

## Wild Oats Control in Bermuda Grass Production in the Imperial Valley

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Wild oat (*Avena fetua*) infestations in Bermuda grass (*Cynodon dactylon*) can increase harvest cost and down time and reduce yield potential. Typically wild oat control has been achieved by good fertility programs with non granular type herbicides, i.e. Diuron, 2, 4-D, Atrazine and others. This paper summarizes the findings of a study undertaken to determine the effectiveness of Triallate granules (Far-GO) in controlling wild oat in Bermuda grass. This paper also presents our findings regarding the best time of herbicide application and both seed yield and seed quality of Bermuda grass following herbicide treatments. Finally, this paper outlines our results regarding the rate of Triallate best suited to the desert environment.

Four research sites were selected through the Imperial Valley each having demonstrated a history of wild oat infestations that typically compromised Bermuda grass harvest efficiency and yield potential. A series of randomized plots 41.8 sq. m large in four commercial fields replicated 3 times provided the research sites for determining the effectiveness of Triallate, rate variations, timing and the form of Triallate.

The first site was used to determine if there was a difference in weed control performance with Triallate applied at 6.8 and 13.6 kg/ha 7 and 3 days prior to incorporation from precipitation. The second through forth sites were used to determine the efficacy of Triallate applied at 6.8 and 13.6 kg/ha, Trifluralin + Triallate (Buckle) applied at 6.8 kg/ha, Trifluralin 10G applied at 9.07 kg/ha and Aatrex 4FL applied at .946 L/ha compared to untreated checks.

Comparisons of Triallate applied at 6.8 and 13.6 kg/ha 7 and 3 days prior to incorporation from precipitation (Figure 1) show no significant difference in weed control performance between applied product rates and timing of application prior to incorporation as compare to the untreated check. All treatments provided acceptable levels of performance of 85% or better.

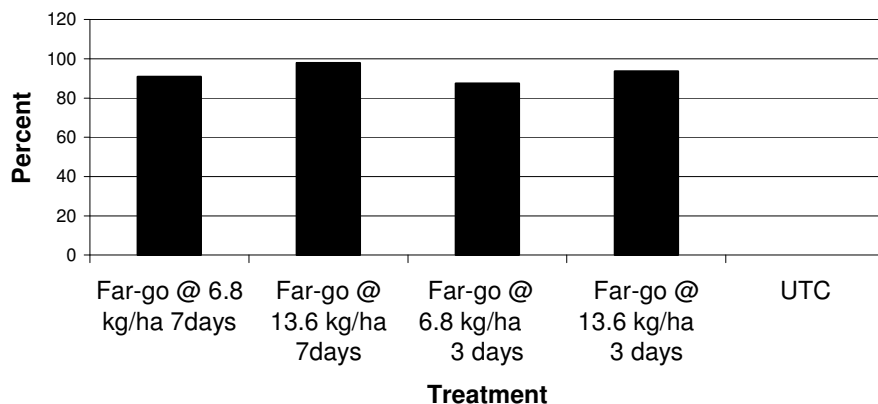


Figure 1. Weed control of 2 rates of Triallate (FarGO) applied at different timings on Bermuda grass for wild oats infestation.

As illustrated in Figure 2, when compared to the “Untreated” area, all treatments control at least 50% of the Wild Oat population. As shown in the figure, Triallate at 13.6 kg/ha worked significantly better than any of the other treatment. The effectiveness of Trifluralin + Triallate (Buckle) applied at 6.8 kg/ha was found to be 15 percent lower than that of Triallate at 13.6 kg/ha. Triallate at 6.8 kg/ha performed 14% lower than Trifluralin + Triallate applied at 6.8 kg/ha. Trifluralin 10G applied at 9.07 kg/ha and Aatrex 4FL applied at .946 L/ha performance is comparable.

