Project Title: Evaluation of Reduced Herbicide Rates for Wild Oat Control in Spring Wheat.

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Objectives: Determine the effect of reduced rates of Beyond applied alone or in combination with MCPA for wild oat control and crop injury potentail in Clearfield spring wheat.

Results:

A herbicide resistant (Clearfield) spring wheat cultivar was planted on April 22 at 65 lb/A using a double disk press drill set to a planting depth of 1.5 inches. Wild oat seed was then planted in the center of each plot to assure a uniform weed density throughout the study site. Beyond was applied at 0.03 and 0.04 lb ai/A alone or in combination with two rates of MCPA. A experimental prepackaged combination of Beyong plus MCPA (BAS 777) also was included in the study and was similarly applied at two rates. A non-treated check and Puma plus Harmony Extra plus 2,4-D were also included as controls. Herbicides were applied in 20 GPA on May 21 using teejet XR11002 nozzles. Wild oat emergence was variable and ranged from the 2 leaf to 2 tiller stage of development and height varied from 1 to 4 inches at the time of application. Clearfield spring wheat stands were unifrom and plants were 4 inches tall at application.

In general, crop injury was slight and never exceeded 18 percent. Crop injury was variable and no trends were evident with respect to use rates or tankmix combinations. All herbicide treatments that included Beyond or BAS 777 provided 100 percent control of wild oat. This is in contrast to the Puma treatment, where wild oat control was comparable to the nontreated check. Concurrently, wheat yields were lowest in the Puma and nontreated plots, but there were no yield differences among the Beyond and BAS 777 treatments.

Summary:

Although this represents a single year and location, it appears that the level of herbicide resistance in this Clearfiled cultivar was adequate and that MCPA does not result in enhanced crop injury when applied with Beyond. Further, the additions of MCPA do not appear to results in antagonism since all treatments provided complete control of wild oat. This response was consistant regardless of whether Beyong was applied at the low or high rate, suggesting that low rates of Beyond in combination with MCPA will provide excellent control of wild oat.

Future Plans:

Continue to evaluate crop saftey and wild oat control with the Clearfield system.

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Treatment Name	Rate (lb ai/A)	Crop injury % 5/30/03	Crop injury % 6/6/03	Crop injury % 7/17/03	WO control % 5/30/03	WO control % 6/6/03	WO control % 7/17/03	Yield 13%m bu/ac 8/1/03
Check		0	0	0	0	0	0	36.5
Beyond NIS UAN 28%	0.0312 0.25 1	0	10	12	20	100	100	47.6
Beyond NIS UAN 28%	0.0469 0.25 1	0	13	8	25	100	100	50.5
BAS 777 NIS UAN 28%	0.2812 0.25 1	0	0	5	27	100	100	52.2
BAS 777 NIS UAN 28%	0.422 0.25 1	0	10	18	30	100	100	51.5
Beyond MCPA Ester NIS UAN 28%	0.0312 0.25 0.25 1	0	17	13	23	100	100	52.6
Beyond MCPA Ester NIS UAN 28%	0.0469 0.375 0.25 1	0	13	12	35	100	100	50.8
Beyond MCPA Ester NIS UAN 28%	0.0312 0.165 0.25 1	0	7	8	22	100	100	50.3
Beyond MCPA Ester NIS UAN 28%	0.0469 0.25 0.25 1	0	13	12	27	100	100	49.7
Puma HarmonyExtra 2, 4-D Ester NIS	0.0825 0.0188 0.25 0.25	0	0	10	5	20	13	39.1
LSD (P=.05) CV		0 0	14.727 103.02	11.892 70.5	11.401 31.15	0.313 0.22	6.264 4.49	4.35 5.26