 growing season and includes 43 entries. Seven

seed suppliers contributed to the trial, and it was distributed to 32 locations in 15 states.

2020–2021 Growing Conditions

Temperature and precipitation data are shown at the top of the page for each test site. Thick black lines on the temperature graphs represent long-term average high and low temperatures (°F) for the test site. The upper thin line represents actual daily high temperatures, and the lower thin line represents actual daily low temperatures. On the precipitation graph, the line labeled “normal” represents long-term average precipitation, and the line labeled “20-21” represents actual precipitation. If weather information was not provided, data were taken from a nearby town.

In general, the 2020–2021 growing season was marked by cool and wet spring conditions that resulted in extremely high yields. Temperatures were moderate going into the winter months, and February was highlighted by a massive temperature drop to record low levels. However, winter kill was not a major factor because the crop was well acclimated to the bitter cold and snow cover blanketed many locations. Only minor damage was observed following late freezes at the reproductive stage.

Test Sites and Results

Eighteen harvested test sites in eleven states are included in this report: Akron, CO; Dallas Center, IA; Vincennes, IN; Belleville, Colby, Garden City, Hutchinson, Manhattan, and Norwich, KS; Creston, MT; Clovis, NM; Miami, OK; Ashland City and Springfield, TN; Bushland and Chillicothe, TX; Orange, VA; and Alburgh, VT. Fourteen locations were not harvested or had poor data quality because of inadequate stand establishment, winterkill, or heavy rainfall. New cooperators in 2020–2021 were Creston, MT and Dallas Center, IA.

The “percentage of test average” yield calculation is included in the results. This relative yield calculation allows for some comparison of performance across environments. Entries yielding greater than 100% of the test average across multiple test sites merit some consideration.

Overall, yield was much above average, especially in the Great Plains region. Open pollinated trial means ranged from 596 to 4,244 lb/acre. Three Kansas sites averaged over 3,000 lb/acre in the open pollinated trial. Hybrid trial means ranged from 651 to 4,588 lb/acre. Trials at Belleville, KS, and Springfield, TN, had hybrids yield over 100 lb/acre.

Caution should be used when evaluating data from test sites with coefficient of variation (CV) values greater than 20. Lower values suggest less error was observed at the test site. Inestimable differences in soil type, weather, and environmental conditions play a part in increasing experimental error and CV values. Eight test sites have CV values of greater than 20. Even if yield data are unreliable, other data collected by the cooperator may be useful.

Variety Selection

Winter hardiness is an important trait to consider when selecting a winter canola variety. This trait has been improved, but variability still exists where differential winterkill occurs. Winter canola varieties should show consistent survival across multiple years and sites. Other traits to consider include herbicide resistance, tolerance to carryover from sulfonylurea herbicides, maturity, disease tolerance, yield potential, and oil content. More than one year of data should be used to make an informed variety selection decision. Canola weighs 50 lb/bushel, so a 2,000 lb/acre yield is 40 bushels/acre.

View Table 35 for seed sources, contact information, brand names, and traits of the winter canola varieties and hybrids grown in the NWCVT.

Acknowledgments

This work was funded in part by the fees paid by seed suppliers, the United States Department of Agriculture National Institute of Food and Agriculture Supplemental and Alternative Crops Competitive Grants Program, and the Kansas Agricultural Experiment Station. Assistant scientist Allison Aubert assisted with organizing, packaging, planting, harvesting, data collection, and publication writing. Sincere appreciation is expressed to all participating researchers and seed suppliers who have a vested interest in expanding winter canola acres and increasing production in the United States.

Special Acknowledgments

We would also like to thank the following cooperators for their support of winter canola variety testing over the years in regions across the U.S. and we wish them well in their retirement: Rob Aiken, Kansas State University; Jerry Johnson, Colorado State University; Chuck Mansfield, Purdue University; and Dennis West, University of Tennessee.

Orange, Virginia

Greg Lillard and Wade Thomason
Virginia Tech University

Planted: 9/16/2020 in 7.5-in. rows
 Seeding Rate OP: 500,000 seeds/a
 Seeding Rate Hybrid: 300,000 seeds/a
 Desiccant: None
 Harvested: 6/24/2021
 Herbicides: None
 Insecticides: None
 Fungicide: None
 Previous crop: Fescue
 Soil test: P=14 ppm, K=215 ppm, pH=6.4
 Fertilizer: 66-132-66 lb/a N-P-K fertilizer in fall
 120-0-0 lb/a N-P-K fertilizer split application in spring
 Soil type: Davidson silty clay Latitude: 38.216667
 Elevation: 510 ft Longitude: -78.116667
 Comments: Yields were lower than average. Very high oil contents are reported.

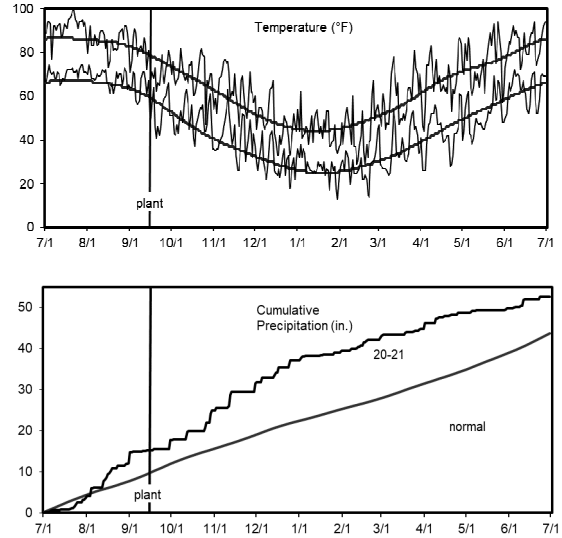


Table 1. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Orange, VA

Name	Yield (lb/a) ¹			Yield (% of Winter survival test avg.)				Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)
CROPLAN by WinField															
CP225WRR	1851	---	---	110	---	---	---	10.0	---	101	56	10.1	48.2	19.7	41.7
CP320WRR	1724	---	---	103	---	---	---	10.0	---	102	52	10.6	47.9	20.2	40.4
CP1022WC	1630	---	---	97	---	---	---	9.7	---	102	58	12.6	45.8	20.7	41.4
Kansas State University															
KS4662	1526	---	---	91	---	---	---	10.0	---	102	56	12.1	43.4	20.7	40.7
KS4677	2053	---	---	123	---	---	---	10.0	---	102	59	14.4	45.8	19.6	41.5
KS4719	2010	---	---	120	---	---	---	10.0	---	102	61	13.5	45.5	20.5	41.5
KSR4765	1091	---	---	65	---	---	---	9.7	---	102	57	11.6	45.7	19.7	41.9
KSR4767	1358	---	---	81	---	---	---	10.0	---	101	57	11.0	42.7	20.8	41.6
KSR4844S	1237	---	---	74	---	---	---	10.0	---	102	56	11.0	42.1	20.3	42.6
KSR4848	1131	---	---	68	---	---	---	10.0	---	102	58	16.3	42.5	20.8	41.0
KSR4854S	1545	---	---	92	---	---	---	10.0	---	101	59	9.9	46.1	20.9	41.8
KSUR1212	1399	---	---	84	---	---	---	10.0	---	102	59	11.5	47.4	20.1	41.8
Griffin	1892	---	---	113	---	---	---	10.0	---	98	54	11.1	45.0	20.4	41.0
Riley	1762	---	---	105	---	---	---	10.0	---	102	55	10.2	46.9	19.9	43.2
Surefire	2251	---	---	134	---	---	---	10.0	---	102	57	11.0	47.3	20.6	41.9
Wichita	1691	---	---	101	---	---	---	10.0	---	102	56	11.1	44.6	20.4	41.3
Ohlde Seed Farms															
Torrington	2232	---	---	133	---	---	---	10.0	---	101	59	10.6	45.1	20.1	42.1
Star Specialty Seed															
Star 930W	1763	---	---	105	---	---	---	10.0	---	101	54	10.7	45.5	19.4	42.3
Grand Mean	1675	---	---	---	---	---	---	10.0	---	101	57	11.6	45.4	20.3	41.7
CV	31	---	---	---	---	---	---	2.0	---	1	3	14.4	6.5	3.1	1.7
LSD (0.05)	450	---	---	---	---	---	---	NS	---	2	3	2.8	NS	NS	NS

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data. Yields adjusted to 9% moisture content.

Table 2. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Orange, VA

Name	Yield (lb/a) ¹			Yield (% of Winter survival test avg.)			Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Test			
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	Moisture (%)	weight	Protein (%)	Oil (%)
Corteva Agriscience																
PT264	1355	---	---	76	---	---	---	10.0	---	103	61	14.0	43.7	18.5	45.0	
PT271	1643	---	---	93	---	---	---	10.0	---	99	55	9.8	47.1	18.6	44.3	
PT275	1706	---	---	96	---	---	---	9.3	---	102	57	10.5	44.2	19.3	43.6	
PT293	1790	---	---	101	---	---	---	10.0	---	102	58	13.0	45.4	18.6	44.9	
PT297	1955	---	---	110	---	---	---	10.0	---	102	57	12.7	46.7	18.0	45.3	
PX126	1674	---	---	94	---	---	---	9.3	---	102	59	14.2	44.6	18.4	44.5	
PX128	1313	---	---	74	---	---	---	10.0	---	102	59	10.7	45.2	18.2	46.2	
PX131	1331	---	---	75	---	---	---	9.7	---	102	54	12.6	41.7	17.8	46.3	
CROPLAN by Winfield																
CP1055WC	1835	---	---	103	---	---	---	10.0	---	100	58	13.8	45.0	18.8	42.4	
CP1077WC	1547	---	---	87	---	---	---	10.0	---	99	57	13.2	42.6	17.6	44.0	
KWS-MOMONT																
Hermione	2004	---	---	113	---	---	---	10.0	---	102	55	12.4	46.0	17.8	45.0	
KWS Farry CL	2597	---	---	146	---	---	---	10.0	---	102	58	11.2	46.6	20.4	41.8	
MH 17HID007	1948	---	---	110	---	---	---	10.0	---	101	56	11.0	45.1	19.4	42.2	
Rubisco Seeds																
Plurax CL	1809	---	---	102	---	---	---	10.0	---	98	51	10.7	46.0	19.7	42.7	
Grand Mean	1775	---	---	---	---	---	---	9.9	---	101	57	12.2	44.9	18.7	44.1	
CV	32	---	---	---	---	---	---	4.6	---	2	3	11.4	5.8	3.0	1.7	
LSD (0.05)	NS	---	---	---	---	---	---	NS	---	3	3	2.4	NS	1.2	1.6	

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data. Yields adjusted to 9% moisture content.

Dallas Center, Iowa

Mark Charlet and Andrew Hopkins
Corteva Agriscience

Planted: 9/7/2020 in 7.5-in. rows
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Desiccant: None
Harvested: 7/20/2021
Herbicides: Treflan
Insecticides: None
Fungicide: None
Previous crop: Soybean
Fertilizer: 80-40-60 lb/a N-P-K fertilizer in fall

Soil type: NA Latitude: 41.68634
Elevation: 1050 ft. Longitude: -93.9227
Comments: Some herbicide carryover affected plant growth. Shattering was a problem at harvest. Use yield data with caution.

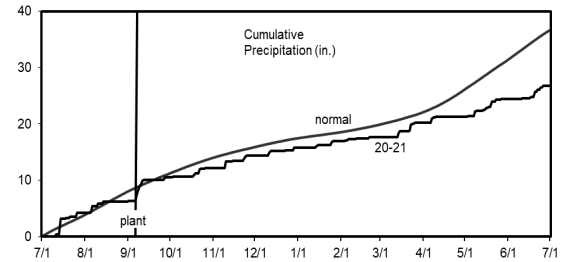
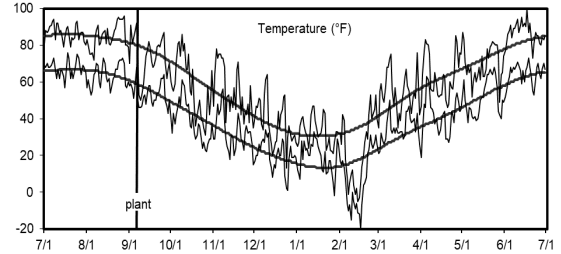


Table 3. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Dallas Center, IA

Name	Yield (lb/a) ¹			Yield (% of Winter survival test avg.)				Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in)	(%)	(lb/bu)	(%)	(%)
CROPLAN by WinField															
CP225WRR	1033	---	---	100	---	---	---	7.7	2.3	117	---	---	---	17.0	44.8
CP320WRR	1178	---	---	114	---	---	---	5.0	2.0	117	---	---	---	17.6	43.2
CP1022WC	595	---	---	57	---	---	---	6.3	3.0	118	---	---	---	17.2	43.8
Kansas State University															
KS4662	864	---	---	83	---	---	---	5.3	2.3	117	---	---	---	16.6	45.2
KS4677	1089	---	---	105	---	---	---	4.3	2.7	118	---	---	---	18.1	43.6
KS4719	1380	---	---	133	---	---	---	5.3	2.7	119	---	---	---	17.1	44.7
KSR4765	898	---	---	87	---	---	---	6.0	3.0	118	---	---	---	18.0	42.8
KSR4767	640	---	---	62	---	---	---	4.0	1.7	117	---	---	---	16.5	45.2
KSR4844S	875	---	---	84	---	---	---	3.0	1.7	118	---	---	---	16.6	46.3
KSR4848	1111	---	---	107	---	---	---	5.7	2.7	119	---	---	---	17.2	44.5
KSR4854S	774	---	---	75	---	---	---	7.7	3.3	118	---	---	---	18.1	44.4
KSUR1212	1044	---	---	101	---	---	---	4.3	2.3	118	---	---	---	17.4	45.1
Griffin	1380	---	---	133	---	---	---	7.7	2.7	115	---	---	---	17.6	44.0
Riley	1504	---	---	145	---	---	---	5.3	2.3	117	---	---	---	19.4	43.0
Surefire	1095	---	---	106	---	---	---	4.3	2.3	118	---	---	---	18.7	43.9
Wichita	786	---	---	76	---	---	---	5.0	2.7	117	---	---	---	18.4	43.9
Ohlde Seed Farms															
Torrington	1167	---	---	113	---	---	---	5.3	2.3	118	---	---	---	16.5	46.1
Star Specialty Seed															
Star 930W	1223	---	---	118	---	---	---	7.0	3.0	117	---	---	---	18.2	43.6
Grand Mean	1037	---	---	---	---	---	---	5.5	2.5	117	---	---	---	17.6	44.3
CV	46	---	---	---	---	---	---	27.8	36.3	1	---	---	---	6.8	3.4
LSD (0.05)	NS	---	---	---	---	---	---	2.5	NS	NS	---	---	---	NS	NS

