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North Dakota Flax

Variety Trial Results for 2025 and Selection Guide

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In 2025, North Dakota saw a sharp rebound in flax planting: acreage reportedly jumped from roughly 92,000 acres in 2024 to about 275,000 acres in 2025, making flax once again a major crop in the state. However, with the return to larger flax acreage, growers are facing renewed agronomic challenges. Because flax is a "poor competitor with weeds," fields that are not extremely clean or that have delayed weed control risk yield losses from weed competition — a problem that becomes more critical as acreage expands. Harvest and handling issues also remain a concern: flax seeds and straw tend to dry unevenly, and poor threshing or drying can lead to high dockage (often 5%-10%), seed loss and reduced test weight if combines aren't adjusted properly. Moisture at harvest — especially in late-sown or late-maturing fields — can make threshing difficult, increase seed spoilage or dockage and complicate storage. Additionally, because flax performs best with long rotations (e.g., once every three-plus years on the same land) to avoid disease and soil-borne issues, the recent surge in acreage raises concern over potential disease-pressure build-up — particularly in areas where rotation cycles tighten or where flax is sown more frequently. In short, while 2025's expanded flax acreage in North Dakota shows renewed grower interest and demand, the combination of weed pressure, harvest/handling sensitivity, moisture risk at harvest and increased reliance on tight rotations makes agronomic management and careful field selection more critical than ever.

This selection guide summarizes flax variety performance at the various North Dakota State University Research Extension Centers. Give special attention to flax yield results of those trials nearest to your production area when evaluating varieties in these trials. Also, attempt to view yield averages of several years rather than using only one year's data as a determining factor. In addition, consider other agronomic characteristics — such as maturity, disease tolerance, lodging score and oil percentages — if available.

The agronomic data presented are from replicated research plots using experimental designs that enable the use of statistical analysis. The least significant difference numbers beneath the columns in tables are derived from the statistical analyses. If the difference between two varieties exceeds the LSD value, it means that with 95% or 90% probability (LSD 0.05 or 0.10), the higher-yielding variety has a significant yield advantage. If the difference between two varieties is less than the LSD value, then the variety yields are considered similar.

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Fargo, North Dakota

The coefficient of variation is a measure of variability in the trial and is expressed as a percentage. Large CVs mean a large amount of variation that could not be attributed to differences in the varieties. Only compare values within the table and look for trends for the desired trait among different experimental sites and years.

Oil content and harvested seed yield were adjusted to 9% moisture. The oil content data are not intended to be compared between locations.

Variety trial data from all NDSU Research Extension Centers for all crops can be found at *www.ag.ndsu.edu/varietytrials* and the variety selection tool at *https://vt.ag.ndsu.edu/*.

Research specialists and technicians contributed to the fieldwork and data compilation. Administrative assistants contributed in entering data into the respective sections of this document. We greatly appreciate the assistance provided by everyone involved.

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Table 1. Flax **Langdon**

Variety	Days to Flowering	Days to Maturity	Plant Height	Lodging	Test Weight	Oil Content	Yield 2023	Yield 2024	Yield 2025	Yield 2-yr Avg.	Yield 3-yr Avg.
	days	days	inches	1 - 9	lb/bu	%	bu/a				
AAC Bright[1]	48	104	32	2	41.7	43	31.9	36.0	28.1	32.0	32.0
AAC Marvelous	48	105	32	1	46.0	42	30.1	39.2	30.9	35.1	33.4
Carter[1]	45	105	29	1	47.1	40	34.5	35.1	31.4	33.3	33.7
CDC Dorado[1]	44	106	28	2	44.4	42	30.2	32.1	25.2	28.7	29.2
CDC Glas	48	104	33	1	42.7	42	28.1	39.2	27.9	33.5	31.7
CDC Kernen	46	105	33	2	44.6	41	22.9	35.3	20.9	28.1	26.4
CDC Neela	47	104	32	2	47.0	40	34.7	37.7	31.0	34.3	34.4
CDC Rowland	47	105	32	1	44.6	41	35.2	42.3	32.4	37.4	36.6
Gold ND[1]	47	105	33	3	45.1	39	31.6	38.8	26.9	32.8	32.4
ND Hammond	47	104	31	2	43.5	40	31.4	35.7	27.4	31.5	31.5
Omega[1]	45	105	32	3	44.4	40	31.0	33.7	24.2	28.9	29.6
Webster	48	104	33	2	45.6	40	30.6	38.7	28.4	33.6	32.6
York	46	106	31	2	46.7	40	34.7	39.8	30.9	35.3	35.1
Trial Mean	46.8	105	31	2	47.7	40.4	32.1	37.4	28.2	--	--
CV (%)	1.4	0.6	5.5		1.9	1.4	8.3	8.5	14.6	--	--
LSD (10%)	0.8	0.8	2.1	1.3	1.1	0.7	4.9	3.7	4.9	--	--

Planting Date: May 30

Harvest Date: October 24

Soil Type: Svea-Barnes Loam

Previous Crop: Soybean

[1]Yellow seed color

Data includes only released varieties. Experimental lines are not included. Statistics reflect the entire trial.

