



Texas Agricultural Extension Service

The Texas A&M University System

Result Demonstration Report

1998 Wild Oat Control Demonstration in Wheat

Taylor County

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Summary

Fifteen treatments were applied over the top of wheat on January 29, 1998 to control Wild oat problems in wheat. The plots were established on a farm 5 miles northeast of Abilene. The chemicals were applied to Wild oat plants that were in the 5 to 7 leaf stage. The Wild oats were growing rapidly due to favorable temperatures and soil moisture. The number of Wild oat plants averaged 15 per square foot at the time the chemicals were applied. Wild oat control ranged from 55 to 100 percent. Wild oat populations were significantly reduced by all herbicides applied when compared to the check.

Problem

Wild oat (*Avena fatua*) is a weed of roadside, ditches and other areas of moist, disturbed soil. It is an introduced, cool-season annual. Wild oat is leafy and palatable to livestock but short-lived and seldom abundant enough to provide significant amounts of forage. This weed has encroached the past few years from roadside to the fields, competing with the wheat for moisture and nutrients resulting in lower grain yields. Also, with the contamination of harvested grain with wild oat causes a considerable price dockage for producers.

Objectives

Through the use of a field test: 1) determine the effectiveness of herbicides at controlling the weed, 2) provide producers the opportunity of observing how effectively the herbicides control the weed, and 3) determine the economic feasibility of applying the herbicides for weed control.

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Materials and Methods

Location: 5 miles east of Abilene, TX

Herbicide Application Information:

Date Applied:	January 29, 1998
Wind Speed:	3.0 to 6.0 miles per hour
Wind Direction:	Southwest
Air Temperature:	65 to 75 ⁰ Fahrenheit
Relative Humidity:	30 to 40%
Carrier:	11 gallons of water per acre
Pressure:	30 pounds per square inch
Nozzle Size:	8015 flat fan on 20 inch centers
Boom Height:	19 inches
Ground Speed:	3.25 miles per hour
Application Device:	Self propelled rig with 13.3 foot boom
Plot Size:	13.3 feet X 75 feet, Replicated 3 times
Test Design:	Randomized Complete Block Design
Test Plot Evaluated:	February 10, March 16 and May 7

Results and Discussion

This test was established meeting several desired objectives. Those included: adequate soil moisture, weeds were actively growing and unstressed, no freezing temperatures two days before or two days after the plot was established, more than 10 gallons of water applied per acre, wind speed within a desired range, and comfortable air temperatures at the time of application.

When the plots were evaluated on February 10, the CGA128 and CGA240 formulations had the highest percentage of leaf area discoloration on the Wild oat plants. Similar leaf burn was noted in the Bayer 2 and Silverado plots.

When the plots were evaluated on March 16, a high level of Wild oat control was noted in the CGA128 and CGA240 formulation plots, the Bayer 2 plots, the Tiller plots, the 1133 (Puma) plots, the Silverado plots and one of the Achieve plots. The population reduction of the Wild oat plants was still visually obvious when evaluated on May 7.

Wild oat populations were significantly reduced by all herbicides applied when compared to the check. The check plots averaged 15 plants per square foot throughout the evaluation period. Summary of information collected on May 7 is reported in Table 1.

The cost for most of the treatments applied is not known at this time. Producers will be interested in the price, as well as, the grazing and haying restrictions of the new products being tested. This information will be provided to producers as soon as possible.

Table 1. Wild Oat Control Test (Taylor County, 1998)

Herbicide and rate per acre	% Control	Significant Differences
CGA128 at 6.0 ounces + LI 700 at 0.5% v/v	100	a
CGA128 at 6.0 ounces + Harmony Extra at 0.6 ounce + LI 700 at 0.5% v/v	100	a
CGA240 at 3.2 ounces + Score at 12 ounces + LI 700 at 0.5% v/v	99.67	a
CGA240 at 3.2 ounces + 2,4-D at 10 ounces + Score at 12 ounces + LI 700 at 0.5% v/v	98.33	a
CGA128 at 6.0 ounces + 2,4-D at 10 ounces + LI 700 at 0.5% v/v	98.00	a
Bayer 2 at 17.5 grams + LI700 at 0.5% v/v	96.67	a
CGA240 at 3.2 ounces + Harmony Extra at 0.6 ounce + Score at 12 ounces + LI 700 at 0.5% v/v	96.67	a
Tiller at 1.7 pints	96.67	a
1133 (Puma) at 8 ounces	92.67	ab
Achieve 40 DG at 204 grams + Supercharge at 0.5% v/v	91.67	ab
Hoelon at 2.66 pints	88.33	ab
Silverado at 16 ounces	83.33	bc
Achieve 40 DG at 272 grams + Supercharge at 0.5% v/v	76.67	c
Achieve 40 DG at 214 grams + Supercharge at 0.5% v/v + Ammonium Sulphate 1.5 lbs.	63.33	d
Bayer 1 at 25.9 grams + LI 700 at 0.5% v/v	55.00	d
Check	0.00	e

Economic Analysis

The cost of Silverado is approximately \$11 per acre, it should be noted that this is the only labeled product used in the test that allows for grazing of livestock after the herbicide is applied. Hoelon is a product that has some soil activity which is useful for controlling multiple flushes of the Wild oats. The cost of the Hoelon at 42 ounces per acre is approximately \$22 per acre. After Hoelon is applied the wheat can not be grazed or hayed.

Due to the high level of weed control obtained there was an increase in both forage and grain production as compared to the check. In plots where Wild oat control levels were higher than 90 percent, the grain was marketable without any dockage at the elevator. Producers that have high levels of Wild oats in their harvested wheat may not be able to find a buyer and if one is found the dockage is often higher than 25 percent.

Conclusions

Fifteen treatments were applied over the top of wheat on January 29, 1998 to control Wild oat problems in wheat. The plots were established on a farm 5 miles northeast of Abilene. The chemicals were applied to Wild oat plants that were in the 5 to 7 leaf stage. The Wild oats were growing rapidly due to favorable temperatures and soil moisture. The number of Wild oat plants averaged 15 per square foot at the time the chemicals were applied. Wild oat control ranged from 55 to 100 percent. Wild oat populations were significantly reduced by all herbicides applied when compared to the check.

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