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Table 4. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Dallas Center, IA

Name	Yield (lb/a)			Yield (% of Winter survival test avg.)			Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)	(%)	(%)
Corteva Agriscience																
PT264	1683	---	---	97	---	---	---	6.0	3.0	118	---	---	---	---	18.9	45.1
PT271	1358	---	---	79	---	---	---	5.3	2.3	118	---	---	---	---	18.1	44.8
PT275	1884	---	---	109	---	---	---	6.3	2.7	118	---	---	---	---	20.1	42.7
PT293	2154	---	---	125	---	---	---	5.3	2.7	117	---	---	---	---	18.5	45.5
PT297	898	---	---	52	---	---	---	6.7	3.3	118	---	---	---	---	16.7	46.4
PX126	1919	---	---	111	---	---	---	5.7	2.3	119	---	---	---	---	18.5	45.1
PX128	1672	---	---	97	---	---	---	6.3	2.3	118	---	---	---	---	17.4	46.1
PX131	1425	---	---	82	---	---	---	6.7	3.0	117	---	---	---	---	19.0	44.8
CROPLAN by Winfield																
CP1055WC	1887	---	---	109	---	---	---	6.3	3.3	115	---	---	---	---	17.8	43.7
CP1077WC	2278	---	---	132	---	---	---	6.3	2.0	117	---	---	---	---	18.1	44.3
KWS-MOMONT																
Hermione	2177	---	---	126	---	---	---	5.7	3.0	118	---	---	---	---	17.5	45.7
KWS Farry CL	1504	---	---	87	---	---	---	5.0	2.3	116	---	---	---	---	19.6	42.3
MH 17HID007	1908	---	---	110	---	---	---	6.3	2.7	118	---	---	---	---	19.8	41.8
Rubisco Seeds																
Plurax CL	1717	---	1717	99	---	---	---	6.3	2.7	115	---	---	---	---	19.0	43.6
Grand Mean	1729	---	---	---	---	---	---	6.0	2.7	117	---	---	---	---	18.4	44.5
CV	19	---	---	---	---	---	---	18.8	30.7	1	---	---	---	---	5.4	2.6
LSD (0.05)	589	---	---	---	---	---	---	NS	NS	1	---	---	---	---	NS	2.7

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Vincennes, Indiana

Kenny Eck
Purdue University

Planted: 9/24/2020
 Seeding Rate OP: 500,000 seeds/a
 Seeding Rate Hybrid: 300,000 seeds/a
 Dessicant: Reglone 1.5 pt/a
 Harvested: 6/22/2021
 Herbicides: 12 oz/a Dual Magnum, 4 oz/a and Command
 Insecticides: 1.9 oz/a Warrior
 Fungicide: 6 oz/a Quadris Top, 2.85 oz/a Proline 280C
 Previous crop: NA
 Soil test: NA
 Fertilizer: 21-0-0-24 N-P-K-S fertilizer in the fall
 158-0-0-24-1 N-P-K-S-B fertilizer in the spring
 Soil type: Lomax Loam
 Elevation: 430 ft
 Comments: Excellent yields and winter survival.

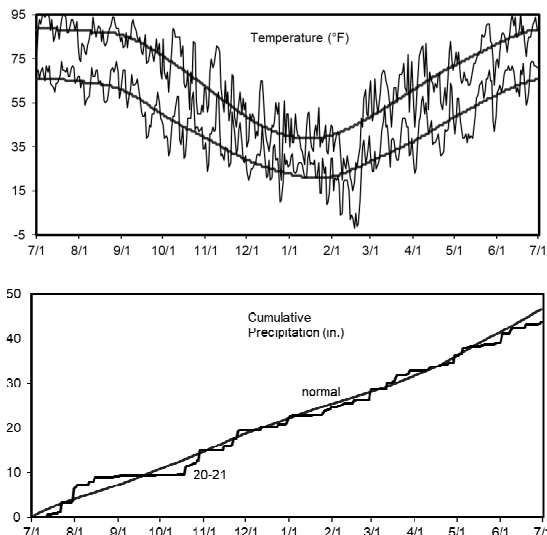


Table 5. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Vincennes, IN

Name	Yield (lb/a)			Yield (% of Winter survival test avg.)				Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)
CROPLAN by WinField															
CP225WRR	2282	1900	2091	94	96	88	92	---	---	104	63	---	53.1	---	---
CP320WRR	2540	2224	2382	104	96	88	92	---	---	103	61	---	53.5	---	---
CP1022WC	2326	---	---	96	97	---	---	---	---	109	64	---	53.3	---	---
Kansas State University															
KS4662	2638	2184	2411	108	94	85	90	---	---	104	65	---	52.7	---	---
KS4677	2359	---	---	97	93	---	---	---	---	104	66	---	53.1	---	---
KS4719	2846	2497	2671	117	95	93	94	---	---	107	68	---	53.0	---	---
KSR4765	1890	---	---	78	92	---	---	---	---	103	65	---	53.0	---	---
KSR4767	2241	2028	2134	92	96	93	95	---	---	103	64	---	53.3	---	---
KSR4844S	2118	2076	2097	87	94	87	90	---	---	105	65	---	53.2	---	---
KSR4848	1973	1965	1969	81	95	78	87	---	---	106	66	---	53.2	---	---
KSR4854S	1769	---	---	73	94	---	---	---	---	107	64	---	52.5	---	---
KSUR1212	2333	---	---	96	97	---	---	---	---	104	64	---	53.3	---	---
Griffin	3045	---	---	125	97	---	---	---	---	100	60	---	52.4	---	---
Riley	2493	2192	2342	103	95	85	90	---	---	103	62	---	52.8	---	---
Surefire	2863	2325	2594	118	95	83	89	---	---	100	63	---	53.3	---	---
Wichita	2681	2696	2688	110	96	88	92	---	---	103	62	---	53.0	---	---
Ohlde Seed Farms															
Torrington	2700	2397	2549	111	96	88	92	---	---	103	65	---	53.2	---	---
Star Specialty Seed															
Star 930W	2672	2158	2415	110	95	88	92	---	---	103	61	---	53.1	---	---
Grand Mean	2432	2170	---	---	95	86	---	---	---	104	64	---	53.1	---	---
CV	15	10	---	---	2	4	---	---	---	1	2	---	0.9	---	---
LSD (0.05)	596	363	---	---	NS	6	---	---	---	2	2	---	NS	---	---

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 6. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Vincennes, IN

Name	Yield (lb/a)			Yield (% of Winter survival test avg.)			Winter survival (%)		Stand	Fall	50%	Plant	Test			
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	stand	vigor	bloom	height	Moisture	weight	Protein	Oil
											(d)	(in.)	(%)	(lb/bu)	(%)	(%)
Corteva Agriscience																
PT264	3036	---	---	108	94	---	---	---	---	---	107	66	---	52.9	---	---
PT271	2732	---	---	98	97	---	---	---	---	---	104	63	---	53.3	---	---
PT275	3067	---	---	110	96	---	---	---	---	---	101	64	---	53.0	---	---
PT293	3167	---	---	113	95	---	---	---	---	---	102	64	---	53.2	---	---
PT297	3270	---	---	117	97	---	---	---	---	---	102	65	---	52.7	---	---
PX126	2828	---	---	101	95	---	---	---	---	---	107	65	---	52.7	---	---
PX128	2578	---	---	92	96	---	---	---	---	---	107	62	---	53.0	---	---
PX131	2367	---	---	85	95	---	---	---	---	---	106	64	---	52.6	---	---
CROPLAN by Winfield																
CP1055WC	2996	---	---	107	97	---	---	---	---	---	100	64	---	52.1	---	---
CP1077WC	2829	---	---	101	96	---	---	---	---	---	101	64	---	52.7	---	---
KWS-MOMONT																
Hermione	2863	---	---	102	98	---	---	---	---	---	104	63	---	52.9	---	---
KWS Farry CL	2119	---	---	76	94	---	---	---	---	---	105	63	---	53.1	---	---
MH 17HID007	2921	---	---	104	95	---	---	---	---	---	106	65	---	52.4	---	---
Rubisco Seeds																
Plurax CL	2422	2743	2582	87	92	87	89	---	---	---	100	62	---	53.2	---	---
Grand Mean	2800	2452	---	---	96	86	---	---	---	---	104	64	---	52.8	---	---
CV	14	10	---	---	2	4	---	---	---	---	1	2	---	0.9	---	---
LSD (0.05)	651	427	---	---	NS	6	---	---	---	---	2	2	---	0.8	---	---

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Ashland City, Tennessee

Jason de Koff
Tennessee State University

Planted: 9/25/2020
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Desiccant: None
Harvested: 6/9/2021-6/12/2021
Herbicides: 2.5 pt/acre Cornerstone, 1.5 pt/acre
Insecticides: None
Fungicide: None
Previous crop: summer fallow
Soil test: NA
Fertilizer: 30-0-0-0 lb N-P-K-S fertilizer in fall
70-0-30-25 lb N-P-K-S fertilizer in spring
Soil type: Lindside-Nolin silt loam
Elevation: 400 ft
Comments: High yields and oil contents reported at this location. Non-gmo varieties only.

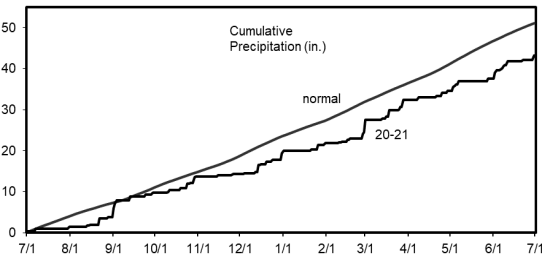
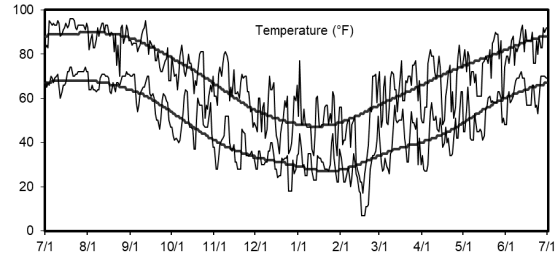


Table 7. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Ashland City, TN

Name	Yield (lb/a) ¹			Yield (% of Winter survival test avg.)				Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)
CROPLAN by WinField															
CP1022WC	3155	---	---	105	67	---	---	---	---	---	---	---	---	20.4	40.4
Kansas State University															
KS4662	2111	---	---	70	50	---	---	---	---	---	---	---	---	18.9	41.8
KS4677	780	---	---	26	42	---	---	---	---	---	---	---	---	18.8	42.1
KS4719	2755	---	---	91	58	---	---	---	---	---	---	---	---	18.7	42.5
KSUR1212	1857	---	---	62	48	---	---	---	---	---	---	---	---	19.8	42.3
Griffin	1571	---	---	52	65	---	---	---	---	---	---	---	---	18.6	42.3
Riley	1560	---	---	52	54	---	---	---	---	---	---	---	---	19.2	43.3
Surefire	3291	---	---	109	66	---	---	---	---	---	---	---	---	20.1	41.5
Wichita	3631	---	---	120	62	---	---	---	---	---	---	---	---	19.0	41.8
Ohlde Seed Farms															
Torrington	2740	---	---	91	65	---	---	---	---	---	---	---	---	18.7	42.9
Grand Mean	2345	---	---	---	58	---	---	---	---	---	---	---	---	19.2	42.1
CV	23	---	---	---	14	---	---	---	---	---	---	---	---	2.9	2
LSD (0.05)	1243	---	---	---	NS	---	---	---	---	---	---	---	---	NS	NS

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Table 8. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Ashland City, TN

Name	Yield (lb/a) ¹			Yield (% of test avg.)			Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Moisture (%)	Test weight (lb/bu)	Protein (%)	Oil (%)
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)						
Corteva Agriscience																
PT264	3506	---	---	116	62	---	---	---	---	---	---	---	---	---	17.5	45.0
PT271	3439	---	---	114	69	---	---	---	---	---	---	---	---	---	17.3	45.2
PT275	3133	---	---	104	48	---	---	---	---	---	---	---	---	---	17.8	44.0
PT293	3084	---	---	102	79	---	---	---	---	---	---	---	---	---	16.5	45.9
PT297	3458	---	---	115	72	---	---	---	---	---	---	---	---	---	18.0	44.0
PX126	3237	---	---	107	56	---	---	---	---	---	---	---	---	---	17.5	44.5
PX128	3381	---	---	112	62	---	---	---	---	---	---	---	---	---	16.6	45.9
PX131	4004	---	---	133	44	---	---	---	---	---	---	---	---	---	18.1	44.4
CROPLAN by Winfield																
CP1055WC	3602	---	---	119	59	---	---	---	---	---	---	---	---	---	17.0	44.2
CP1077WC	3570	---	---	118	61	---	---	---	---	---	---	---	---	---	18.4	43.4
KWS-MOMONT																
Hermione	4207	---	---	140	61	---	---	---	---	---	---	---	---	---	17.3	45.6
KWS Farry CL	4033	---	---	134	50	---	---	---	---	---	---	---	---	---	18.2	43.8
MH 17HID007	3983	---	---	132	54	---	---	---	---	---	---	---	---	---	17.7	44.5
Rubisco Seeds																
Plurax CL	2287	---	---	76	43	---	---	---	---	---	---	---	---	---	18.5	43.1
Grand Mean	3495	---	---	---	59	---	---	---	---	---	---	---	---	---	17.6	44.5
CV	24	---	---	---	23	---	---	---	---	---	---	---	---	---	4.9	3
LSD (0.05)	NS	---	---	---	NS	---	---	---	---	---	---	---	---	---	NS	NS

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Springfield, Tennessee

Dennis West, Mitchell Richmond, and Brad Fisher
University of Tennessee

Planted: 9/18/2020 in 7-in. rows
 Seeding Rate OP: 500,000 seeds/a
 Seeding Rate Hybrid: 300,000 seeds/a
 Desiccant: None
 Harvested: 6/15/2021
 Herbicides: 24 oz/a Trifluralin, 40 oz/a AgSaver
 Insecticides: None
 Fungicide: None
 Previous crop: Soybean
 Soil test: P=46 ppm, K=60 ppm, S=7 lb/a, pH=7.11
 Fertilizer: 30-0-0-23-1 lb/a N-P-K-S-B in fall
 160-0-30-23-1 lb/a N-P-K-S-B in spring
 Soil type: Mountview silt loam
 Elevation: 706 ft
 Comments: Exceptional plot. Extremely high yields and oil contents reported at this location. Only non-GMO entries.