Table 2. Flax **Carrington**

Variety	Plant Height	Flowering	Days to Maturity	Oil Content	Test Weight	Yield 2023	Yield 2-yr. Avg.	Yield 3-yr. Avg.
	inches	days	days	%	lb/bu	bu/a	bu/a	bu/a
AAC Marvelous	25	47	90	39.4	42.9	31.1	25.7	27.5
CDC Glass	25	47	90	39.3	40.6	30.9	24.6	26.7
CDC Kernen	25	47	90	37.6	38.6	29.5	23.3	25.4
CDC Neela	26	50	90	38.1	42.4	30.2	28.0	28.7
CDC Rowland	27	49	91	38.3	41.1	26.1	27.6	27.1
ND Hammond	26	46	90	37.9	42.2	28.1	25.3	26.3
TCG-Webster	28	46	91	38.4	43.4	27.7	27.1	27.3
York	26	44	90	37.6	44.5	31.9	27.1	28.7
Linore	27	46	91	37.1	45.9		--	--
AAC Bright[1]	24	44	88	40.8	39.0	31.0	21.6	24.7
CDC Dorado[1]	23	41	85	38.8	37.8		15.2	--
Carter[1]	24	45	90	37.1	47.6	30.1	27.9	28.6
Gold ND[1]	25	44	89	37.2	43.9	27.9	26.6	27.0
Omega[1]	22	46	87	37.4	42.2	28.6	20.1	23.0
Avian[2]*	35	48	92	--	40.7		--	--
Trial Mean	26	46	90	38.1	43.0	28.3	--	--
CV (%)	4	2	1	1.2	2.3	10.5	--	--
LSD (10%)	1	2	1	0.6	1.3	2.7	--	--

Planting Date = May 29; Harvest Date = September 24; Previous Crop = Hay barley

*Excluded from statistics since different market class.

[1] Yellow seed type

[2] Fiber seed type

Table 3. Flax **Hettinger**

Variety	Days to Flowering	Plant Height	Test Weight	Oil Content	-------Grain Yield-------- 2023	2024	2025	Average Yield 2-Yr	3-Yr
	days	inches	lb/bu	%	---------- bu/a ----------				
AAC Bright[1]	53	22	49.8	37.2	31.9	16.8	24.8	20.8	24.5
AAC Marvelous	52	21	51.0	37.4	29.9	18.8	28.8	23.8	25.8
Carter [1]	52	22	51.3	36.0	27.9	15.1	25.5	20.3	22.8
CDC Dorado [1]	50	20	50.7	37.5	30.9	14.2	25.9	20.0	23.6
CDC Glas	52	22	50.8	37.2	31.1	16.9	28.2	22.5	25.4
CDC Kernen	51	22	51.1	37.5	31.9	18.4	28.6	23.5	26.3
CDC Neela	52	23	51.4	37.3	35.8	18.9	31.4	25.2	28.7
CDC Rowland	52	21	50.7	36.8	34.3	15.8	28.9	22.4	26.4
Gold ND [1]	53	23	51.6	35.2	30.0	17.6	26.7	22.1	24.7
ND Hammond	52	22	50.1	36.7	28.5	16.2	23.8	20.0	22.8
Omega [1]	53	23	51.4	35.7	29.3	14.7	26.2	20.4	23.4
Webster	52	24	51.3	36.8	30.1	16.7	30.1	23.4	25.6
York	51	23	51.5	37.0	32.2	17.2	31.8	24.5	27.1
Trial Mean	52	22	51.0	36.7	30.3	16.7	28.0	22.3	25.4
CV (%)	0.9	4.3	0.5	0.5	10.4	12.0	6.2	--	--
LSD (10%)	0.4	0.9	0.2	0.2	2.9	1.8	1.6	--	--

