

Wheat (<i>Triticum aestivum</i> 'Parshall') Target diseases: <i>Fusarium</i> spp. <i>Pythium</i> spp. <i>Bipolaris sorokiniana</i>	R.O. Ashley, G. Martin, and J. Ransom Dickinson Research Extension Center Dickinson, ND 58601 NDSU, Fargo, ND 58105
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Vincit seed treatments on HRSW near Taylor, ND, 2007

This experiment was conducted in a field located near Taylor, ND (NW ¼, Section 1, T138N, R95W – Stark County, ND). The previous crop was wheat in 2006. Urea at the rate of 150 lbs/acre was broadcast applied on 16 Apr. Prior to seeding, seed was treated with Vincit Minima + Thiram, Vincit F, Vincit FS, or Raxil MD. Untreated seed was used as a check. Plots were seeded with a drill equipped with Cross-slot openers on 2 May 2007 at the rate of 240 pls m⁻². A post emergent herbicide and foliar fungicide application of Harmony GT XP @ 0.5 oz/acre + Bronate Advance @ 16.0 fl oz/acre + Activator 90 NIS @ .25% v/vol. + Stratego @ 3.0 fl oz/acre was applied on 27 May. Plant counts were made on 16 May. Initial plant evaluations were made on 15 - 19 Jun and soft dough plant evaluations were made on 27-28 Jul. Hail occurred about 8 Jun. *Fusarium* head blight was not observed probably because of the hot, dry growing conditions that occurred in Jul. Harvest was with a Massy Ferguson 8 XP combine on 21 Aug. Grain yield, test weight, and protein were adjusted to a 12% moisture basis. All data was statistically analyzed using SAS Statistical Software.

Plant density tended to improve with seed treatments but not significantly. Yield was significantly improved with four of five fungicide seed treatments in this trial compared to the Check but protein was significantly lower for the fungicide seed treatments compared to the Check.

Treatment	Yield	Test weight	Protein
	bu/a	lb/bu	%
Vincit Minima 3.07 fl oz/cwt + Thiram 1.92 floz/cwt	28.7	56.3	17.0
Vincit Minima 3.07 fl oz/cwt + Thiram 3.3 floz/cwt	25.7	55.6	17.1
Vincit F 3.07 fl oz/cwt	28.8	55.6	17.1
Vincit FS 3.07 fl oz/cwt	29.2	55.7	16.7
Raxil MD 5.0 fl oz/cwt	28.5	55.6	16.8
Check	24.7	55.4	17.3
Mean	27.8	55.7	17.0
CV%	7.0	1.3	1.0
LSD .05	2.9	1.1	0.3
SE	1.0	0.4	0.1
Trt F Prob	0.0181	0.6566	0.0036
Rep F Prob	<0.0001	0.7184	<0.0036

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Treatment	----- Initial plant evaluation -----					
	Plant length	Stage	Tillers	SCI ¹	--- Roots ---	
					mm	Zadoks
Vincit Minima 3.07 fl oz/cwt + Thiram 1.92 floz/cwt	515.2	33.4	2.2	1.0	5.3	12.8
Vincit Minima 3.07 fl oz/cwt + Thiram 3.3 floz/cwt	469.4	33.0	2.4	1.0	4.7	12.5
Vincit F 3.07 fl oz/cwt	523.3	33.5	2.4	1.0	5.2	14.0
Vincit FS 3.07 fl oz/cwt	520.6	34.0	2.0	1.0	4.9	12.7
Raxil MD 5.0 fl oz/cwt	548.2	33.7	2.0	1.1	5.3	13.3
Check	524.0	33.6	2.4	1.1	5.1	15.7
Mean	516.8	33.5	2.2	1.1	5.1	13.5
CV%	7.0	1.2	22.1	8.0	8.8	10.4
LSD .05	54.9	0.6	0.7	0.1	0.7	2.1
SE	18.2	0.2	0.2	0.04	0.2	0.7
Trt F Prob	0.1336	0.0612	0.5751	0.1834	0.3063	0.0435
Rep F Prob	0.1369	0.7813	0.5105	0.6689	0.3035	0.0684

¹Subcrown internode rating - 1 = < 25% lesions, 2 = 25 to 50% lesions, 3 = 50 to 75% lesions, 4 = >75% lesions

Treatment	Soft dough root evaluation		
	----- Root -----		
	Color ¹	Mass ²	SCI ³
Vincit Minima 3.07 fl oz/cwt + Thiram 1.92 floz/cwt	1.9	2.6	1.5
Vincit Minima 3.07 fl oz/cwt + Thiram 3.3 floz/cwt	1.6	3.1	1.3
Vincit F 3.07 fl oz/cwt	1.7	2.7	1.3
Vincit FS 3.07 fl oz/cwt	1.5	2.9	1.3
Raxil MD 5.0 fl oz/cwt	1.6	2.8	1.2
Check	1.7	3.0	1.7
Mean	1.7	2.9	1.4
CV%	14.3	10.0	20.1
LSD .05	0.4	0.4	0.4
SE	0.1	0.1	0.1
Trt F Prob	0.4007	0.1351	0.3092
Rep F Prob	0.0108	0.0004	0.4731

¹ Color - Root color, 1 = white, 4 = dark

² Root mass - 1 = few roots, 4 = many roots

³ Subcrown internode rating - 1 = < 25% lesions, 2 = 25 to 50% lesions, 3 = 50 to 75% lesions, 4 = >75% lesions.

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Treatment	Plant count	Vigor
	no m ⁻²	
Vincit Minima 3.07 fl oz/cwt + Thiram 1.92 floz/cwt	181.9	4.0
Vincit Minima 3.07 fl oz/cwt + Thiram 3.3 floz/cwt	209.0	6.3
Vincit F 3.07 fl oz/cwt	198.7	6.7
Vincit FS 3.07 fl oz/cwt	207.7	5.5
Raxil MD 5.0 fl oz/cwt	201.4	5.5
Check	184.6	6.0
Mean	197.2	5.7
CV%	11.1	22.7
LSD .05	33.0	1.9
SE	10.9	0.6
Trt F Prob	0.3982	0.1146
Rep F Prob	0.0012	0.6641