Project Title: Wild Oat Herbicide Evaluation in Spring Wheat – 2013

Project Leader: Bob Stougaard

Project Personnel: Brooke Bohannon

Objective: To evaluate the effects of herbicides and application timing on wild oat control.

Results:

Seven herbicide treatments were compared for effectiveness in controlling wild oat. The experimental design was a randomized complete block with three replications. Hank spring wheat was planted at a rate of 80 lb/A on April 16. Wild oats were seeded in the center of each plot on April 24 at a rate of 60 lb/A. The first herbicide treatments were applied on May 31 when wild oats had 1 tiller (1T), and averaged 7 inches tall. The second herbicide treatments were applied on June 6 when the wild oats had two tillers (2T) and average 12 inches tall.

Crop injury was minor with all treatments ranging from 27% to 3% (Table 2). Wolverine and Huskie Complete had the least amount of injury. Concurrently, Wolverine and Huskie Complete were the least effective in controlling wild oat. Rimfire Max provided the greatest wild oat control. Application timing had an impact on some treatments. Most notably, Huskie Complete at the 1T application provided superior control compared to 2T application. Wild oat control with Varro was less complete than Rimfire Max, but better than Wolverine. Differences in yield were observed between treatments with treatment 2 yielding the highest at 91 bu/A. Although wild oat control was comparable between the two application times, yields with Wolverine differed between application timings. Yields were less when Wolverine was applied at the 2T stage of growth due to the greater duration of wild oat competition.

Table 1. Material and Methods -Bayer spring wheat herbicide - 2013

| | | | |
|---|---|---|---|
| Seeding Date: | 4/16/13 | Fertilizer: | 150-40-110-20 |
| Julian Date: | 106 | Fungicide: | 6/19/13 |
| Seeding Rate: | 80 lb/A | | Quilt 14 FL OZ/A |
| Previous Crop: | Barley | Insecticide: | 6/27/13 |
| Tillage: | Conventional | | Warrior II 1.5 FL OZ/A |
| Irrigation: | None | | |
| Soil Type: | Creston Sil | Harvest Date: | 8/19/13 |
| Soil Test: | 151-10-278-58 | Julian Date: | 231 |

Table 2. Herbicide evaluation for crop tolerance and control of wild oat in spring wheat - 2013.

| | | | | Crop injury | | Wild oat | | | YLD | TWT |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 6/6 | 6/21 | 6/6 | 6/21 | 7/16 | | |
| Treatment | Rate | | Timing | ———%——— | | ——————%—————— | | | bu/A | lb/bu |
| Check | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 62.8 | 60.0 |
| Rimfire Max | 3.0 | OZ WT/A | 1T | 21.7 | 17.3 | 26.7 | 73.3 | 94.3 | 90.8 | 60.2 |
| Huskie | 11.0 | FL OZ/A | | | | | | | | |
| MSO | 1.5 | PT/A | | | | | | | | |
| Rimfire Max | 3.0 | OZ WT/A | 1T | 15.0 | 14.0 | 33.3 | 68.3 | 94.7 | 84.8 | 59.6 |
| Huskie | 11.0 | FL OZ/A | | | | | | | | |
| Quad 7 | 0.8 | PT/A | | | | | | | | |
| Wolverine | 27.4 | FL OZ/A | 1T | 6.7 | 3.3 | 20.0 | 48.3 | 63.3 | 88.2 | 59.4 |
| Huskie Complete | 13.7 | FL OZ/A | 1T | 18.3 | 17.3 | 33.3 | 71.7 | 88.3 | 82.5 | 59.4 |
| Ammonium Sulfate | 0.5 | LB/A | | | | | | | | |
| Varro | 6.9 | FL OZ/A | 1T | 18.3 | 26.7 | 18.3 | 57.7 | 81.7 | 84.3 | 60.4 |
| Carnivore | 1.0 | PT/A | | | | | | | | |
| Huskie Complete | 13.7 | FL OZ/A | 2T | 0.0 | 8.3 | 0.0 | 30.0 | 70.0 | 85.3 | 59.4 |
| Ammonium Sulfate | 0.5 | LB/A | | | | | | | | |
| Wolverine | 27.4 | FL OZ/A | 2T | 0.0 | 3.3 | 0.0 | 53.3 | 70.0 | 72.1 | 58.7 |
| Mean | | | | 10.0 | 11.3 | 16.5 | 50.3 | 70.3 | 81.4 | 59.7 |
| CV | | | | 29.6 | 44.6 | 17.4 | 22.8 | 6.9 | 10.7 | 1.4 |
| LSD | | | | 5.2 | 8.8 | 5.0 | 20.1 | 8.4 | 15.3 | 1.4 |
| PR>F | | | | 0.0001 | 0.0002 | 0.0001 | 0.0001 | 0.0001 | 0.0249 | 0.3216 |

1T: Wild oat at 1 tiller, 2T: Wild oat at two tillers, YLD: yield, TWT: test weight