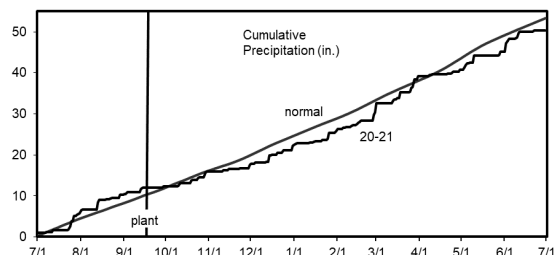
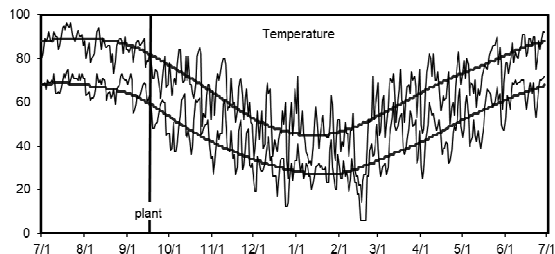


Table 9. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Springfield, TN

Name	Yield (lb/a)			Yield (% of Winter survival test avg.)				Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)
CROPLAN by WinField															
CP1022WC	3898	---	---	92	---	---	---	---	---	---	---	---	50.1	19.5	44.1
Kansas State University															
KS4662	4750	---	---	112	---	---	---	---	---	---	---	---	49.2	18.3	45.0
KS4677	3798	---	---	89	---	---	---	---	---	---	---	---	49.0	17.1	45.0
KS4719	4272	---	---	101	---	---	---	---	---	---	---	---	49.0	18.1	44.8
KSUR1212	4134	---	---	97	---	---	---	---	---	---	---	---	34.9	19.0	44.2
Griffin	3908	---	---	92	---	---	---	---	---	---	---	---	49.6	18.7	43.8
Riley	4603	---	---	108	---	---	---	---	---	---	---	---	49.7	18.0	45.6
Surefire	4450	---	---	105	---	---	---	---	---	---	---	---	49.4	18.3	45.0
Wichita	4553	---	---	107	---	---	---	---	---	---	---	---	49.6	19.5	44.0
Ohlde Seed Farms															
Torrington	4078	---	---	96	---	---	---	---	---	---	---	---	49.1	16.9	46.4
Grand Mean	4244	---	---	---	---	---	---	---	---	---	---	---	47.9	18.3	44.8
CV	6	---	---	---	---	---	---	---	---	---	---	---	14.1	5.1	1.7
LSD (0.05)	458	---	---	---	---	---	---	---	---	---	---	---	15.3	NS	NS

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 10. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Springfield, TN

Name	Yield (lb/a)			Yield (% of test avg.)			Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Test		
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	Moisture weight	Protein	Oil	
Corteva Agriscience															
PT264	4524	---	---	101	100	---	---	---	---	---	---	---	48.9	16.6	47.6
PT271	4633	---	---	103	89	---	---	---	---	---	---	---	50.0	15.7	47.0
PT275	4352	---	---	97	93	---	---	---	---	---	---	---	49.2	16.2	47.4
PT293	4675	---	---	104	96	---	---	---	---	---	---	---	48.8	15.7	47.9
PT297	3998	---	---	89	92	---	---	---	---	---	---	---	48.9	14.7	48.9
PX126	4171	---	---	93	100	---	---	---	---	---	---	---	49.2	16.7	47.3
PX128	4071	---	---	91	87	---	---	---	---	---	---	---	49.1	15.7	47.7
PX131	4286	---	---	96	100	---	---	---	---	---	---	---	47.7	17.3	46.6
CROPLAN by Winfield															
CP1055WC	4481	---	---	100	90	---	---	---	---	---	---	---	48.6	16.2	45.4
CP1077WC	4863	---	---	108	96	---	---	---	---	---	---	---	48.3	16.1	46.6
KWS-MOMONT															
Hermione	4546	---	---	101	93	---	---	---	---	---	---	---	49.0	16.0	47.6
KWS Farry CL	5138	---	---	115	93	---	---	---	---	---	---	---	50.3	18.0	44.7
MH 17HID007	4737	---	---	106	89	---	---	---	---	---	---	---	49.1	17.6	44.0
Rubisco Seeds															
Plurax CL	4228	---	---	94	100	---	---	---	---	---	---	---	50.1	18.1	45.2
Grand Mean	4486	---	---	---	94	---	---	---	---	---	---	---	49.1	16.5	46.7
CV	13	---	---	---	7	---	---	---	---	---	---	---	0.6	6.8	2.1
LSD (0.05)	986	---	---	---	NS	---	---	---	---	---	---	---	0.6	NS	2.2

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Akron, Colorado

Jerry Johnson, Edward Asfeld, and Sally Jones-Diamond
Colorado State University

Planted: 9/4/2020 in 10-in. rows
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Desiccant: 1.5 oz/a Sharpen
Harvested: 7/23/2021
Herbicides: 1.5 pt/a Sonalan HFP, 1 qt/a Buctril
Insecticides: None
Fungicide: None
Previous crop: NA
Soil test: NA
Fertilizer: 35-16-0-0.8 lb/a N-P-K-S fertilizer in fall
Irrigation: 8 inches in the fall
Soil type: Weld silt loam
Elevation: 4537 ft
Comments: High heat and light hail negatively affected test weights and yields.
Winter survival was excellent.

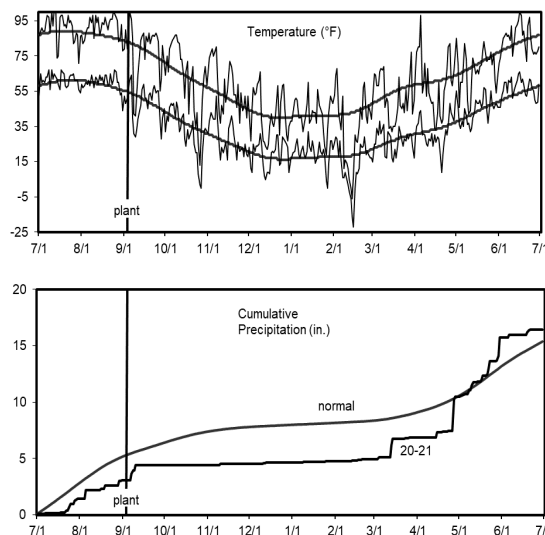


Table 11. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Akron, CO

Name	Yield (lb/a) ¹			Yield (% of Winter survival test avg.)				Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)	(%)	
CROPLAN by WinField																	
CP225WRR	727	---	727	106	97	---	97	9.7	2.7	142	42	8.5	41.3	21.7	38.9		
CP320WRR	967	---	967	141	97	---	97	9.7	3.3	142	43	8.8	43.9	23.2	38.5		
CP1022WC	464	---	---	68	93	---	---	9.0	2.3	143	44	9.7	43.6	21.0	40.0		
Kansas State University																	
KS4662	906	---	906	132	100	---	100	10.0	3.0	141	45	7.5	46.0	21.6	38.2		
KS4677	543	---	---	79	100	---	---	9.3	2.7	142	45	9.7	43.5	20.8	40.1		
KS4719	711	---	711	104	100	---	100	9.7	3.0	142	43	7.8	45.9	21.8	39.1		
KSR4765	833	---	---	122	100	---	---	9.3	2.7	141	45	6.5	46.6	20.8	39.3		
KSR4767	741	---	741	108	97	---	97	9.7	3.0	142	44	6.9	46.2	21.3	39.4		
KSR4844S	459	---	459	67	88	---	88	9.7	3.0	143	47	10.5	44.5	21.1	41.5		
KSR4848	535	---	535	78	92	---	92	9.7	2.7	142	43	10.8	43.3	21.6	39.7		
KSR4854S	513	---	---	75	97	---	---	10.0	3.3	143	44	9.1	42.3	21.1	39.2		
KSUR1212	705	---	---	103	97	---	---	10.0	3.3	142	43	7.4	45.8	21.3	40.5		
Griffin	676	---	---	99	97	---	---	9.3	2.3	142	39	8.0	44.6	22.1	38.8		
Riley	705	---	705	103	97	---	97	9.7	2.7	143	47	7.4	47.2	20.9	41.1		
Surefire	671	---	671	98	98	---	98	10.0	3.3	141	42	7.6	44.4	22.0	39.0		
Wichita	870	---	870	127	93	---	93	9.7	2.7	141	45	6.7	47.3	23.1	38.6		
Ohlde Seed Farms																	
Torrington	862	---	862	126	98	---	98	9.0	3.3	142	43	6.9	45.3	20.5	40.2		
Star Specialty Seed																	
Star 930W	418	---	418	61	100	---	100	9.7	3.0	143	41	11.0	43.5	22.2	39.0		
Grand Mean	684	---	---	---	97	---	---	9.6	2.9	142	43	8.4	44.7	21.5	39.5		
CV	29	---	---	---	6	---	---	5.0	25.9	1	9	17.4	3.9	3.4	2.5		
LSD (0.05)	331	---	---	---	NS	---	---	NS	NS	1	NS	2.4	2.9	0.1	0.1		

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data. Yields adjusted to 9% moisture content.

Table 12. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Akron, CO

Name	Yield (lb/a) ¹			Yield (% of Winter survival test avg.)			Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Test		
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	Moisture (%)	weight (lb/bu)	Protein (%)	Oil (%)
Corteva Agriscience															
PT264	633	---	---	98	100	---	---	9.7	3.3	142	41	7.3	36.8	20.9	37.7
PT271	752	---	---	117	100	---	---	10.0	3.0	141	41	7.6	37.8	20.2	38.1
PT275	483	---	---	75	93	---	---	9.7	2.7	142	45	8.8	38.0	21.3	37.3
PT293	712	---	---	111	100	---	---	9.7	2.7	141	34	7.3	39.8	21.1	37.2
PT297	627	---	---	97	97	---	---	9.3	2.7	142	40	8.7	39.5	20.2	38.9
PX126	574	---	---	89	100	---	---	9.7	3.3	142	42	9.3	30.2	20.4	38.1
PX128	667	---	---	104	100	---	---	10.0	3.0	140	38	7.4	39.0	21.2	37.9
PX131	620	---	---	96	100	---	---	9.7	2.7	143	37	7.8	33.7	19.8	34.7
CROPLAN by Winfield															
CP1055WC	564	---	---	88	92	---	---	9.7	3.0	143	42	9.4	32.7	21.4	34.3
CP1077WC	353	---	---	55	97	---	---	10.0	2.3	144	33	8.2	30.5	19.3	34.7
KWS-MOMONT															
Hermione	636	---	---	99	100	---	---	9.7	3.0	143	39	9.2	34.7	20.7	36.4
KWS Farry CL	887	---	---	138	100	---	---	10.0	3.7	141	43	7.8	35.7	19.4	33.6
MH 17HID007	723	---	---	112	100	---	---	9.7	3.0	141	43	7.1	41.6	21.2	37.7
Rubisco Seeds															
Plurax CL	534	---	534	83	100	---	100	10.0	3.3	140	38	6.8	39.0	19.9	39.6
Grand Mean	644	---	---	---	98	---	---	9.8	3.0	142	40	8.1	36.3	20.5	36.9
CV	31	---	---	---	3	---	---	4.8	20.2	1	10	13.8	15.1	4.9	9.6
LSD (0.05)	NS	---	---	---	5	---	---	NS	NS	2	NS	NS	NS	NS	NS

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data. Yields adjusted to 9% moisture content.

Belleville, Kansas

Scott Dooley
Kansas State University

Planted: 9/16/2020 in 10-in. rows
 Seeding Rate OP: 500,000 seeds/a
 Seeding Rate Hybrid: 300,000 seeds/a
 Swathed: 6/21/2021
 Harvested: 7/1/2021
 Herbicides: 20 oz/a Assure II
 Insecticides: None
 Fungicide: None
 Previous crop: Wheat
 Fertilizer: 30-0-0 lb/a N-P-K fertilizer in fall
 90-0-0 lb/a N-P-K fertilizer in spring
 Soil type: Crete silt loam Latitude: 39.814246
 Elevation: 1530 ft Longitude: -97.671639
 Comments: A cool grain filling period resulted in exceptionally high yields. These are some of the highest yields ever reported in the state.

