

2014 Nitrogen Fertility and Fungicide Interactions in Flax at Minot

This trial was designed to investigate interactions between levels of nitrogen fertility and the timing of fungicide applications on flax in order to define optimal production practices with these inputs.

N Fert Levels	Fungicide Timing ^b	Days to Bloom	Days to Mature	Plant Height	Lodging	Test Weight	Oil Content	Yield
lbs N / A ^a		DAP ^c	DAP ^c	inches	0-9 ^d	lbs/bu	%	bu/A
25	untreated	55	96	31	1.5	52.4	41.9	22.3
	w / herb	55	97	29	0.8	52.5	42.9	21.2
	10% blm	55	95	30	0.0	53.3	43.9	23.8
	100% blm	54	96	31	0.5	53.9	43.9	20.8
75	untreated	55	98	30	0.8	53.6	42.7	24.1
	w / herb	55	96	30	0.3	53.4	42.4	23.7
	10% blm	55	96	32	0.5	52.9	43.3	25.8
	100% blm	55	97	30	0.5	53.8	43.0	32.4
125	untreated	55	102	32	2.5	53.0	41.7	23.9
	w / herb	55	101	30	1.5	53.1	41.1	21.5
	10% blm	55	99	30	1.0	52.6	42.3	23.9
	100% blm	55	100	31	1.3	52.7	42.4	25.6
C.V.%		1	2	4.4	141	1.4	2.8	9.7
LSD 10%		NS	2	2	1.5	0.9	1.4	2.8

Nitrogen Fertility Comparisons

N Fert Levels	Days to Bloom	Days to Mature	Plant Height	Lodging	Test Weight	Oil Content	Yield
lbs N / A ^a	DAP ^c	DAP ^c	inches	0-9 ^d	lbs/bu	%	lbs/A
25	54	96	30	0.7	53.0	43.1	22.0
75	55	97	31	0.5	53.4	42.8	26.5
125	55	100	31	1.6	52.9	41.9	23.7
LSD 10%	NS	1	NS	0.7	NS	0.7	1.9

Timing of Fungicide Application Comparisons

Fungicide Timing ^b	Days to Bloom	Days to Mature	Plant Height	Lodging	Test Weight	Oil Content	Yield
	DAP ^c	DAP ^c	inches	0-9 ^d	lbs/bu	%	lbs/A
Untreated	55	98	31	1.5	53.0	42.1	23.4
w/herb	55	98	30	0.8	53.0	42.1	22.1
10% blm	55	97	30	0.5	53.0	43.2	24.5
100% blm	55	98	31	0.8	53.5	43.1	26.3
LSD 10%	NS	NS	NS	0.9	NS	0.9	2.4

^a Nitrogen fertility levels = residual soil N + lbs of actual N applied as urea (46-0-0) prior to planting.

^b Fungicide Timing: 8 oz/A Headline applied with grass herbicide, at 10% bloom and at full bloom.

^c DAP = days after planting.

^d Lodging: 0 = none, 9 = lying flat on the ground.

NS= no statistical difference.

Planting Date: May 27

Variety = York

Planting Rate: 40 lbs/A

Harvest Date: October 8

Previous Crop: spring wheat

Soil Type: Williams Loam

Conclusions: Interactions between nitrogen fertility levels and the timing of fungicide applications were not detected and therefore these inputs should be managed independently. High levels of nitrogen caused delays in crop maturity, increased lodging, had lower levels of oil and did not enhance yields over the lower nitrogen levels. The timing of fungicide applications appear to have had an effect on oil content with slightly increased levels when Headline was applied during flowering. A fungicide application at 100% bloom enhanced yields over the untreated check by 12%.