NDSU North Central Research Extension Center, Minot
2017 Oil Sunflower Row Spacing and Seeding Rate Trial at Minot

Row Spacing	Seeding Rate	Plant Stand	Days to 50% Blm	Days to Mature	Plant Height	Harvest Moisture	Oil Content	Test Weight	Yield
	seeds/A	plants/A	DAP*	DAP*	inches	%	%	lbs/bu	lbs/A
30"	15,000	11,616	55	112	70	14.6	39.4	30.1	2662
	20,000	14,672	54	112	70	15.0	39.2	30.2	2626
	25,000	15,896	59	112	69	12.8	43.6	31.3	2777
	30,000	15,361	62	111	69	13.3	42.5	31.0	2814
30" Twin Row	15,000	13,527	62	112	69	14.8	41.9	31.0	2463
	20,000	15,819	63	112	69	14.1	42.0	31.6	2856
	25,000	18,494	64	111	69	11.8	43.4	30.7	2526
	30,000	20,404	65	112	69	12.7	43.6	31.5	3099
15"	15,000	11,998	58	112	70	15.1	41.5	30.7	2774
	20,000	15,819	59	113	71	15.3	40.9	30.9	2825
	25,000	20,863	61	112	70	14.6	41.9	31.3	2809
	30,000	21,704	62	112	70	16.0	42.0	31.2	3680
C.V.%		7.4	1.2	0.5	3.0	13.6	3.0	2.5	6.2
LSD 5%		2,028	1	1	NS	NS	2.1	NS	299

Combined Means-Row Spacing

Row Spacing	Plant Stand	Days to 50% Blm	Days to Mature	Plant Height	Harvest Moisture	Oil Content	Test Weight	Yield
	plants/A	DAP*	DAP*	inches	%	%	lbs/bu	lbs/A
30"	14,195	57	112	70	13.9	41.2	30.7	2720
30" Twin Row	17,061	64	112	69	13.4	42.8	31.2	2736
15"	17,596	60	112	70	15.2	41.6	31.0	3022
LSD 5%	2,726	2	NS	NS	1.6	1.4	NS	271

Combined Means-Seeding Rates

Seeding Rate	Plant Stand	Days to 50% Blm	Days to Mature	Plant Height	Harvest Moisture	Oil Content	Test Weight	Yield
seeds/A	plants/A	DAP*	DAP*	inches	%	%	lbs/bu	lbs/A
15,000	12,380	58	112	70	14.8	40.9	30.6	2633
20,000	15,182	59	112	70	14.8	40.7	30.9	2769
25,000	18,417	62	112	70	13.1	43.0	31.1	2704
30,000	19,156	63	112	69	14.0	42.7	31.2	3198
LSD 5%	2,148	3	NS	NS	NS	1.4	NS	263

**Days after planting.* *NS = No statistical difference between treatments.*

Planting Date: May 23
Harvest Date: October 22
Soil Type: Williams Loam
Hybrid: Croplan 458E
Previous Crop: Barley
Oil, test weight and yield are adjusted to 10% moisture.

2017 Oil Sunflower Row Spacing and Seeding Rate Trial at Minot—Continued

Summary: The main objective of this trial was to compare 15", 30" and 30" twin row configurations using four different seeding rates. The trial was planted with a SRES small plot planter using Great Plains no-till openers and Monosem seed singulation meters. The twin row configuration consists of 10 inch paired rows that are planted on 30 inch centers. This row configuration is common with some crops such as peanut and corn in some regions of the country. 15" and twin row configurations allow for more plant to plant growing space within each row compared to 30" single rows. Average plant stands were significantly higher for twin rows and 15" rows compared to 30" rows however, these differences did not correlate with yield. 15" rows produced significantly higher yields than 30" and twin rows for each seeding rate. Higher seeding rates produced higher oil content but only the 30,000 seeding rate produced higher yields than the other rates. In conclusion, sunflowers are known for their ability to flex their head size according to plant populations and growing conditions, and this ability was expressed in this trial. Higher plant populations produce smaller heads which dry down more quickly and tend to have less lodging. 15" rows provide more evenly spaced plants which utilize moisture and nutrients more effectively and canopy more quickly, providing better weed control. This trial will need to be repeated in order to verify these findings.

NDSU North Central Research Extension Center
2017 Carinata Variety Trial at Minot

Variety	Days to Bloom	Bloom Duration	Days to Maturity	Plant Height	Lodging	Seed Shatter	----- Seed Yield ----- 2016	2017	Avg.
	DAP[1]	days	DAP[1]	inches	0-9[2]	1-7[3]	---------- lbs/A ----------		
AAC-A120	47	27	90	31	0	1	2449	1465	1957
Invigor L140P canola	46	22	86	39	0	1	3272	1703	2488
HyClass 930 canola	44	23	85	36	0	3	--	1545	
Trial Mean	49	25	91	32	0	2	2392	1368	--
C.V.%	2.0	4.9	1.6	7.6	0	32	5.3	15.4	--
LSD 5%	2	2	2	4	NS	1	229	NS	--
LSD 10%	1	2	2	3	NS	1	186	NS	--

[1] DAP = Days after planting. *[2] Lodging: 0 = none, 9 = lying flat on the ground.*

[3] Seed Shatter: 1 = none, 7 = completely shattered.

NS = no statistical difference between varieties.

Trial was planted on May 2 with a seeding rate of 8 lbs/A and harvested on August 21.

Previous Crop: 2015 = soybean, 2016 = hrsw.

Tillage System: Transitional No-till (2nd Year)

Soil Type: Williams Loam