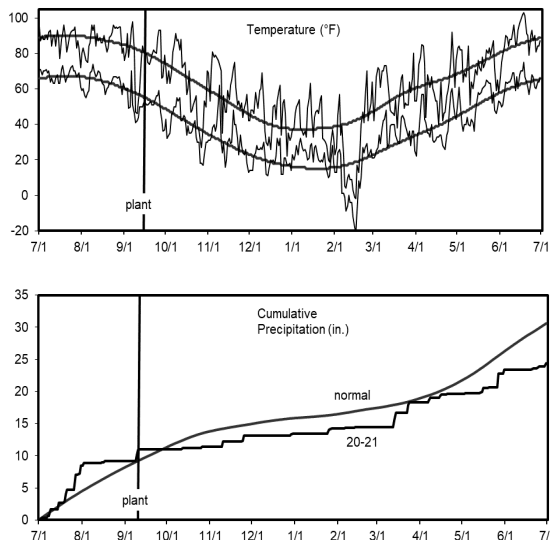


Table 13. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Belleville, KS

Name	Yield (lb/a)			Yield (% of test avg.)				Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)	(%)		
CROPLAN by WinField																	
CP225WRR	4242	364	2303	107	97	---	---	7.0	---	117	49	8.1	45.4	23.8	39.6		
CP320WRR	4214	573	2394	106	88	---	---	7.7	---	117	45	7.9	46.9	24.3	38.6		
CP1022WC	4071	---	---	103	90	---	---	8.7	---	121	51	9.1	44.6	25.0	36.4		
Kansas State University																	
KS4662	4550	1686	3118	115	83	---	---	8.3	---	119	49	7.9	45.1	23.4	39.9		
KS4677	3523	---	---	89	88	---	---	7.3	---	118	46	8.3	46.0	23.9	38.8		
KS4719	4228	2377	3303	107	88	---	---	8.3	---	119	38	8.3	46.7	24.4	38.4		
KSR4765	3915	---	---	99	77	---	---	7.7	---	119	47	8.0	45.6	23.5	39.8		
KSR4767	4179	982	2581	105	92	---	---	8.3	---	117	50	8.2	47.0	24.3	38.7		
KSR4844S	2709	722	1716	68	50	---	---	7.0	---	120	46	8.5	46.1	25.5	37.4		
KSR4848	4063	555	2309	103	90	---	---	7.3	---	120	49	8.4	43.1	23.9	39.6		
KSR4854S	4169	---	---	105	96	---	---	8.0	---	119	50	7.9	45.9	24.5	38.8		
KSUR1212	3196	---	---	81	68	---	---	7.7	---	119	31	8.4	46.7	24.8	39.0		
Griffin	4512	---	---	114	90	---	---	8.7	---	117	43	7.8	44.8	23.3	40.0		
Riley	4278	1580	2929	108	89	---	---	8.0	---	116	46	7.9	46.8	24.1	38.4		
Surefire	4389	1213	2801	111	92	---	---	8.3	---	118	51	8.4	44.9	24.9	38.8		
Wichita	3110	1867	2488	78	57	---	---	7.0	---	118	45	8.4	46.0	24.5	37.6		
Ohlde Seed Farms																	
Torrington	3845	1620	2732	97	84	---	---	7.7	---	117	51	8.1	46.9	24.3	39.0		
Star Specialty Seed																	
Star 930W	4163	1084	2624	105	93	---	---	9.0	---	118	48	7.9	47.0	24.2	39.7		
Grand Mean	3964	1278	---	---	84	---	---	7.9	---	118	46	8.2	45.9	24.3	38.8		
CV	13	34	---	---	22	---	---	7.6	---	1	20	4.8	3.3	2.8	3.0		
LSD (0.05)	851	926	---	---	19.9	---	---	1.0	---	2	NS	0.5	1.7	NS	NS		

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 14. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Belleville, KS

Name	Yield (lb/a)			Yield (% of test avg.)			Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Test		
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	Protein (%)	Oil (%)
Corteva Agriscience															
PT264	5090	---	---	111	98	---	---	7.7	---	118	52	7.5	46.8	21.8	43.9
PT271	4869	---	---	106	92	---	---	7.3	---	116	46	7.5	46.5	23.1	41.0
PT275	4100	---	---	89	81	---	---	8.0	---	117	47	7.6	47.0	22.5	41.9
PT293	4670	---	---	102	83	---	---	7.0	---	116	48	7.5	47.0	21.5	43.3
PT297	4686	---	---	102	89	---	---	7.7	---	116	49	7.4	47.8	20.8	44.7
PX126	4495	---	---	98	93	---	---	7.3	---	118	45	7.6	45.8	22.8	42.2
PX128	5119	---	---	112	97	---	---	8.0	---	120	45	7.5	45.2	23.4	42.2
PX131	4278	---	---	93	95	---	---	7.3	---	116	44	7.3	46.2	22.2	43.2
CROPLAN by Winfield															
CP1055WC	4706	---	---	103	91	---	---	7.7	---	115	49	7.6	45.3	21.5	41.1
CP1077WC	4264	---	---	93	89	---	---	7.0	---	116	47	7.6	45.3	21.7	41.9
KWS-MOMONT															
Hermione	4767	---	---	104	95	---	---	8.3	---	116	47	7.5	46.0	20.8	43.5
KWS Farry CL	4342	---	---	95	90	---	---	7.3	---	115	44	7.7	45.6	23.8	40.6
MH 17HID007	4955	---	---	108	95	---	---	7.3	---	118	47	7.8	46.0	23.4	39.9
Rubisco Seeds															
Plurax CL	3916	2373	3145	85	93	---	---	5.0	---	118	47	7.6	48.4	21.1	42.3
Grand Mean	4589	1885	---	---	92	---	---	7.4	---	117	47	7.6	46.3	22.2	42.3
CV	8	24	---	---	7	---	---	7.6	---	1	4	1.5	3.1	1.8	1.1
LSD (0.05)	631	779	---	---	8	---	---	0.9	---	1	4	0.2	NS	0.9	1

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Colby, Kansas

Rob Aiken
Kansas State University

Planted: 8/28/2020
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Desiccant: None
Harvested: 7/12/2021 (O)
Herbicides: 32 oz/a Treflan
Insecticides: None
Fungicide: None
Previous crop: Wheat
Soil test: NA
Fertilizer: 200-30-0-0 lb/a N-P-K-S fertilizer in fall

Soil type: Richfield silty clay loam
Elevation: 3160 ft
Comments: Yield variability existed because of poor spring vigor. Use yield data with caution. Less winter survival in the hybrids.

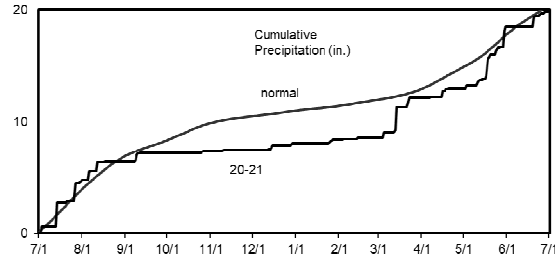
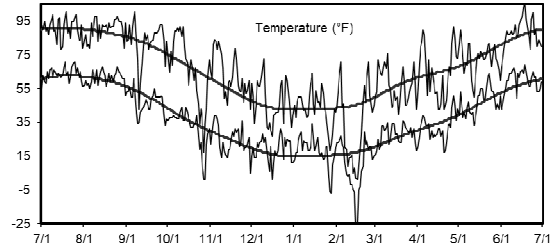


Table 15. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Colby, KS

Name	Yield (lb/a) ¹			Yield (% of Winter survival test avg.)				Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)
CROPLAN by WinField															
CP225WRR	1957	---	---	102	90	---	---	---	---	126	---	---	49.9	25.5	36.3
CP320WRR	1946	---	---	102	90	---	---	---	---	124	---	---	50.9	24.8	37.8
CP1022WC	2015	---	---	105	83	---	---	---	---	130	---	---	49.4	26.3	35.4
Kansas State University															
KS4662	1749	---	---	91	90	---	---	---	---	126	---	---	49.3	25.4	36.7
KS4677	1819	---	---	95	90	---	---	---	---	125	---	---	48.5	25.1	37.6
KS4719	2271	---	---	119	90	---	---	---	---	126	---	---	48.3	25.8	36.8
KSR4765	1812	---	---	95	90	---	---	---	---	124	---	---	48.8	24.6	36.8
KSR4767	1602	---	---	84	90	---	---	---	---	125	---	---	49.5	26.6	35.4
KSR4844S	2062	---	---	108	87	---	---	---	---	127	---	---	48.4	26.1	36.7
KSR4848	1401	---	---	73	87	---	---	---	---	127	---	---	49.3	26.2	36.2
KSR4854S	1718	---	---	90	90	---	---	---	---	127	---	---	48.2	25.7	37.0
KSUR1212	2311	---	---	121	90	---	---	---	---	125	---	---	50.1	26.3	36.1
Griffin	2342	---	---	122	90	---	---	---	---	121	---	---	49.5	25.4	36.8
Riley	1844	---	---	96	90	---	---	---	---	123	---	---	50.2	24.8	38.3
Surefire	1907	---	---	100	90	---	---	---	---	125	---	---	50.1	26.1	37.0
Wichita	1799	---	---	94	87	---	---	---	---	125	---	---	49.3	26.2	36.6
Ohlde Seed Farms															
Torrington	1764	---	---	92	90	---	---	---	---	124	---	---	50.5	25.1	37.8
Star Specialty Seed															
Star 930W	2147	---	---	112	90	---	---	---	---	124	---	---	47.1	24.8	37.8
Grand Mean	1915	---	---	---	89	---	---	---	---	125	---	---	49.4	25.6	36.8
CV	22	---	---	---	3	---	---	---	---	1	---	---	4.2	9.7	1.7
LSD (0.05)	NS	---	---	---	4	---	---	---	---	1	---	---	NS	0.8	1.3

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Table 16. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Colby, KS

Name	Yield (lb/a) ¹			Yield (% of test avg.)			Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Test		
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)	
Corteva Agriscience															
PT264	2199	---	---	128	77	---	---	---	---	131	---	---	---	23.4	41.1
PT271	1844	---	---	107	77	---	---	---	---	128	---	---	---	24.7	39.4
PT275	1081	---	---	63	20	---	---	---	---	131	---	---	---	25.5	38.0
PT293	1953	---	---	113	70	---	---	---	---	129	---	---	---	23.5	40.9
PT297	355	---	---	21	17	---	---	---	---	130	---	---	---	24.0	40.8
PX126	2648	---	---	154	83	---	---	---	---	128	---	---	---	23.8	41.1
PX128	2182	---	---	127	80	---	---	---	---	129	---	---	---	24.7	39.8
PX131	1232	---	---	72	57	---	---	---	---	131	---	---	---	24.0	41.1
CROPLAN by Winfield															
CP1055WC	1180	---	---	69	40	---	---	---	---	126	---	---	---	25.4	36.9
CP1077WC	1861	---	---	108	57	---	---	---	---	128	---	---	---	23.2	39.5
KWS-MOMONT															
Hermione	899	---	---	52	20	---	---	---	---	129	---	---	---	24.3	40.2
KWS Farry CL	1001	---	---	58	13	---	---	---	---	132	---	---	---	24.3	39.2
MH 17HID007	2281	---	---	132	87	---	---	---	---	127	---	---	---	26.2	37.2
Rubisco Seeds															
Plurax CL	2419	---	---	141	93	---	---	---	---	125	---	---	---	24.0	39.5
Grand Mean	1721	---	---	---	56	---	---	---	---	129	---	---	---	24.4	39.6
CV	21	---	---	---	16	---	---	---	---	1	---	---	---	2.8	2.0
LSD (0.05)	673	---	---	---	15	---	---	---	---	3	---	---	---	1.5	1.8

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Garden City, Kansas

Johnathon Holman and Tom Roberts
Kansas State University

Planted: 9/1/2020
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Desiccant: 6/29/2021 2 oz/a Sharpen
Harvested: 7/6/2021 OP, 7/12/2021 Hybrid
Herbicides: 3 pt/a Prowl H2O
Insecticides: None
Fungicide: None
Previous crop: NA
Soil test: NA
Fertilizer: 100-0-0 lb/a N-P-K fertilizer in spring

Soil type: Ulysess Richfield silt loam
Elevation: 2835 ft.
Comments: Yields were about average for this irrigated site.

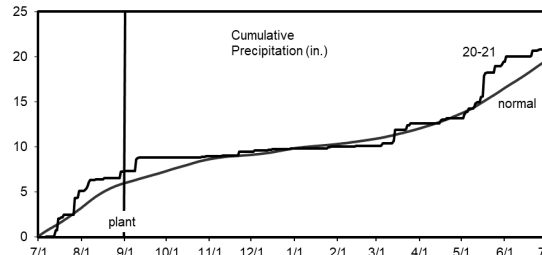
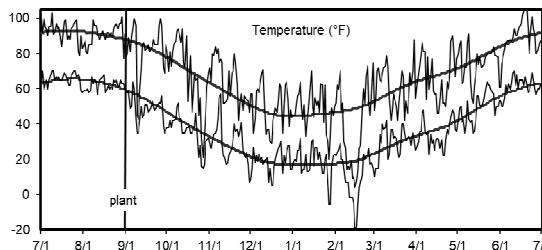


Table 17. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Garden City, KS

Name	Yield (lb/a)			Yield (% of test avg.)				Winter survival (%)		Fall stand	Fall vigor	Plant Shatter	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(%)	(in.)	(%)	(in.)	(%)	(lb/bu)	(%)	(%)
CROPLAN by WinField																	
CP225WRR	1966	1822	1894	91	93	88	91	9.7	---	0.0	50	10.6	49.9	26.5	37.5		
CP320WRR	2255	1851	2053	104	93	100	97	9.7	---	1.7	48	9.5	50.3	27.2	37.8		
CP1022WC	2186	---	---	101	93	---	---	9.7	---	3.3	53	12.3	49.4	28.2	37.3		
Kansas State University																	
KS4662	2259	1785	2022	104	97	100	98	9.7	---	0.0	51	11.5	50.0	26.2	37.2		
KS4677	2320	---	---	107	97	---	---	9.3	---	3.3	53	13.1	49.2	26.0	37.1		
KS4719	2272	1914	2093	105	93	95	94	9.7	---	5.0	53	11.8	50.0	26.5	36.6		
KSR4765	1878	---	---	87	100	---	---	8.7	---	1.7	51	11.3	50.3	26.1	37.0		
KSR4767	2073	1495	1784	96	90	100	95	10.0	---	0.0	51	11.1	49.7	27.9	36.8		
KSR4844S	1680	1835	1758	78	97	81	89	9.3	---	0.0	53	11.7	49.4	26.3	38.1		
KSR4848	2031	1689	1860	94	96	88	92	9.0	---	1.7	52	12.1	49.7	27.5	37.1		
KSR4854S	1843	---	---	85	93	---	---	9.3	---	3.3	51	10.0	49.6	26.0	38.0		
KSUR1212	2088	---	---	96	93	---	---	9.7	---	6.7	50	9.7	50.7	26.1	37.9		
Griffin	2779	---	---	128	97	---	---	9.3	---	0.0	45	11.2	49.5	25.7	36.7		
Riley	2139	1531	1835	99	90	93	91	9.7	---	5.0	49	9.9	49.1	26.2	38.2		
Surefire	2543	2374	2458	117	97	89	93	9.3	---	0.0	51	11.2	50.2	26.5	37.9		
Wichita	2201	1973	2087	102	97	94	96	9.3	---	0.0	47	9.7	50.0	27.0	37.0		
Ohlde Seed Farms																	
Torrington	2481	1723	2102	114	100	100	100	9.3	---	0.0	52	11.1	49.7	25.8	37.4		
Star Specialty Seed																	
Star 930W	2020	1084	1552	93	97	100	98	9.0	---	1.7	49	9.8	50.2	25.9	37.8		
Grand Mean	2167	1735	---	---	95	94	---	9.4	---	1.9	50	11.0	49.8	26.5	37.4		
CV	12	14	---	---	5	7	---	6.4	---	214.8	2	9.8	1.5	3.0	1.5		
LSD (0.05)	422	421	---	---	NS	---	---	NS	---	NS	2	1.8	NS	NS	NS		

