

WHEAT (<i>Triticum aestivum</i> 'CDC Buteo') Target diseases: <i>Telletia caries</i> <i>Ustilago</i> spp. <i>Fusarium</i> spp.	R.O. Ashley, G. Martin and J. Ransom Dickinson Research Extension Center Dickinson, ND 58601 NDSU, Fargo, ND 58105
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Performance of Vincit seed treatments at Dickinson, ND, 2007.

This experiment was conducted in a field located near Dickinson, ND (NW ¼, Section 12, T141N, R96W). The previous crop was hard red spring wheat. Roundup UltraMax (Glyphosate) was applied 20 Sep to control emerged volunteer wheat and weeds. Prior to seeding, seed was treated with Raxil MD, Vincit Minima + Thiram, Vincit F, and Vincit FS at NDSU, Fargo, ND. Untreated seed was used as a check. Plots were seeded with a drill equipped with Cross-slot™ openers on 3 Oct 2006 at the rate of 198 pls yd². As the seed was planted ½ cup of ground *Telletia caries* infected wheat was poured through the seed divider on top of seed on top of the cones to infect the seed. Monoammonium phosphate (11-52-0) was placed in a separate band at the rate of 186 lb A⁻¹ at seeding time. Urea was broadcast applied at the rate of 90 lbs a⁻¹ on 16 Oct. A post emergent herbicide and foliar fungicide application of Maestro D @ 16 oz per acre (Bromoxnyl @ 2lb/gallon + 2,4-D @ 1.9 lb/gallon) + LV6 @ 5.3 fl oz/acre + Affinity @ 1/2 fl oz/acre + Headline Fungicide @ 3 fl oz/acre + Libreate Spray Adjuvant @ 16fl oz/100 gallons of spray solution applied at the rate of 10 gallons/acre of spray solution was applied on 05 May when the crop was at Zadoks growth stage 30. Initial plant counts were made when approximately 50% of the plants emerged in the untreated plots and again in the spring. Initial plant evaluations at tillering and root and crown evaluations at soft dough. Precipitation at the Dickinson Research Extension Center weather station in April, May, June, and July was 90, 182, 45, and 42 % of normal respectively. The average maximum temperature for the same months was 94, 97, 101, and 108 % of normal respectively. Harvest was with a Massy Ferguson 8 XP combine on 3 Aug. Grain yield, test weight, and protein were adjusted to a 12% moisture basis. Bunted kernels in a 50 g grain sample from each plot were counted after harvest. All data was statistically analyzed using SAS Statistical Software.

No-significant differences in plant length, seminal and crown root counts, and root mass were detected but seed treatments tended to increase plant length, root counts, root mass and testweight. Seed treatments decreased the severity of bunt as indicated by post harvest bunt kernel counts and increased yield.

Seed Treatment	Yield	Test weight	Bunt
	bu/a	lb/bu	kernels/g
Check	44.2	54.0	0.925
Vincit Minima 3.07 fl oz/cwt + Thiram 1.92 fl oz/cwt	51.3	54.9	0.145
Vincit Minima 3.07 fl oz/cwt + Thiram 3.3 fl oz/cwt	47.1	54.6	0.135
Vincit F 3.07 fl oz/cwt	46.5	55.0	0.390
Vincit FS 3.07 fl oz/cwt	51.0	56.1	0.025
Raxil MD 5.0 fl oz/cwt	42.9	53.0	1.255
Mean	46.8	54.6	0.479
CV	9.9	4.27	88.9
LSD .05	14.2	3.5	0.642
SE	2.3206	1.1651	0.21298
Rep F Prob	0.0710	0.0462	0.7641
Trt F Prob	0.0471	0.5619	0.0045

Performance of Vincit seed treatments at Dickinson, ND, 2007.

Treatment	----- Initial plant evaluation -----					
	Plant length	Stage	Tiller	SCI ¹	Root count	
	mm	Zadoks	no plant ⁻¹		no plant ⁻¹	no plant ⁻¹
Check	410.9	32.1	4.1	1.0	4.8	14.0
Vincit Minima 3.07 fl oz/cwt + Thiram 1.92 fl oz/cwt	471.2	32.2	4.2	1.0	5.2	15.7
Vincit Minima 3.07 fl oz/cwt + Thiram 3.3 fl oz/cwt	450.4	32.0	5.0	1.0	5.6	16.9
Vincit F 3.07 fl oz/cwt	450.0	32.1	4.1	1.0	5.0	14.6
Vincit FS 3.07 fl oz/cwt	444.4	32.1	4.4	1.0	5.0	15.7
Raxil MD 5.0 fl oz/cwt	473.1	32.2	4.4	1.0	5.2	15.2
Mean	450.0	32.1	4.4	1.0	5.1	15.3
CV%	5.9	0.597	12.9	0.0	11.8	11.8
LSD.05	40.3	0.3	0.8	0.0	0.9	2.7
SE	13.4	0.1	0.3	0.0	0.3	0.9
Rep F Prob	<0.0001	0.0002	<0.0001	-	0.0002	<0.0001
Trt F Prob	0.053	0.749	0.2859	-	0.5381	0.3323

¹ SCI = Subcrown internode rating, 1 = 0 to 25% covered with lesions, 2 = 25 to 50% covered with lesions, 3 = 50 to 75% covered with lesions and 4 = 75 to 100% covered with lesions.

Treatment	- Soft dough root evaluation -		
	---- Root ---		
	Color	Mass	SCI ¹
Check	1.2	2.2	1.0
Vincit Minima 3.07 fl oz/cwt + Thiram 1.92 fl oz/cwt	1.2	2.4	1.0
Vincit Minima 3.07 fl oz/cwt + Thiram 3.3 fl oz/cwt	1.2	2.4	1.1
Vincit F 3.07 fl oz/cwt	1.3	2.6	1.0
Vincit FS 3.07 fl oz/cwt	1.2	2.4	1.1
Raxil MD 5.0 fl oz/cwt	1.3	2.2	1.1
Mean	1.2	2.4	1.0
CV%	12.5	12.3	5.1
LSD.05	0.2	0.4	0.1
SE	0.1	0.1	0.0
Rep F Prob	0.0834	0.0458	0.1787
Trt F Prob	0.875	0.3926	0.098

¹ SCI = Subcrown internode rating, 1 = 0 to 25% covered with lesions, 2 = 25 to 50% covered with lesions, 3 = 50 to 75% covered with lesions and 4 = 75 to 100% covered with lesions.

Performance of Vincit seed treatments at Dickinson, ND, 2007.

Treatment	Plant density no m ⁻²
Check	184.4
Vincit Minima 3.07 fl oz/cwt + Thiram 1.92 fl oz/cwt	186.9
Vincit Minima 3.07 fl oz/cwt + Thiram 3.3 fl oz/cwt	178.6
Vincit F 3.07 fl oz/cwt	173.3
Vincit FS 3.07 fl oz/cwt	197.7
Raxil MD 5.0 fl oz/cwt	161.8
Mean	180.5
CV%	9.48
LSD.05	25.78
SE	8.55
Rep F Prob	0.1165
Trt F Prob	0.127