



Result Demonstration Report

2003 Wild Oat Control Demonstration in Wheat
Cooperator: Thomas Canton
Taylor County

Gary Bomar and Billy Warrick *

Summary

Ten treatments were applied over the top of wheat on February 13, 2003 to control Wild Oats. The plots were established on the Thomas Canton farm six miles east of Abilene of farm road 351. The herbicides were applied to Wild oats that were in the 1 to 4 leaf stage. Soil moisture at the time of application was good and the targeted weeds were growing rapidly. The number of Wild oat plants averaged 2 per square foot at the time the chemicals were applied. Wild oat control ranged from 43 to 100 percent.

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

Cooperators: Thomas Canton
Location: Six miles east of Abilene of farm road 351
Variety: TAM 202
Planting Rate: 80 pounds per acre

Herbicide Application Information:

Date Applied: February 13, 2003
Wind Speed: 7.0 to 9.0 miles per hour
Wind Direction: South
Air Temperature: 56 to 65⁰ Fahrenheit
Relative Humidity: 90 to 98%
Carrier: 12.0 gallons of water per acre
Pressure: 32 pounds per square inch
Nozzle Size: 11002 Air Induction on 20 inch centers
Boom Height: 12 inches
Ground Speed: 3.00 miles per hour
Application Device: Self propelled rig with 13.3 foot boom
Plot Size: 13.3 feet X 60 feet
Time Applied: 10:30 a.m. until 1:49 p.m.
Test Design: Replicated (3 times), Randomized Complete Block
Test Plot Evaluated: Final Evaluation May 9, 2003

Evaluations: The plot was evaluated two times. The first evaluation was to determine the amount of chemical injury to the wheat; none was found in any treatment. The second and final evaluation was to determine the percentage of Wild Oat control. The percentage of weed control was determined in all 33 plots. Data collected was analyzed using a statistical program called SAS and treatment differences were based on Duncan's mean separation.

Results and Discussion

This test was established meeting several desired objectives. No freezing temperatures two days before or two days after the plot was established, wind speed within a desired range, and comfortable air temperatures at the time of application. Also, other conditions existed at the time the herbicides were applied that should improve performance; good soil moisture, weeds growing rapidly and in the desired growth stage and high relative humidity at the time of application. Soil moisture was good for most of the growing season.

The new Bayer Company herbicide Osprey, achieved a high level of control regardless of the surfactant, additive or crop oil concentrate used. Data collected from the test is reported in Table 1.

Hoelon at 42.6 ounces and Discover at 3.2 ounces provided excellent control. This is the first time that Maverick herbicide has been tested in a Taylor County test plot and the 92 percent control of Wild Oat plants was very good. Puma has performed well in previous Wild oat control tests but the 8 ounce rate was 2.6 ounces below label rate and the performance was lower than expected.

Table 1. Information Collected from Wild Oat Control Test (Taylor County, 2003)
Evaluation conducted on April 29, 2003

Herbicide and rate per acre	% Wild Oat Control
Osprey @ 0.19 oz. + Activator 90 Non-Ionic Surfactant @ 24 oz. + Nitrogen 28% @ 60.8 oz.	100 a
Osprey @ 0.19 oz. + Ammonium Sulfate @ 17 lbs. per 100 gal. of Solution + Herbimax Crop Oil Concentrate @ 1% v/v	100 a
Osprey @ 0.19 oz. + Hasten @ 24 oz. + Nitrogen 28% @ 60.8 oz.	100 a
Osprey @ 0.19 oz. + Destiny @ 24 oz. + Nitrogen 28% @ 60.8 oz.	99.7 a
Hoelon @ 42.6 oz.	95.7 a
Discover @ 3.2 oz.	95.0 a
Maverick 75% @ 0.66 oz. + Activator 90 Non-Ionic Surfactant @ 0.5% v/v	92.3 ab
Puma @ 8 oz.	80.0 b
Axiom 68 DF @ 10 ounces per acre	50.0 c
Olympus 70 WG @ 0.25 ounce per acre	43.3 c
Check	0 d

Economic Analysis

The high levels of Wild oat control should result in higher yields due to the weed competition being removed. Wild oats competes with the wheat for moisture and nutrients and can reduce wheat grain yield by more than 10 bushels per acre. If the wheat is for grazing only the control of Wild Oats would be hard to justify since it is a productive useful forage plant.

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