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 18. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Garden City, KS

Name	Yield (lb/a)			Yield (% of test avg.)			Winter survival (%)		Fall stand	Fall vigor	Shatter (%)	Plant height (in.)	Moisture (%)	Test	
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	(%)	(in.)	(%)	(lb/bu)	Protein (%)	Oil (%)	
Corteva Agriscience															
PT264	2114	---	---	89	100	---	---	8.3	---	3.3	52	8.7	51.2	27.0	39.2
PT271	2198	---	---	93	89	---	---	9.3	---	15.0	50	8.8	51.9	26.7	39.6
PT275	1963	---	---	83	93	---	---	9.0	---	5.0	52	10.9	50.7	27.0	39.3
PT293	2457	---	---	104	96	---	---	8.3	---	13.3	51	9.7	51.2	25.6	39.7
PT297	1804	---	---	76	92	---	---	8.3	---	8.3	51	9.8	50.6	24.5	39.6
PX126	2221	---	---	94	100	---	---	8.0	---	16.7	52	11.6	50.3	25.9	40.9
PX128	1938	---	---	82	87	---	---	9.7	---	3.3	50	9.0	51.3	26.1	40.1
PX131	2362	---	---	100	100	---	---	8.3	---	11.7	49	10.0	50.3	23.2	42.0
CROPLAN by Winfield															
CP1055WC	2843	---	---	120	90	---	---	9.7	---	0.0	49	10.9	49.5	25.9	38.3
CP1077WC	2826	---	---	119	96	---	---	8.7	---	10.0	51	11.3	49.7	24.6	40.0
KWS-MOMONT															
Hermione	2862	---	---	121	93	---	---	9.3	---	6.7	49	11.0	50.3	24.7	41.0
KWS Farry CL	2520	---	---	107	93	---	---	9.0	---	3.3	49	8.6	50.7	26.3	39.2
MH 17HID007	2689	---	---	114	89	---	---	9.3	---	10.0	51	8.0	50.3	25.9	38.0
Rubisco Seeds															
Plurax CL	2322	2546	2434	98	100	100	100	8.3	---	8.3	49	10.0	51.9	24.3	39.3
Grand Mean	2366	2234	---	---	94	88	---	8.8	---	8.2	50	9.9	50.7	25.6	39.7
CV	8	14	---	---	7	5	---	7.7	---	86.2	2	9.6	1.2	1.9	1.3
LSD (0.05)	319	552	---	---	NS	8	---	NS	---	NS	2	1.6	1.0	1.1	1.1

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Hutchinson, Kansas

Jane Lingenfelter
Kansas State University

Planted: 9/21/2020 in 10-in. rows
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Swathed: 6/9/2021
Harvested: 6/17/2021
Herbicides: 1 qt/a Treflan, 10 oz/a Assure II
Insecticides: None
Fungicide: None
Previous crop: Wheat
Soil test: NA
Fertilizer: 30-0-0 lb/a N-P-K fertilizer in fall
90-0-0 lb/a N-P-K fertilizer in spring
Soil type: Ost loam Latitude: 37.928725
Elevation: 1540 ft Longitude: -98.024028
Comments: A cool grain filling period resulted in much above average yields.

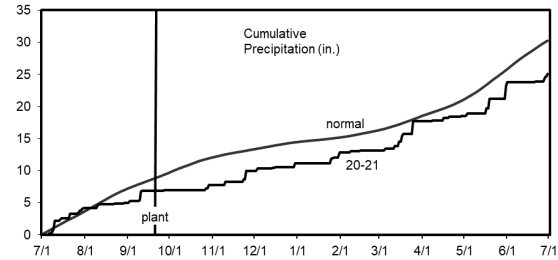
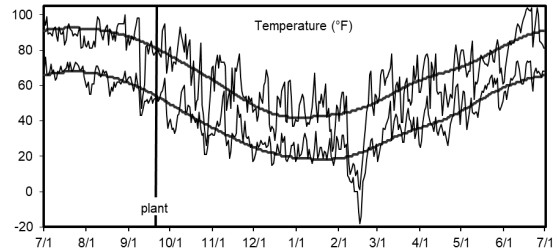


Table 19. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Hutchinson, KS

Name	Yield (lb/a)			Yield (% of Winter survival test avg.)				Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)	(%)	
CROPLAN by WinField																	
CP225WRR	2791	---	---	93	---	---	---	7.7	---	97	50	4.3	21.8	48.1	39.2		
CP320WRR	3067	---	---	102	---	---	---	8.7	---	97	47	4.4	21.2	48.4	39.9		
CP1022WC	2808	---	---	93	---	---	---	7.7	---	102	53	4.6	22.7	48.0	40.0		
Kansas State University																	
KS4662	3262	---	---	108	---	---	---	8.3	---	98	53	4.4	22.1	47.9	40.6		
KS4677	2882	---	---	96	---	---	---	7.7	---	97	54	4.3	21.9	47.6	40.0		
KS4719	3000	---	---	100	---	---	---	6.3	---	99	55	4.3	21.7	45.8	40.3		
KSR4765	2978	---	---	99	---	---	---	7.0	---	97	46	4.5	21.6	49.8	39.7		
KSR4767	2875	---	---	95	---	---	---	7.5	---	97	45	4.6	21.7	48.1	40.0		
KSR4844S	2783	---	---	92	---	---	---	7.0	---	100	54	4.6	21.3	49.1	41.1		
KSR4848	2747	---	---	91	---	---	---	7.7	---	100	53	4.4	21.7	45.1	39.8		
KSR4854S	2960	---	---	98	---	---	---	7.7	---	99	48	4.7	22.5	50.7	40.0		
KSUR1212	2888	---	---	96	---	---	---	8.3	---	97	51	4.2	22.4	46.8	40.6		
Griffin	3347	---	---	111	---	---	---	8.3	---	94	47	4.5	22.3	48.2	39.5		
Riley	2956	---	---	98	---	---	---	6.7	---	97	53	4.5	22.4	50.1	40.1		
Surefire	3531	---	---	117	---	---	---	8.0	---	98	53	4.6	22.7	48.5	39.6		
Wichita	3014	---	---	100	---	---	---	6.7	---	97	50	4.5	22.4	49.2	40.4		
Ohlde Seed Farms																	
Torrington	3329	---	---	111	---	---	---	6.7	---	97	52	4.6	22.2	49.9	40.0		
Star Specialty Seed																	
Star 930W	2984	---	---	99	---	---	---	7.0	---	96	49	4.6	21.7	48.2	40.0		
Grand Mean	3011	---	---	---	---	---	---	0.2	---	98	51	4.5	22.0	48.3	40.0		
CV	13	---	---	---	---	---	---	12.9	---	1	6	4.5	1.6	3.7	1.0		
LSD (0.05)	NS	---	---	---	---	---	---	NS	---	2	6	NS	0.8	3.0	0.9		

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 20. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Hutchinson, KS

Name	Yield (lb/a)			Yield (% of test avg.)			Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)	(%)	
Corteva Agriscience																
PT264	3290	---	---	98	---	---	---	7.3	---	101	53	3.7	45.8	20.2	43.9	
PT271	3841	---	---	115	---	---	---	7.3	---	95	51	3.8	48.7	20.9	42.0	
PT275	3198	---	---	95	---	---	---	6.3	---	97	48	4.1	49.1	21.4	42.2	
PT293	2822	---	---	84	---	---	---	7.0	---	96	54	3.6	47.8	20.5	42.9	
PT297	3113	---	---	93	---	---	---	7.3	---	96	54	3.8	47.2	19.9	43.3	
PX126	3359	---	---	100	---	---	---	6.3	---	101	51	4.1	48.1	20.5	43.6	
PX128	3016	---	---	90	---	---	---	8.0	---	99	48	3.9	46.3	21.1	43.1	
PX131	3422	---	---	102	---	---	---	7.7	---	97	48	3.9	45.5	20.6	43.2	
CROPLAN by Winfield																
CP1055WC	3362	---	---	100	---	---	---	7.7	---	95	50	3.9	47.0	20.4	41.5	
CP1077WC	3453	---	---	103	---	---	---	6.3	---	97	52	4.0	48.5	20.7	42.3	
KWS-MOMONT																
Hermione	3872	---	---	115	---	---	---	7.7	---	96	48	4.0	47.8	19.8	42.9	
KWS Farry CL	3298	---	---	98	---	---	---	7.0	---	98	51	4.1	47.6	22.5	40.2	
MH 17HID007	3288	---	---	98	---	---	---	7.3	---	98	53	3.9	46.8	22.3	40.0	
Rubisco Seeds																
Plurax CL	3600	---	---	107	---	---	---	7.0	---	94	48	3.8	47.2	20.5	42.1	
Grand Mean	3352	---	---	---	---	---	---	7.2	---	97	51	3.9	47.4	20.8	42.4	
CV	13	---	---	---	---	---	---	12.0	---	1	4	3.9	5.9	1.8	1.2	
LSD (0.05)	365	---	---	---	---	---	---	NS	---	2	4	0.3	NS	0.8	1.1	

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Manhattan, Kansas

Michael Stamm
Kansas State University

Planted: 9/17/2020 in 10-in. rows
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Swathed: 6/9/2021
Harvested: 6/17/2021
Herbicides: 1 qt/a Treflan, 10 oz/a Assure II
Insecticides: None
Fungicide: None
Previous crop: Wheat
Soil test: NA
Fertilizer: 14-0-0-30 lb/a N-P-K-S fertilizer in fall
90-0-0 lb/a N-P-K fertilizer in spring
Soil type: Smolan silt loam Latitude: 39.136669
Elevation: 1064 ft Longitude: -96.641559
Comments: Excellent yields and oil contents are a result of a cooler than normal grain filling period.

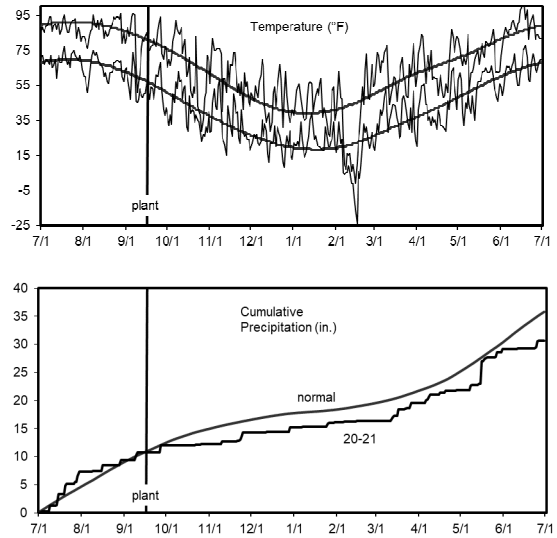


Table 21. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Manhattan, KS

Name	Yield (lb/a) ¹			Yield (% of Winter survival test avg.)				Fall stand	Fall vigor	Plant Lodging	Plant height	Test Moisture	Test weight	Test Protein	Test Oil
	2021	2020	2-yr.	2021	2020	2-yr.	(%)	(0-10)	(1-5)	(%)	(in.)	(%)	(lb/bu)	(%)	(%)
CROPLAN by WinField															
CP225WRR	3396	2173	2785	92	---	100	---	8.3	---	6.7	46	5.6	44.9	22.7	40.4
CP320WRR	3598	1195	2397	98	---	97	---	8.7	---	38.3	47	5.8	46.0	22.4	40.3
CP1022WC	3126	---	---	85	---	---	---	8.7	---	0.0	50	5.9	43.5	22.3	41.1
Kansas State University															
KS4662	3646	2500	3073	99	---	98	---	8.0	---	16.7	52	5.9	45.5	21.1	42.2
KS4677	3842	---	---	104	---	---	---	8.0	---	6.7	52	5.5	46.5	22.0	41.0
KS4719	4026	3107	3567	109	---	98	---	8.3	---	0.0	55	6.0	47.1	21.9	42.0
KSR4765	3600	---	---	98	---	---	---	8.0	---	3.3	46	6.1	47.2	22.1	40.7
KSR4767	3871	2231	3051	105	---	98	---	9.0	---	0.0	49	5.8	46.9	22.6	41.2
KSR4844S	3678	1192	2435	100	---	97	---	7.0	---	3.3	55	5.5	46.0	21.5	42.6
KSR4848	3788	2249	3019	103	---	98	---	8.0	---	13.3	51	6.3	45.9	22.5	41.0
KSR4854S	3476	---	---	94	---	---	---	8.3	---	13.3	51	5.9	45.0	22.3	41.3
KSUR1212	3600	---	---	98	---	---	---	8.3	---	15.0	51	5.7	45.7	21.8	41.8
Griffin	3659	---	---	99	---	---	---	9.0	---	33.3	51	5.6	46.0	22.2	41.0
Riley	3931	1948	2939	107	---	98	---	8.0	---	3.3	46	6.0	46.2	22.2	41.3
Surefire	4009	1856	2932	109	---	100	---	8.3	---	13.3	50	5.9	46.4	22.6	41.9
Wichita	3970	1633	2801	108	---	98	---	8.3	---	3.3	49	6.1	45.4	23.3	40.4
Ohlde Seed Farms															
Torrington	3780	2275	3027	103	---	100	---	8.0	---	3.3	51	5.9	46.1	21.0	42.5
Star Specialty Seed															
Star 930W	3293	1997	2645	89	---	100	---	8.7	---	0.0	49	5.6	46.2	22.1	40.6
Grand Mean	3683	1977	---	---	---	98	---	8.3	---	9.6	50	5.8	45.9	22.1	41.3
CV	9	35	---	---	---	3	---	7.1	---	162.8	8	6.8	2.2	3.8	2.0
LSD (0.05)	361	953	---	---	---	NS	---	0.8	---	NS	NS	NS	1.7	NS	1.4

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Table 22. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Manhattan, KS