[1] Yellow seed type

Lodging notes were taken at harvest, however no lodging was observed

Planting Date: May 12

Harvest Date: September 12

Previous Crop: Canola

Table 4. Flax - Recrop **Dickinson**

Variety	Days to Flowering	Days to Maturity	Plant Height	Test Weight	Oil Content	-- Grain Yield-- 2023	2024	2025	Average Yield 2 Year	3 Year
	days	days	inches	lb/bu	%	------bu/a------			----bu/a----	
AAC Marvelous	59	103	24	54.7	38.0	28.4	22.7	38.2	30.5	29.8
CDC Glass	58	99	26	53.9	37.0	28.4	21.8	39.0	30.4	29.8
CDC Kernen	56	96	25	54.6	37.9	31.5	20.7	37.9	29.3	30.0
CDC Neela	57	100	26	54.6	37.4	29.0	21.3	37.9	29.6	29.4
CDC Rowland	58	99	25	54.7	36.8	28.5	21.5	34.9	28.2	28.3
ND Hammond	58	100	25	54.3	36.2	27.2	19.1	34.4	26.8	26.9
Webster	56	98	26	54.8	36.9	27.1	19.9	37.8	28.8	28.3
York	55	100	27	54.6	37.1	26.6	18.7	40.9	29.8	28.7
AAC Bright[1]	57	98	25	53.2	36.9	24.2	22.1	36.8	29.4	27.7
CDC Dorado[1]	54	99	24	54.1	37.9	25.8	20.6	27.2	23.9	24.5
Carter[1]	56	99	24	55.0	36.3	27.6	20.2	30.3	25.2	26.0
Gold ND[1]	56	101	26	54.8	35.6	29.1	19.7	34.6	27.2	27.8
Omega[1]	55	98	25	55.0	35.5	25.2	20.5	33.5	27.0	26.4
Trial Mean	57	100	25	54.5	36.9	28.1	20.6	36.1	--	--
CV (%)	1.6	2.5	6.1	0.4	1.1	12.3	10.6	10.0	--	--
LSD (10%)	1	3	2	0.2	0.4	3.7	2.3	3.9	--	--

Planting Date: April 29, 2025

Harvest Date: August 27, 2025

Previous Crop: oat hay

No Lodging observed

Oil content reported on 9% moisture basis

[1] Yellow seed type.

Table 5. Flax - Irrigated	Nesson, Ray, ND

Variety	Days to Flowering	Plant Height	Oil	Test Weight	Grain Yield
	days	inches	%	lb/bu	bu/a
AAC Bright[1]	56.4	23.5	47.7	49.2	30.8
AAC Marvelous[1]	55.2	26.1	47.5	51.3	35.9
Carter[1]	53.2	22.7	44.5	52.5	33.9
CDC Dorado[1]	53.8	22.0	44.1	50.4	26.3
CDC Glass	55.2	27.0	44.4	49.4	36.8
CDC Kernen	55.1	22.7	45.3	50.6	27.5
CDC Neela	55.6	23.8	45.5	52.6	36.9
CDC Rowland	55.0	25.6	45.0	50.2	29.5
Gold ND[1]	55.0	25.5	45.7	50.9	26.9
ND Hammond	55.7	25.8	44.7	50.6	32.8
Omega[1]	54.9	25.3	44.9	52.7	29.3
Webster	55.0	24.7	45.7	52.1	31.6
York	53.9	23.9	43.8	50.5	33.4
Trial Mean	54.9	24.3	45.4	51.8	32.1
CV (%)	1.5	6.7	1.3	1.1	12.1
LSD (10%)	2.0	3.8	1.4	1.3	9.1

Planting Date: 5/6/2025
Harvest Date: 9/24/2025
Previous Crop: Spring Wheat
[1] Yellow seed type

Table 6. Flax	Minot

Variety	Days to Flowering	Plant Height	Lodging	Test Weight	Oil Content	Yield
	days	inches	1 to 9**	lb/bu	%	bu/a
AAC Bright[1]	50	23	1	52.5	39.0	17.5
AAC Marvelous	50	22	1	54.4	39.7	21.8
Carter[1]	50	22	1	54.0	37.0	14.9
CDC Dorado[1]	51	24	1	52.6	38.3	18.3
CDC Glass	51	23	1	52.9	38.6	19.6
CDC Kernen	51	23	1	54.1	39.5	19.7
CDC Neela	50	21	1	53.8	38.8	20.6
CDC Rowland	50	23	1	54.2	38.8	23.4
Gold ND[1]	50	21	1	54.5	36.9	21.3
ND Hammond	50	22	1	53.9	39.2	19.4
Omega	50	22	1	54.5	37.3	17.6
Webster	50	21	1	54.1	39.1	24.5
York	51	21	1	54.2	38.1	20.3
Trial Mean	50	22	1	54.0	38.4	20.3
CV (%)	2.1	10.4	--	0.7	1.7	6.6
LSD (10%)	1	3	--	0.5	0.9	1.8

**Lodging: 0 = none, 9 = lying flat on the ground.
Planting date: May 12, 2025
Harvest date: September 9, 2025
Seeding rate: 3 million live seeds/acre
Previous crop: HRSW
Tillage system: no-till
Soil type: Williams loam
[1] Yellow seed type

For more information on this and other topics, see www.ndsu.edu/extension

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