Result Demonstration Report

2005 Taylor County Wild Oat Control Demonstration in Wheat
Cooperator: Sam Reeves
Taylor County

Gary Bomar, Taylor County Extension Agent -- Agriculture; and
Dr. Billy Warrick, Extension Agronomist (San Angelo, Texas)

Summary

Twelve treatments were applied over the top of wheat on February 15, 2005 to control Wild Oats. The plots were established on the Sam Reeves farm located two miles south of Hamby on the west side of Elmdale Road in Taylor County. 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 25 per square foot at the time the chemicals were applied. Wild oat control ranged from 61 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.

Materials and Methods

Cooperators:	Sam Reeves
Location:	Two miles south of Hamby on the west side of Elmdale Road
Variety:	2158
Planting Date:	December 1, 2004
Planting Rate:	60 pounds per acre

Herbicide Application Information:

Date Applied:	February 15, 2005
Wind Speed:	5.0 to 9.0 miles per hour
Wind Direction:	West by Southwest
Air Temperature:	68 to 84^0 Fahrenheit
Relative Humidity:	18 to 33%
Carrier:	17.0 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:	11:00 a.m. until 3:00 p.m.
Test Design:	Replicated (4 times), Randomized Complete Block
Test Plot Evaluated:	Final Evaluation May 6, 2005

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 52 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. When it was mixed with fertilizer it still provided an excellent level of wild oat control. Data collected from the test is reported in Table 1.

There was no significant difference in any of the treatments except for the plots where the lower rate of Finesse Grass and Broadleaf was applied.

The level of control by Hoelon was numerically the lowest in five years but it was statistically the same as the best treatments in the plot. This is the second time that Maverick herbicide has been tested in a Taylor County test plot and had an 87 percent control level compared to 92 percent last year, however, the level of Wild Oat was equal to the other treatments in the test. Puma at the 10.8 ounce rate performed well.

Until recently Puma was the only herbicide without a grazing restriction. For the producers in a dual purpose system that limited the herbicide selection to Puma only. With Osprey and Finesse Grass and Broadleaf allowing for livestock grazing shortly after application, two additional herbicides are now available to producers.

Table 1. Information Collected from Wild Oat Control Test (Taylor County, 2005)
Evaluation conducted on May 6, 2005

Herbicide and rate per acre	% Wild Oat Control
OSPREY at 4.75 ounces + 24 ounces Hasten (Methylated Seed Oil)	100 a
OSPREY at 3.2 ounces + Olympus at 0.30 ounce + 24 ounces Phase (Blended Methylated Seed Oil)	100 a
OSPREY at 4.75 ounces + 1.0% v/v Dyne-Amic (Blended Methylated Seed Oil)	100 a
OSPREY at 4.75 ounces + Axiom at 8.0 ounces + 24 ounces Hasten (Methylated Seed Oil)	100 a
Everest at 0.61 ounce + 0.5% v/v Activator 90 (Non Ionic Surfactant)	100 a
OSPREY at 4.75 ounces + 0.5% v/v Activator 90 (Non Ionic Surfactant) + 4 pints of U.A.N. 28%	98 a
Puma at 10.8 ounces	97 a
Finesse Grass and Broadleaf at 0.91 + 0.5% v/v Activator 90 (Non Ionic Surfactant)	88 ab
Maverick at 0.66 ounce + 0.5% v/v Activator 90 (Non Ionic Surfactant)	87 ab
Hoelon at 42.5 ounces	78 ab
Finesse Grass and Broadleaf at 0.75 + 0.5% v/v Activator 90 (Non Ionic Surfactant)	75 ab
Finesse Grass and Broadleaf at 0.60 + 0.5% v/v Activator 90 (Non Ionic Surfactant)	61 b
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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. By controlling the Wild oats, in small grain being harvested for grain, you avoid dockage at the Elevator. In most years the loss of income from the dockage on the grain was more than the cost of herbicide and its application.

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Maverick provided by Monsanto
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