Name	Yield (lb/a) ¹			Yield (% of test avg.)			Winter survival (%)		Fall stand	Fall vigor	Lodging (%)	Plant height (in.)	Moisture (%)	Test		
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)						weight (lb/bu)	Protein (%)	Oil (%)
Corteva Agriscience																
PT264	3902	---	---	44	---	---	---	7.7	---	---	49	8.1	43.7	20.8	43.1	
PT271	4431	---	---	46	---	---	---	8.3	---	---	48	7.0	46.5	21.2	42.9	
PT275	3946	---	---	45	---	---	---	7.7	---	---	49	8.0	45.3	21.3	43.1	
PT293	3541	---	---	44	---	---	---	7.7	---	---	50	7.5	44.1	20.9	43.9	
PT297	3348	---	---	44	---	---	---	7.0	---	---	50	8.5	43.6	19.8	44.4	
PX126	3199	---	---	43	---	---	---	7.7	---	---	52	10.5	43.3	21.3	43.2	
PX128	3175	---	---	42	---	---	---	8.7	---	---	50	9.3	41.8	22.5	42.4	
PX131	3318	---	---	42	---	---	---	8.3	---	---	51	8.7	41.8	20.1	44.5	
CROPLAN by Winfield																
CP1055WC	3967	---	---	43	---	---	---	8.3	---	---	49	7.0	42.8	19.9	41.8	
CP1077WC	3797	---	---	41	---	---	---	7.7	---	---	50	7.8	40.9	19.9	42.8	
KWS-MOMONT																
Hermione	3592	---	---	41	---	---	---	9.0	---	---	45	9.4	40.9	20.7	43.2	
KWS Farry CL	3555	---	---	43	---	---	---	7.3	---	---	46	6.9	43.1	22.7	40.7	
MH 17HID007	4372	---	---	43	---	---	---	8.0	---	---	51	7.4	43.2	22.6	39.4	
Rubisco Seeds																
Plurax CL	3642	2353	2998	47	---	95	---	7.7	---	---	49	7.7	47.4	21.5	41.1	
Grand Mean	3699	1859	---	43	---	96	---	7.9	---	---	49	8.1	43.5	21.1	42.6	
CV	7	43	---	3	---	5	---	8.7	---	---	6	8.9	3.0	3.8	1.9	
LSD (0.05)	464	862	---	2	---	6	---	1.0	---	---	NS	1.2	2.2	1.3	1.4	

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Norwich, Kansas

Cody and David Swinehart

Planted: 9/21/2020 in 10-in. rows
 Seeding Rate OP: 500,000 seeds/a
 Seeding Rate Hybrid: 300,000 seeds/a
 Swathed: 6/7/2021
 Harvested: 6/16/2021
 Herbicides: None
 Insecticides: None
 Fungicide: None
 Previous crop: Wheat
 Soil test: P=48 ppm, K=260 ppm
 Fertilizer: 30-0-0-0 lb N-P-K-S fertilizer in the fall
 110-0-0-14 lb N-P-K-S fertilizer in the spring
 Soil type: Renfrow clay loam Latitude: 37.404290
 Elevation: 1496 ft Longitude: -97.825039
 Comments: Excellent yields despite drought conditions setting in later in the season.

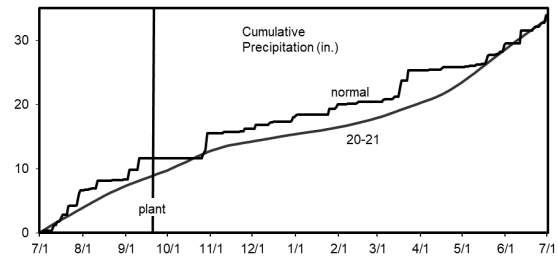
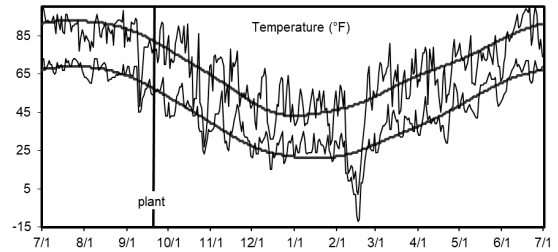


Table 23. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Norwich, KS

Name	Yield (lb/a)			Yield (% of Winter survival test avg.)				Winter survival (%)		Fall stand		Fall vigor		50% Plant bloom		Plant height		Test Moisture		Test weight		Test Protein		Test Oil	
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
CROPLAN by WinField																									
CP225WRR	1991	---	---	96	---	---	---	---	---	---	50	3.4	47.9	23.4	38.9										
CP320WRR	2461	---	---	118	---	---	---	---	---	---	50	3.5	48.9	23.8	38.2										
CP1022WC	1949	---	---	94	---	---	---	---	---	---	47	3.5	46.4	24.6	39.6										
Kansas State University																									
KS4662	2077	---	---	100	---	---	---	---	---	---	51	3.5	47.4	24.1	38.8										
KS4677	2080	---	---	100	---	---	---	---	---	---	51	3.4	47.7	24.0	38.9										
KS4719	2150	---	---	103	---	---	---	---	---	---	50	3.5	47.9	23.4	39.6										
KSR4765	1746	---	---	84	---	---	---	---	---	---	51	3.4	47.8	23.3	39.0										
KSR4767	1905	---	---	92	---	---	---	---	---	---	49	3.6	48.8	24.6	37.8										
KSR4844S	2025	---	---	97	---	---	---	---	---	---	53	3.6	49.0	23.9	39.6										
KSR4848	1971	---	---	95	---	---	---	---	---	---	51	3.7	47.3	24.3	39.5										
KSR4854S	2350	---	---	113	---	---	---	---	---	---	51	3.5	48.7	23.8	39.0										
KSUR1212	2055	---	---	99	---	---	---	---	---	---	49	3.6	48.9	24.5	38.6										
Griffin	2111	---	---	101	---	---	---	---	---	---	50	3.3	48.7	22.7	39.5										
Riley	2238	---	---	108	---	---	---	---	---	---	53	3.6	48.7	23.7	40.1										
Surefire	2061	---	---	99	---	---	---	---	---	---	53	3.4	48.4	23.6	39.4										
Wichita	1863	---	---	90	---	---	---	---	---	---	51	3.6	48.8	24.6	38.3										
Ohlde Seed Farms																									
Torrington	2588	---	---	124	---	---	---	---	---	---	52	3.6	48.3	22.9	39.8										
Star Specialty Seed																									
Star 930W	1838	---	---	88	---	---	---	---	---	---	47	3.3	48.6	---	---										
Grand Mean	2081	---	---	---	---	---	---	---	---	---	50	3.5	48.2	23.8	39.1										
CV	12	---	---	---	---	---	---	---	---	---	7	3.4	1.7	3.1	1.8										
LSD (0.05)	426	---	---	---	---	---	---	---	---	---	NS	0.2	1.4	NS	NS										

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 24. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Norwich, KS

Name	Yield (lb/a)			Yield (% of test avg.)	Winter survival (%)			Fall stand (0-10)	Fall vigor (1-5)	50% bloom (d)	Plant height (in.)	Moisture (%)	Test		
	2021	2020	2-yr.		2021	2020	2-yr.						weight (lb/bu)	Protein (%)	Oil (%)
Corteva Agriscience															
PT264	2106	---	---	93	---	---	---	---	---	---	52	3.2	48.4	20.4	43.4
PT271	1934	---	---	85	---	---	---	---	---	---	47	3.2	50.1	21.7	41.4
PT275	2526	---	---	111	---	---	---	---	---	---	53	3.0	48.7	22.2	42.1
PT293	2350	---	---	104	---	---	---	---	---	---	51	3.1	48.2	21.9	43.0
PT297	2321	---	---	102	---	---	---	---	---	---	47	3.2	49.0	19.8	44.5
PX126	2155	---	---	95	---	---	---	---	---	---	49	3.1	48.1	20.8	44.5
PX128	1998	---	---	88	---	---	---	---	---	---	51	3.1	48.3	22.1	43.9
PX131	2192	---	---	97	---	---	---	---	---	---	48	3.0	47.7	21.7	43.2
CROPLAN by Winfield															
CP1055WC	2251	---	---	99	---	---	---	---	---	---	47	3.1	48.9	20.4	41.4
CP1077WC	2309	---	---	102	---	---	---	---	---	---	47	3.0	47.6	21.8	41.4
KWS-MOMONT															
Hermione	2596	---	---	115	---	---	---	---	---	---	50	3.2	47.8	21.6	42.8
KWS Farry CL	2244	---	---	99	---	---	---	---	---	---	47	3.1	49.3	22.2	41.4
MH 17HID007	2277	---	---	100	---	---	---	---	---	---	49	3.2	47.7	22.1	39.7
Rubisco Seeds															
Plurax CL	2480	---	---	109	---	---	---	---	---	---	50	3.0	49.8	20.4	42.9
Grand Mean	2267	---	---	---	---	---	---	---	---	---	49	3.1	48.6	21.3	42.6
CV	16	---	---	---	---	---	---	---	---	---	6	5.0	1.7	3.9	2.0
LSD (0.05)	NS	---	---	---	---	---	---	---	---	---	NS	NS	1.4	NS	2.0

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Clovis, New Mexico

Sangu Angadi
New Mexico State University

Planted: 9/14/2020
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Desiccant: None
Harvested: 6/23/2021
Herbicides: 1.5 pt/a Treflan HFP, 1.5 qt/a
Insecticides: 20 oz/a Prevathon
Irrigation: 13.64 in.
Previous crop: Wheat
Soil test: NA
Fertilizer: 135-35-0-23 lb/a fertilizer in fall

Soil type: Olton clay loam Latitude: 34.599850
Elevation: 4437 ft Longitude: -103.220032
Comments: Extreme drought resulted in lower than normal yields.

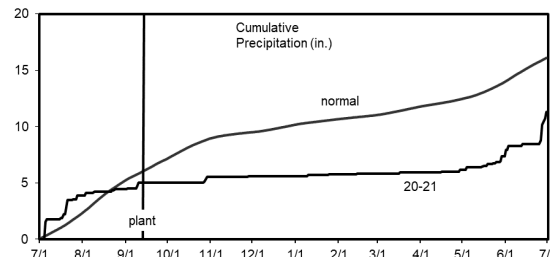
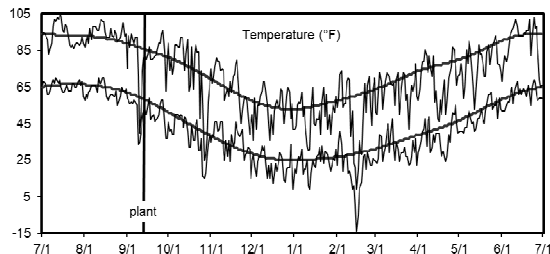


Table 25. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Clovis, NM

Name	Yield (lb/a)			Yield (% of Winter survival test avg.)				Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)
CROPLAN by WinField															
CP225WRR	2128	1643	1885	89	30	---	---	6.3	2.3	99	36	4.6	48.7	22.0	38.5
CP320WRR	2842	1941	2391	119	36	---	---	8.0	2.7	98	37	5.0	50.8	22.6	37.6
CP1022WC	2377	---	---	100	42	---	---	6.0	2.3	103	39	4.8	50.4	23.2	37.9
Kansas State University															
KS4662	2478	1652	2065	104	32	---	---	7.7	3.7	98	43	5.0	48.6	23.0	37.8
KS4677	2722	---	---	114	38	---	---	8.0	3.0	97	41	4.7	48.3	23.5	37.9
KS4719	1803	1610	1706	76	33	---	---	7.0	2.7	100	38	5.0	48.7	22.7	38.0
KSR4765	1851	---	---	78	36	---	---	6.7	2.3	102	37	4.8	49.8	23.0	37.5
KSR4767	2679	1557	2118	112	40	---	---	6.0	2.3	102	38	5.0	50.5	23.0	38.5
KSR4844S	2745	1460	2103	115	43	---	---	7.0	2.7	101	41	4.7	53.3	22.7	39.4
KSR4848	2763	1355	2059	116	37	---	---	6.7	2.7	101	39	5.0	50.9	23.2	37.5
KSR4854S	2659	---	---	111	38	---	---	7.0	2.7	103	39	4.9	48.9	23.4	38.1
KSUR1212	2344	---	---	98	41	---	---	6.7	2.7	98	39	5.0	48.2	23.4	38.5
Griffin	2378	---	---	100	34	---	---	7.3	3.0	96	35	5.0	50.2	21.9	38.1
Riley	2447	1753	2100	103	48	---	---	6.0	3.7	97	36	4.9	49.6	24.3	37.2
Surefire	2312	1749	2030	97	37	---	---	7.7	2.7	101	38	4.9	49.3	22.5	38.8
Wichita	2071	1881	1976	87	36	---	---	7.3	3.0	100	38	4.8	49.2	21.8	39.5
Ohlde Seed Farms															
Torrington	2115	1820	1967	89	44	---	---	7.0	2.7	100	37	4.7	49.9	23.2	38.6
Star Specialty Seed															
Star 930W	2246	1547	1896	94	34	---	---	6.7	2.7	101	36	4.7	50.2	23.1	38.3
Grand Mean	2387	1630	---	---	38	---	---	6.9	2.8	100	38	4.9	49.8	22.9	38.2
CV	23	9	---	---	27	---	---	12.2	19.9	2	5	4.5	4.7	2.2	1.6
LSD (0.05)	NS	197	---	---	NS	---	---	NS	NS	4	3	NS	NS	1.1	NS

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Table 26. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Clovis, NM

Name	Yield (lb/a)			Yield (% of test avg.)			Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)	
Corteva Agriscience																
PT264	2114	---	---	98	57	---	---	6.7	2.7	101	38	4.1	47.6	21.7	41.0	
PT271	2198	---	---	96	50	---	---	6.7	2.7	104	38	4.1	49.0	22.7	38.9	
PT275	1963	---	---	103	50	---	---	5.7	2.0	102	38	4.2	50.3	22.7	38.2	
PT293	2457	---	---	118	45	---	---	7.3	3.3	101	40	4.3	50.7	22.7	38.9	
PT297	1804	---	---	89	59	---	---	6.3	2.0	103	38	4.1	50.1	23.0	38.1	
PX126	2221	---	---	110	56	---	---	7.0	3.3	102	39	4.2	49.7	23.3	39.0	
PX128	1938	---	---	78	56	---	---	6.7	2.0	103	41	4.2	47.9	22.0	39.9	
PX131	2362	---	---	86	58	---	---	6.0	2.3	102	37	3.9	50.1	21.8	40.6	
CROPLAN by Winfield																
CP1055WC	2843	---	---	97	51	---	---	7.3	3.0	97	38	4.1	45.8	22.7	37.0	
CP1077WC	2826	---	---	103	55	---	---	7.0	3.7	99	42	4.3	43.8	22.6	37.5	
KWS-MOMONT																
Hermione	2862	---	---	97	56	---	---	5.7	2.0	104	36	4.1	45.2	23.0	38.4	
KWS Farry CL	2520	---	---	107	54	---	---	5.7	2.0	101	37	4.1	43.6	22.6	37.5	
MH 17HID007	2689	---	---	98	48	---	---	6.0	2.7	101	36	4.1	44.8	23.3	37.0	
Rubisco Seeds																
Plurax CL	2322	2070	2196	119	60	---	---	7.0	2.7	102	36	4.2	52.2	21.4	38.2	
Grand Mean	2366	2007	---	---	54	---	---	6.5	2.6	102	38	4.1	47.9	22.5	38.6	
CV	8	10	---	---	12	---	---	9.5	23.0	2	4	3.5	4.2	3.0	2.1	
LSD (0.05)	319	NS	---	---	NS	---	---	1.0	1.0	3	3	NS	3.4	NS	1.7	

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Miami, Oklahoma

Josh Lofton
Oklahoma State University

Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Comments: Weather conditions caused a major reduction in average yields.

