

North Central Research Extension Center—Minot Field Pea Fungicide X Variety Trial

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Objective:

This trial was conducted to evaluate yield and test weight of selected field pea varieties as affected by an early-flower fungicide application.

Trial Description:

The field was located on the North Central Research Extension Center south of Minot. Twelve field pea varieties were sown on May 13 into wheat stubble that had been chisel plowed prior to seeding. Each variety was sown at 350,000 PLS/acre using a plot-drill with double disc openers on six inch spacing. Two plots were sown for each variety, one plot to receive fungicide treatment and one to be left untreated. Plots were 5 feet wide by 16 feet long and treatments were replicated three times. Granular inoculum was placed with the seed at a rate of 5 lb/acre. Weed control consisted of 24 fl oz/a generic glyphosate + 4 fl oz/a Spartan PRE; 1.6 pt/a Rezult + 1 pt/a MSO POST; 2 pt/a Gramoxone INTEON + .25% v/v NIS Pre-Harvest. Plots receiving fungicide were treated with 6 fl oz/acre of Headline applied at 30 – 50% flower using a CO₂ pressurized hand-boom calibrated to deliver 20 gallons per acre through twin jet nozzles. The trial was harvested with a plot combine on August 10th.

Results/Discussion:

Disease levels were quite low 14 days after fungicide treatment and visual evaluation was inconclusive; therefore disease data are not presented. Despite the low disease levels a trend for yield increase from fungicide is apparent with Tudor showing a significant increase and an overall increase of 5.1 bushels per acre with fungicide versus no-fungicide across all varieties. However, statistical analysis of the individual factors revealed the difference between fungicide and no fungicide across all varieties to be non-significant (P=0.05). A significant difference between varieties was detected and is contributing to the differences observed when comparing all treatment means. The trend for higher yields in fungicide treated plots could possibly be attributed to control of late-developing fungal disease brought on by warmer, wetter conditions during the seed set and pod-fill stages. Test weight within varieties was not affected by fungicide.

		Yield						Test Weight	
		No Fungicide		Fungicide		Combined			
Variety	Market Class	Bu/acre	Rank	Bu/acre	Rank	Bu/acre	Rank	lb/bushel	Rank
Spider	Yellow	51.8	1	52.1	3	52.0	1.0	65.1	2.0
CDC Meadow	Yellow	48.4	2	52.3	2	50.4	2.0	64.4	8.0
Agassiz	Yellow	47.2	3	52.0	4	49.6	3.0	64.2	10.0
CDC Golden	Yellow	45.0	5	54.1	1	49.6	4.0	64.6	5.0
Thunderbird	Yellow	45.0	6	51.8	5	48.4	5.0	64.5	7.0
CDC Striker	Green	45.1	4	48.1	8	46.6	6.0	64.8	3.0
DS-Admiral	Yellow	43.9	7	48.6	7	46.3	7.0	64.3	9.0
Tudor	Yellow	40.7	9	49.0	6	44.9	8.0	65.2	1.0
Aragorn	Green	42.6	8	46.1	9	44.4	9.0	63.5	12.0
Majoret	Green	40.5	10	45.6	10	43.1	10.0	64.5	6.0
K2	Green	37.7	11	44.9	11	41.3	11.0	64.1	11.0
Noble	Yellow	29.0	12	33.4	12	31.2	12.0	64.7	4.0
Average		43.1		48.2		45.6		64.5	
LSD(0.05)		8.6				6.0		1.1	
CV		11.4						1	

Soil test: (N),(S) @ 0-6",6-24"=(24,108),(21,813)lb/a; (P),(K) @ 0-6"= (14),(380)ppm, O.M.=3.7%, pH = 6.0.