Wheat (*Triticum aestivum* 'Parshall')
Target diseases: *Fusarium* spp.
Pythium spp.
Bipolaris sorokiniana

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NuFarm HRSW seed treatment performance trial near Mott, ND, 2008.

This experiment was conducted in a field located near Mott, ND (SE ¼ Section 14, T136N, R93W, Hettinger County, ND). The previous crop was wheat in 2007. A soil sample was collected on March 26 and analyzed by the North Dakota State University Soil Testing Laboratory. Nutrient levels reported were N=44 lb/a, P(Olsen) = 17 ppm, K = 382 ppm, pH = 6.2. Prior to seeding, seed was treated with Raxil MD or one of two experimental fungicides. Untreated seed was used as a check. Plots were seeded with a drill equipped with Cross-slot openers on 9 May 2008 at the rate of 150 pls m^{-2}. Urea at the rate of 116 lbs/a (53lbs/a N) was applied through the drill in a separate band during the seeding operation. A post emergent herbicide and foliar fungicide application of Bromac Advance (Bromoxynil Octanoate and Heptonic + MCPA Isooctyl Ester) at 1.5 pt/a, Puma (Fenoxaprop-P) at 0.66 pt/, and Tilt)Propiconizole) at 2 fl oz/a.. Plant counts were made on 15 May and 5 Jun. Soft dough plant evaluations were made on 23 Jul. Root samples taken during the soft dough analysis were submitted to the NDSU Plant Diagnostic Laboratory for identification of pathogens. 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 25 Aug. Grain yield, and test weight were adjusted to a 12% moisture basis. All data was statistically analyzed using SAS Statistical Software.

NUP07133 tended to have lower plant counts than all other treatments in this trial though not signficantly. Rainfall was normal for June but below normal for May, July, and August. No significant differences or trends were observed in this trial for any of the symptoms evaluated during the soft dough root and crown evaluations. *Rhizoctonia* spp., *Phytium* spp., *Fusarium* spp. and *Bipolaris sorokiniana* was not detected during lab analysis of plant tissue. No significant differences were detected for mature plant height, head density, test weight, and grain yields though grain yields.

		--15 May --		-- 5 Jun --	
Treatment Name	Dose	Plant count	Vigor	Plant density	Vigor
	fl oz/cwt	no m^{-2}		no m^{-2}	
UTC (naked seed)	-	170.5	5.3	194.5	5.8
NUP 08030	5.0	174.7	7.0	198.4	7.5
NUP 07133	5.0	158.4	5.8	179.1	6.8
Raxil MD	5.0	172.4	6.3	190.9	7.0
Mean		169.0	6.1	190.7	6.8
CV%		13.1	23.7	12.8	18.8
LSD .05		NS	NS	NS	NS
SE		11.0764	0.7181	12.2124	0.6346
Rep F Prob		0.7915	0.8436	0.5465	0.7473
Trt F Prob		0.7356	0.4053	0.7115	0.3201

Treatment Name	Dose	Soft dough root evaluation		
		Root[1] color	Root[2] mass	Subcrown[3] internode
	fl oz/cwt			
UTC (naked seed)	-	2.2	1.8	2.4
NUP 08030	5.0	2.1	1.9	2.3
NUP 07133	5.0	2.1	1.8	2.3
Raxil MD	5.0	2.3	1.8	2.4
Mean		2.2	1.8	2.4
CV%		4.7	5.1	8.2
LSD .05		NS	NS	NS
SE		0.0508	0.0457	0.0972
Rep F Prob		0.0035	0.1574	0.0005
Trt F Prob		0.6487	0.5027	0.7561

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

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

[3] Subcrown internode rating, 1-4. 1 = less than 25% of the internode infected, 2 = 25 – 50% of the internode infected, 3 = 51-75% of the internode infected, multiple lesions, and 4 = 75-100% of the internode infected, lesions coalesced.

Treatment Name	Dose	Harvest		Grain[1]		
		Plant height	Head density	Test weight	Yield	Protein
	fl oz/cwt	mm	no m^{-2}	lb/bu	bu/acre	%
UTC (naked seed)	-	547.5	259.3	56.8	20.5	17.5
NUP 08030	5.0	545.6	264.0	56.1	19.6	17.8
NUP 07133	5.0	538.8	265.8	56.3	20.3	17.8
Raxil MD	5.0	527.5	260.0	55.8	19.0	17.8
Mean		539.8	262.3	56.2	19.8	17.7
CV%		5.2	8.0	1.1	10.8	1.4
LSD .05		NS	NS	NS	NS	NS
SE		13.8040	10.4695	0.2971	1.0732	0.1259
Rep F Prob		0.0844	0.2126	0.0004	0.0900	0.0002
Trt F Prob		0.7368	0.9641	0.2152	0.7669	0.4652

[1]Grain values adjusted to 12% basis.