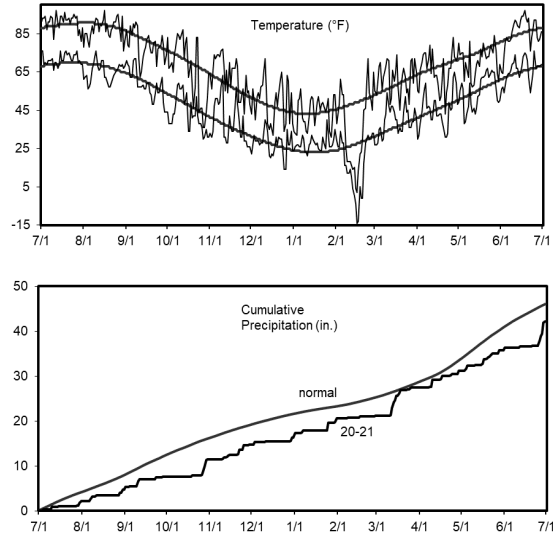


Table 27. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Miami, OK

Name	Yield (lb/a) ¹			Yield (% of Winter survival test avg.)				Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)
CROPLAN by WinField															
CP225WRR	921	---	---	109	---	---	---	---	---	---	---	7.4	49.3	---	---
CP320WRR	762	---	---	90	---	---	---	---	---	---	---	6.7	51.5	---	---
CP1022WC	757	---	---	90	---	---	---	---	---	---	---	7.0	50.3	---	---
Kansas State University															
KS4662	935	---	---	111	---	---	---	---	---	---	---	7.5	49.0	---	---
KS4677	457	---	---	54	---	---	---	---	---	---	---	8.0	47.1	---	---
KS4719	446	---	---	53	---	---	---	---	---	---	---	7.2	52.9	---	---
KSR4765	776	---	---	92	---	---	---	---	---	---	---	8.1	49.2	---	---
KSR4767	1258	---	---	149	---	---	---	---	---	---	---	7.7	54.2	---	---
KSR4844S	770	---	---	91	---	---	---	---	---	---	---	7.4	48.7	---	---
KSR4848	811	---	---	96	---	---	---	---	---	---	---	7.3	52.2	---	---
KSR4854S	825	---	---	98	---	---	---	---	---	---	---	6.4	50.4	---	---
KSUR1212	867	---	---	103	---	---	---	---	---	---	---	7.0	46.5	---	---
Griffin	1338	---	---	158	---	---	---	---	---	---	---	7.2	48.1	---	---
Riley	718	---	---	85	---	---	---	---	---	---	---	8.1	46.7	---	---
Surefire	1052	---	---	125	---	---	---	---	---	---	---	9.0	52.1	---	---
Wichita	720	---	---	85	---	---	---	---	---	---	---	7.3	48.8	---	---
Ohlde Seed Farms															
Torrington	1078	---	---	128	---	---	---	---	---	---	---	6.7	50.8	---	---
Star Specialty Seed															
Star 930W	702	---	---	83	---	---	---	---	---	---	---	7.2	56.6	---	---
Grand Mean	844	---	---	---	---	---	---	---	---	---	---	7.4	50.2	---	---
CV	23	---	---	---	---	---	---	---	---	---	---	5.1	4.8	---	---
LSD (0.05)	325	---	---	---	---	---	---	---	---	---	---	0.6	4.0	---	---

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Table 28. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Miami, OK

Name	Yield (lb/a) ¹			Yield (% of test avg.)		Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)
Corteva Agriscience															
PT264	1170	---	---	109	---	---	---	---	---	---	---	7.5	50.1	---	---
PT271	1771	---	---	166	---	---	---	---	---	---	---	7.7	50.7	---	---
PT275	923	---	---	86	---	---	---	---	---	---	---	7.5	50.2	---	---
PT293	1059	---	---	99	---	---	---	---	---	---	---	7.4	50.7	---	---
PT297	1581	---	---	148	---	---	---	---	---	---	---	7.5	52.5	---	---
PX126	648	---	---	61	---	---	---	---	---	---	---	7.0	50.2	---	---
PX128	1186	---	---	111	---	---	---	---	---	---	---	7.1	50.8	---	---
PX131	818	---	---	76	---	---	---	---	---	---	---	7.0	51.9	---	---
CROPLAN by Winfield															
CP1055WC	775	---	---	72	---	---	---	---	---	---	---	7.0	49.9	---	---
CP1077WC	1268	---	---	119	---	---	---	---	---	---	---	7.9	52.3	---	---
KWS-MOMONT															
Hermione	1400	---	---	131	---	---	---	---	---	---	---	7.3	48.7	---	---
KWS Farry CL	670	---	---	63	---	---	---	---	---	---	---	7.5	48.4	---	---
MH 17HID007	1139	---	---	107	---	---	---	---	---	---	---	8.0	49.1	---	---
Rubisco Seeds															
Plurax CL	566	---	---	53	---	---	---	---	---	---	---	7.0	47.7	---	---
Grand Mean	1070	---	---	---	---	---	---	---	---	---	---	7.4	50.2	---	---
CV	41	---	---	---	---	---	---	---	---	---	---	4.7	8.5	---	---
LSD (0.05)	615	---	---	---	---	---	---	---	---	---	---	0.6	NS	---	---

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Bushland, Texas

Jourdan Bell
Texas A&M University

Planted: 9/24/2020 in 30-in. rows
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Desiccant: None
Harvested: 6/24/2021
Herbicides: Preplant 128 oz/a Roundup PowerMax, 2 pt/a
Insecticides: 4 oz/a Mustang Max
Irrigation: 5.57 in.
Previous crop: fallow
Soil test: P=27 ppm, K=583 ppm, pH=6.5
Fertilizer: None

Soil type: Pantex clay loam Latitude: 35.208474
Elevation: 3825 ft Longitude: -102.060870
Comments: Very good yields and oil contents were reported at this location despite persistent drought conditions.

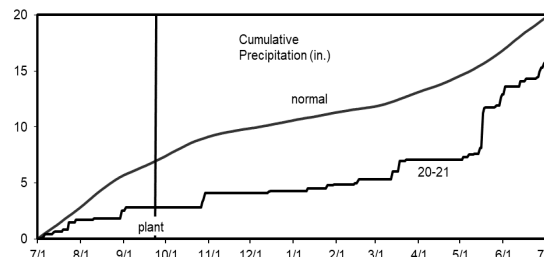
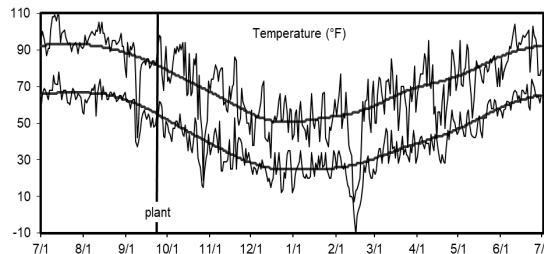


Table 29. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Bushland, TX

Name	Yield (lb/a)			Yield (% of Winter survival test avg.)				Fall stand (0-10)	Shatter (%)	50% bloom (d)	Plant height (in.)	Moisture (%)	Test		
	2021	2020	2-yr.	2021	2020	2-yr.	Weight (lb/bu)						Protein (%)	Oil (%)	
CROPLAN by WinField															
CP225WRR	2201	---	---	105	98	---	---	9.3	5.0	98	46	7.8	45.5	21.4	39.1
CP320WRR	2157	---	---	103	100	---	---	9.5	3.8	102	43	8.0	46.8	20.9	39.6
CP1022WC	1650	---	---	79	100	---	---	10.0	5.0	101	44	10.0	46.1	20.8	39.2
Kansas State University															
KS4719	1929	---	---	92	100	---	---	10.0	6.3	97	53	13.3	46.0	22.1	39.5
Griffin	2193	---	---	105	100	---	---	10.0	3.3	98	46	10.0	41.4	21.2	38.2
Riley	2395	---	---	115	100	---	---	10.0	3.8	101	47	8.2	46.1	21.3	39.6
Surefire	2209	---	---	106	100	---	---	9.8	3.8	99	49	8.8	47.3	22.1	39.1
Wichita	2271	---	---	109	100	---	---	9.8	3.8	97	46	8.5	45.2	23.5	38.3
Ohlde Seed Farms															
Torrington	2265	---	---	108	100	---	---	10.0	5.0	101	53	9.1	46.3	21.9	39.1
Star Specialty Seed															
Star 930W	2067	---	---	99	100	---	---	10.0	3.8	98	46	8.3	43.6	22.6	38.8
Grand Mean	2138	---	---	---	100	---	---	9.8	4.3	99	47	9.2	45.4	21.8	39.0
CV	14	---	---	---	2	---	---	4.4	50.3	4	6	13.5	4.1	1.2	1.5
LSD (0.05)	308	---	---	---	NS	---	---	NS	NS	NS	4	1.9	2.8	0.6	NS

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 30. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Bushland, TX

Name	Yield (lb/a)			Yield (% of test avg.)			Winter survival (%)		Fall stand	Shatter	50% bloom	Plant height	Moisture	Test weight		Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(%)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)	(%)	
Corteva Agriscience																	
PT264	1950	---	---	96	100	---	---	9.5	5.0	101	53	7.4	47.8	19.3	43.4		
PT275	2107	---	---	104	99	---	---	9.5	1.3	99	46	10.9	47.6	20.2	42.6		
PX126	1972	---	---	98	98	---	---	10.0	2.5	101	46	10.4	47.8	19.7	43.6		
PX131	2018	---	---	100	100	---	---	10.0	3.8	98	44	10.3	47.4	19.4	44.6		
CROPLAN by Winfield																	
CP1055WC	2187	---	---	108	100	---	---	9.5	1.3	98	49	11.8	44.3	19.4	41.5		
CP1077WC	1897	---	---	94	100	---	---	9.8	0.0	100	49	12.2	44.7	19.6	42.6		
KWS-MOMONT																	
Hermione	2127	---	---	105	100	---	---	10.0	0.0	99	47	14.2	46.2	19.0	42.8		
KWS Farry CL	2638	---	---	131	100	---	---	9.5	3.8	101	47	8.2	45.3	21.5	41.5		
MH 17HID007	1820	---	---	90	100	---	---	9.8	5.0	99	51	7.8	46.6	20.9	40.9		
Rubisco Seeds																	
Plurax CL	1661	---	---	82	100	---	---	10.0	2.5	99	50	9.2	45.9	19.8	42.3		
Grand Mean	2021	---	---	---	100	---	---	9.8	2.5	99	48	10.3	46.4	19.9	42.6		
CV	11	---	---	---	2	---	---	5.3	80.7	3	4	15.1	5.0	3.0	1.7		
LSD (0.05)	318	---	---	---	NS	---	---	NS	2.9	NS	3	2.3	NS	1.4	1.6		

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Chillicothe, Texas

Emi Kimura
Texas A&M University

Planted: 9/17/2020
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Dessicant: None
Harvested: 6/9/2021
Herbicides: 32 oz/a Treflan
Insecticides: None
Fungicide: None
Previous crop: canola
Soil test: NA
Fertilizer: Topdressed

Soil type: Abilene clay loam
Elevation: 1401 ft
Comments: Spring weather including snow, hail, and thunderstorms reduced yield potential.

