

ASSURE II PLANTBACK FOR HARD RED SPRING WHEAT

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The study was conducted at the NDSU Carrington Research Extension Center on a loam soil with a pH of 6.8 and 3.2 percent organic matter. Hard Red Spring Wheat ‘Russ’ was seeded into 6-inch rows at 1.4 million pure live seeds per acre on May 15, 2003. Fourteen days preplant (14dPP) herbicide treatments (Table) were applied to the soil surface on May 1 with 52° F, 18% RH, 10% cloud cover, 10.0 mph wind, and 48° F soil temperature. Seven days preplant (7dPP) herbicide treatments were applied to the soil surface on May 7 with 51° F, 80% RH, 15% cloud cover, 6.7 mph wind, and 44° F soil temperature. Day of planting (0dPP) herbicide treatments were applied to the soil surface on May 15 with 53° F, 91% RH, 20% cloud cover, 8.7 mph wind, and 48° F soil temperature. Individual plots were 10 ft. by 30 ft. and arranged in a randomized complete block design with three

replications. Herbicide treatments were applied with a CO₂-hand boom sprayer delivering 10 gpa at 26 psi through TJ 80015 flat fan nozzles. Crop injury was visually evaluated for chlorosis, necrosis, and growth reduction 7, 14, and 21 days after application. The trial was harvested for seed yield with a plot combine on August 21, 2003.

Wheat yield ranged from 46.3 to 71.8 bu/A (Table). The overall trend indicated that as the interval between application and seeding increased, chlorosis and growth reduction decreased, while yield increased. Compared to the lower rates, the high rate of Assure II (0.096 lb ai/A) tended to increase crop injury and reduce yield, especially when applied the same day the trial was planted.

Table. Assure II plantback for spring seeded wheat.

Treatment Name	Rate lbai/A	Timing DAP	Yield bu/A	7 DAT		14 DAT		21 DAT	
				% Chlor	% GR	% Chlor	% GR	% Chlor	% GR
Assure II	0.034	14	69.6	0	0	2	2	2	2
Assure II	0.048	14	70.0	0	0	3	3	3	3
Assure II	0.096	14	67.7	0	0	12	5	17	5
Fusilade	0.375	14	60.8	0	0	13	30	20	30
Poast	0.750	14	69.8	0	0	2	2	2	2
Select	0.250	14	71.8	0	0	12	18	12	18
Assure II	0.034	7	69.8	0	0	0	0	0	0
Assure II	0.048	7	69.0	0	0	7	20	7	20
Assure II	0.096	7	65.0	0	0	8	7	8	7
Fusilade	0.375	7	59.2	0	0	17	7	17	7
Poast	0.750	7	46.6	0	0	10	40	10	40
Select	0.250	7	65.5	0	0	5	5	5	5
Assure II	0.034	0	66.0	0	0	3	3	3	5
Assure II	0.048	0	59.6	0	0	17	17	17	17
Assure II	0.096	0	55.6	38	15	42	20	42	20
Fusilade	0.375	0	56.8	2	2	3	5	3	5
Poast	0.750	0	46.3	62	53	90	60	90	60
Select	0.250	0	53.7	72	50	72	60	72	60
Untreated Check	0.000	-	69.6	0	0	0	0	0	0
LSD (0.05)			14.7	20	4	17	25	19	25