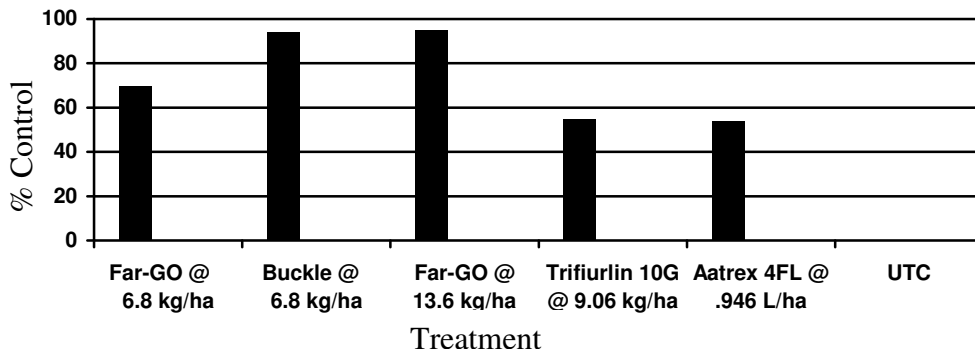


Figure 2. Wild oat control comparing 5 treatments applied 2 days before incorporation.

One of the major reasons to grow Bermuda grass in Imperial Valley is the production of seed. Findings using the treatments described above are reported in Figure 3. As shown in the figure, when compared to untreated areas, no significant yield reduction was found. This demonstrates that the application of any of these treatment, while significantly controlling Wild Oat do not impact seed yield.

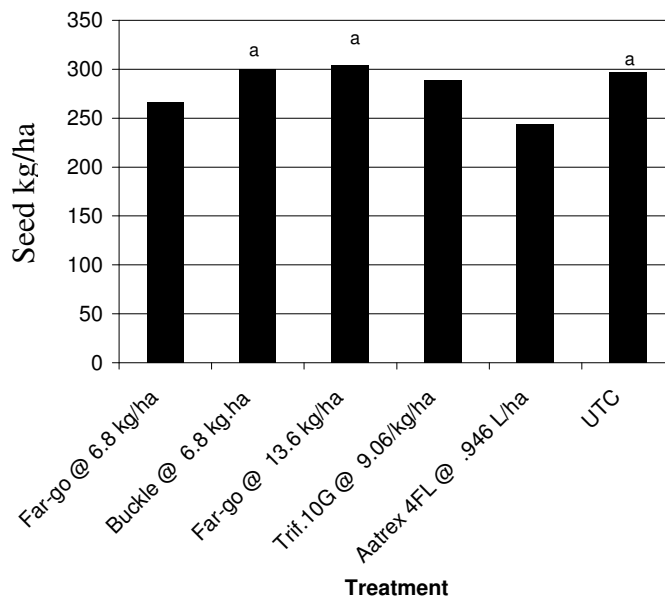


Figure 3. Bermuda grass seed yield following 5 treatments applied 2 days prior to irrigation.

Germination tests were performed on seed harvested in each of the three treated sites to determine if the application of herbicide has an impact on seed quality. Results are encouraging, demonstrating that herbicides are management tools that do not negatively impact the quality of seed production.

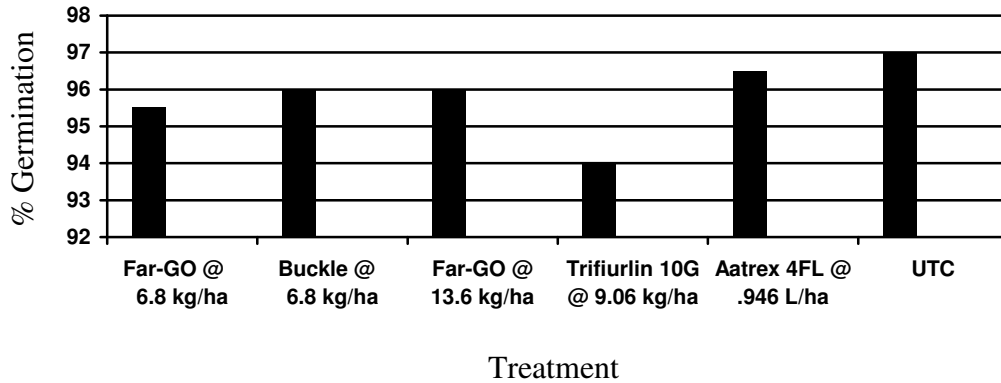


Figure 4. Bermuda grass seed germination following 5 treatments applied 2 days prior to irrigation.

Results from this study show that Triallate (Far-Go) is effective against Wild Oats in Bermuda grass. Results also show that Triallate does not reduce the seed yield nor does it diminish seed quality. Future studies will investigate the timing of the herbicide application and the compare the use of Triallate formulations.