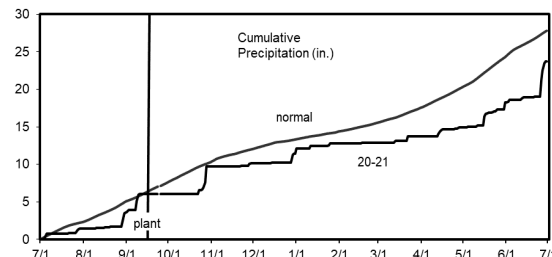
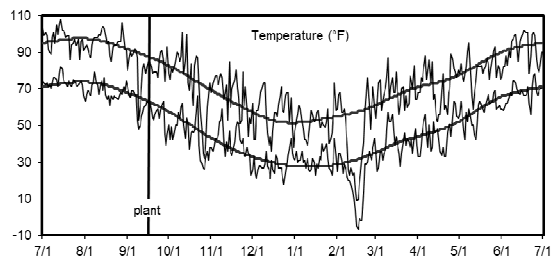


Table 31. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Chillicothe, TX

Name	Yield (lb/a) ¹			Yield (% of test avg.)				Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)		
CROPLAN by WinField																	
CP225WRR	583	---	---	103	83	---	---	9.3	---	---	42	---	---	23.1	39.3		
CP320WRR	525	---	---	93	92	---	---	6.2	---	---	46	---	---	24.8	37.9		
CP1022WC	643	---	---	114	92	---	---	8.3	---	---	44	---	---	24.0	38.1		
Kansas State University																	
KS4662	736	---	---	130	83	---	---	8.8	---	---	46	---	---	22.6	39.3		
KS4677	453	---	---	80	83	---	---	7.0	---	---	47	---	---	23.3	38.8		
KS4719	514	---	---	91	77	---	---	7.3	---	---	40	---	---	22.6	39.3		
KSR4765	748	---	---	132	87	---	---	6.8	---	---	47	---	---	24.3	38.2		
KSR4767	623	---	---	110	87	---	---	7.7	---	---	45	---	---	23.2	39.6		
KSR4844S	571	---	---	101	83	---	---	6.0	---	---	44	---	---	23.0	40.1		
KSR4848	714	---	---	126	85	---	---	8.7	---	---	43	---	---	23.5	38.4		
KSR4854S	583	---	---	103	87	---	---	8.0	---	---	47	---	---	23.2	40.0		
KSUR1212	722	---	---	128	90	---	---	8.2	---	---	47	---	---	25.3	38.0		
Griffin	603	---	---	107	80	---	---	8.0	---	---	46	---	---	23.9	37.1		
Riley	610	---	---	108	70	---	---	7.3	---	---	40	---	---	23.1	39.8		
Surefire	560	---	---	99	77	---	---	6.3	---	---	45	---	---	24.5	38.4		
Wichita	501	---	---	89	80	---	---	7.5	---	---	42	---	---	23.5	38.9		
Ohlde Seed Farms																	
Torrington	500	---	---	88	80	---	---	7.8	---	---	47	---	---	23.8	38.8		
Star Specialty Seed																	
Star 930W	554	---	---	98	90	---	---	8.0	---	---	39	---	---	23.4	38.9		
Grand Mean	597	---	---	---	84	---	---	7.6	---	---	44	---	---	23.6	38.8		
CV	31	---	---	---	10	---	---	2.0	---	---	11	---	---	4.4	2.5		
LSD (0.05)	NS	---	---	---	NS	---	---	NS	---	---	NS	---	---	NS	NS		

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Table 32. Results for the 2021 National Winter Canola Variety Trial, hybrid cultivars, at Chillicothe, TX

Name	Yield (lb/a) ¹			Yield (% of test avg.)			Winter survival (%)		Fall stand	Fall vigor	50% bloom	Plant height	Moisture	Test weight	Protein	Oil
	2021	2020	2-yr.	2021	2020	2-yr.	(0-10)	(1-5)	(d)	(in.)	(%)	(lb/bu)	(%)	(%)	(%)	(%)
Corteva Agriscience																
PT264	950	---	---	168	90	---	---	6.6	---	---	45	---	---	21.6	41.5	
PT271	723	---	---	128	90	---	---	6.7	---	---	46	---	---	24.2	38.2	
PT275	398	---	---	70	88	---	---	6.0	---	---	45	---	---	24.1	38.6	
PT293	587	---	---	104	83	---	---	5.7	---	---	45	---	---	24.1	39.4	
PT297	501	---	---	89	83	---	---	6.0	---	---	49	---	---	22.8	39.1	
PX126	704	---	---	125	88	---	---	6.3	---	---	50	---	---	22.1	40.5	
PX128	658	---	---	117	90	---	---	7.7	---	---	49	---	---	22.1	41.2	
PX131	916	---	---	162	92	---	---	7.8	---	---	46	---	---	22.6	40.3	
CROPLAN by Winfield																
CP1055WC	689	---	---	122	87	---	---	8.0	---	---	45	---	---	22.7	37.2	
CP1077WC	707	---	---	125	90	---	---	7.0	---	---	44	---	---	21.3	39.1	
KWS-MOMONT																
Hermione	761	---	---	135	90	---	---	5.3	---	---	45	---	---	21.8	41.2	
KWS Farry CL	530	---	---	94	87	---	---	6.0	---	---	44	---	---	24.6	37.8	
MH 17HID007	794	---	---	141	88	---	---	7.0	---	---	50	---	---	23.7	37.1	
Rubisco Seeds																
Plurax CL	333	---	---	59	87	---	---	6.0	---	---	45	---	---	23.0	36.6	
Grand Mean	652	---	---	---	88	---	---	6.6	---	---	46	---	---	22.9	39.1	
CV	32	---	---	---	5	---	---	2.5	---	---	7	---	---	4.7	3.2	
LSD (0.05)	291	---	---	---	NS	---	---	NS	---	---	NS	---	---	NS	2.7	

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Creston, Montana

Clint Beiermann
Montana State University

Planted: 8/15/2020 in 6-in. rows
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid 300,000 seeds/a
Desiccant: None
Harvested: 8/11/2021
Herbicides: 351 g ai/a glyphosate
Insecticides: 13.62 g ai/a Lambda-cy
Irrigation: 7.5 in.
Previous crop: spring wheat
Soil test: P=6 ppm, K=93 ppm, pH=7.6
Fertilizer: 186-40-35-20 lb/a N-P-K-S fertilizer in spring

Soil type: Sandy loam Latitude: 48.187028
Elevation: 2950 ft Longitude: -114.140861
Comments: Outstanding yields and oil contents at this location. Only Roundup Ready varieties were planted.

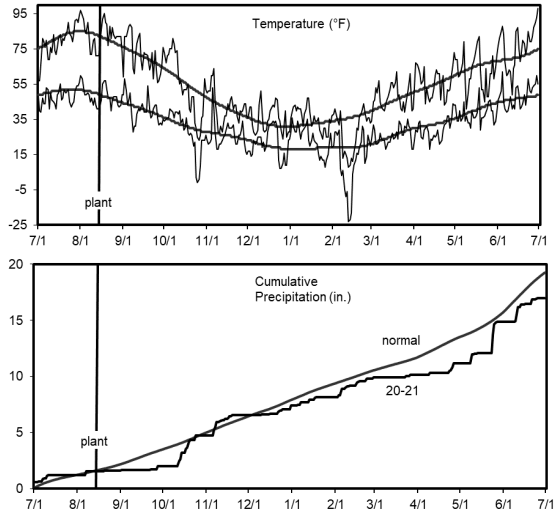


Table 33. Results for the 2021 National Winter Canola Variety Trial, open-pollinated cultivars, at Creston, MT

Name	Yield (lb/a)		Yield (% of test avg.)	Winter survival (%)		50% Shatter bloom ¹		Plant height	Test			
	2021	2020 2-yr.	2021	2021	2020 2-yr.	(%)	(%)	(in.)	Moisture (%)	weight (lb/bu)	Protein (%)	Oil (%)
CROPLAN by Winfield												
CP115WRR	3852	---	92	94	---	9.0	91	44	5.5	47.2	19.4	44.2
CP225WRR	4213	---	100	94	---	9.3	91	45	5.3	47.5	18.9	44.4
CP320WRR	4399	---	105	92	---	7.3	86	44	5.5	44.7	18.7	44.4
Kansas State University												
KSR4765	4350	---	104	90	---	8.8	95	44	5.4	48.1	19.4	43.8
KSR4767	4177	---	99	94	---	6.8	93	47	5.4	47.8	19.3	44.4
KSR4777	4316	---	103	94	---	9.5	97	44	5.4	47.2	18.7	45.3
KSR4843S	4174	---	99	93	---	8.5	83	49	5.4	49.0	18.4	46.3
KSR4844S	4543	---	108	91	---	7.5	92	49	5.5	48.5	18.8	45.8
KSR4848	3947	---	94	89	---	12.8	79	48	5.8	48.0	19.6	44.3
KSR4854S	4046	---	96	92	---	10.5	96	45	5.5	47.1	19.4	44.4
Mean	4202	---	---	92	---	9.0	90	46	5.5	47.5	19.1	44.7
CV	5	---	---	2	---	41.7	7	6	2.7	9.2	2.4	1.1
LSD (0.05)	292	---	---	3	---	NS	9	4	0.2	NS	0.7	0.7

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Percent bloom on 5/21/2021.

Alburgh, Vermont

Heather Darby
University of Vermont

Planted: 8/20/2020 in 6-in. rows
Seeding Rate OP: 500,000 seeds/a
Seeding Rate Hybrid: 300,000 seeds/a
Desiccant: None
Harvested: 7/19/2021
Herbicides: None
Insecticides: None
Fungicide: None
Previous crop: spring barley
Soil test: P=16 ppm, K=104 ppm, pH=7.2
Fertilizer: 50-0-0 lb/a N-P-K fertilizer in spring

Soil type: Benson rocky silt loam Latitude: 44.999983
Elevation: 125 ft Longitude: -73.296330
Comments: Remarkable yields and high oil contents at this location.

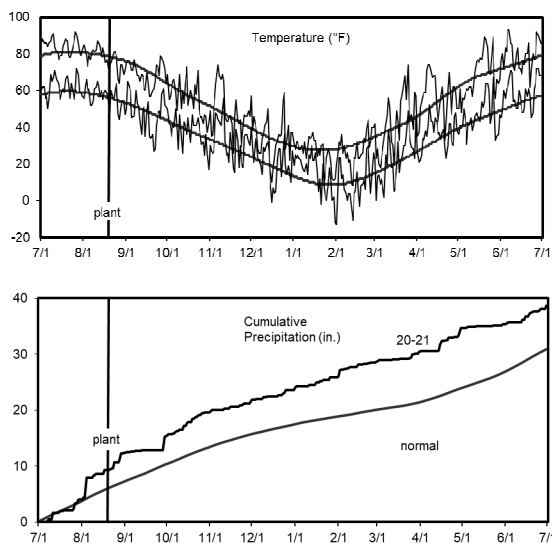


Table 34. Results for the 2021 National Winter Canola Variety Trial at Alburgh, VT

Name	Type ¹	Yield (lb/a) ²			Yield (% of Winter survival test avg.)			Fall			Plant height (in.)	Moisture (%)	Test			
		2021	2020	2-yr.	2021	2020	2-yr.	vigor (1-5)	stand (1-10)	bloo (DOY)			weight (lb/bu)	Protein (%)	Oil (%)	
CROPLAN by Winfield																
CP1022WC	OP	2502	---	---	92	60	---	---	3.3	7.0	135	59	15.0	50.3	21.0	42.7
CP1055WC	H	1187	---	---	44	3	---	---	4.7	8.3	139	53	22.5	44.7	20.5	40.8
CP1077WC	H	1416	---	---	52	5	---	---	4.7	9.3	137	51	19.1	45.7	21.0	41.8
Kansas State University																
KS4662	OP	3265	1198	2232	120	75	44	59	4.7	9.7	132	59	14.2	45.8	20.6	41.4
KS4677	OP	3126	---	---	115	82	---	---	4.3	8.0	134	63	14.3	48.6	19.6	42.0
KS4719	OP	3300	1319	2310	121	88	45	67	3.7	6.3	136	65	15.8	44.8	21.0	41.3
KSUR1212	OP	3022	---	---	111	90	---	---	3.7	8.3	132	61	14.3	48.0	21.0	41.9
Riley	OP	3444	1225	2335	126	60	39	49	3.7	8.0	132	59	15.1	46.7	21.1	42.3
Surefire	OP	3052	1232	2142	112	58	53	55	3.3	9.0	132	60	14.6	47.2	23.2	39.4
Wichita	OP	3068	---	---	113	83	---	---	4.0	7.7	134	62	14.1	48.1	21.5	40.7
KWS-MOMONT																
Hermione	H	1586	---	---	58	14	---	---	4.3	8.3	136	51	21.4	47.0	19.3	44.4
KWS Farry CL	H	3505	---	---	129	63	---	---	4.0	6.7	136	54	16.2	48.0	20.7	41.6
MH 17HID007	H	1213	---	---	44	5	---	---	5.0	9.7	139	42	16.6	46.8	23.0	39.8
Ohlde Seed Farms																
Torrington	OP	3529	1422	2475	129	62	45	53	4.3	9.0	136	58	14.8	48.4	20.9	41.5
Rubisco Seeds																
Plurax CL	H	2776	1336	2056	102	68	45	57	4.0	7.7	135	57	19.1	46.0	18.8	43.4
Mean		2726	1249	---	---	54	47	---	4.1	8.2	135	57	16.2	47.1	20.9	41.7
CV		17	54	---	---	28	52	---	18.7	14.5	2	7	7.6	3.1	5.5	2.6
LSD (0.05)		792	NS	---	---	26	NS	---	NS	2.0	5	7	2.1	2.5	NS	2.3

Bold: Superior LSD group. Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

¹Type: H=hybrid, OP=open pollinated

²Use yield data with caution. A CV greater than 20 indicates higher experimental error. Make variety selection decisions based on more than one year's data.

Table 35. Seed sources for entries in the 2020-2021 National Winter Canola Variety Trial

Source	Type ¹	Trait ²	Release Date	Maturity ³	Source	Type ¹	Trait ²	Release Date	Maturity ³
Corteva Agrisciences Andrew Hopkins (andrew.hopkins@corteva.com)					KWS-MOMONT Marie-Aude Vanhersecke (marie-aude.vanhersecke@kws.com)				
PT264	H	---	---	M	Hermione	H	---	2020	M
PT271	H	---	---	M	MH 17HID007	H	---	---	M
PT275	H	---	---	M	KWS Farry CL	H	CL	2020	M
PT293	H	---	---	M	Ohlde Seed Farms Shane Ohlde (shane@ohldeseed.com)				
PT297	H	---	---	E	Torrington	OP	---	2016	M
PX126	H	SD	---	M	Rubisco Seeds LLC Claire Caldbeck (info@rubiscoseeds.com)				
PX128	H	SD	---	M	Plurax CL	H	CL	2018	M
PX131	H	SD	---	M	Star Specialty Seeds, Inc. Jim Johnson (jimj_star@hotmail.com)				
CROPLAN by WinField Mick Miller (MMiller5@landolakes.com)					Star 930W	OP	RR	2013	ME
CP225WRR	OP	RR/SURT	2010	M					
CP320WRR	OP	RR	2017	E					
CP1022WC	OP	IMI	2020	F					
CP1055WC	H	---	---	M					
CP1077WC	H	---	---	M					
Kansas State University Canola Breeding Program Michael J. Stamm (mjstamm@ksu.edu)									
KS4662	OP	---	---	M					
KS4677	OP	---	---	M					
KS4719	OP	---	2020	F					
KSR4765	OP	RR	---	M					
KSR4767	OP	RR	---	M					
KSR4844S	OP	RR/SURT	---	M					
KSR4848	OP	RR	---	M					
KSR4854S	OP	RR/SURT	---	M					
KSUR1212	OP	SU	---	M					
Griffin	OP	---	2011	M					
Riley	OP	---	2010	M					
Surefire	OP	SU	2017	MF					
Wichita	OP	---	1999	M					

¹OP=open pollinated. H=hybrid.

²CL=Clearfield (imidazolinone resistant). IMI=imidazolinone carryover tolerant. RR=Roundup Ready (glyphosate resistant). SD=semi-dwarf hybrid. SU and SURT=sulfonylurea carryover tolerant.

³E=Early. ME=Medium early. M=Medium. MF=Medium full. F=Full.

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