Texas Cooperative EXTENSION
The Texas A&M University System

Result Demonstration Report

2003 Italian Ryegrass Control Demonstration in Wheat
Cooperators: David and Dwayne Grooms
Brown County

Scott Anderson and Billy Warrick *

Summary

Nine treatments were applied over the top of wheat on January 21, 2003 to control Italian ryegrass. The plots were established on a farm four miles east of Bangs. The herbicides were applied to Italian ryegrass that was in a 1 to 7 leaf stage. Soil moisture at the time of application was excellent and the targeted grasses were growing rapidly. The number of Italian ryegrass plants averaged 5 per square foot at the time the chemicals were applied. Italian ryegrass control ranged from 15 to 97 percent.

Problem

Italian ryegrass (*Lolium multiflorum Lam.*) is a weed of roadside, ditches and other areas of moist, disturbed soil. They are introduced, cool-season annuals. The plant is leafy and palatable to livestock and can produce a significant amount of forage under favorable growing conditions. The Italian ryegrass 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, weed contamination of harvested grain 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:	David and Dwayne Grooms
Location:	4 miles east of Bangs
Variety:	Weathermaster 135
Planting Date:	November 17, 2002
Planting Rate:	95 pounds per acre

Herbicide Application Information:

Date Applied:	January 21, 2003
Wind Speed:	5.0 to 7.0 miles per hour
Wind Direction:	West
Air Temperature:	55 to 62^0 Fahrenheit
Relative Humidity:	25 to 35%
Carrier:	10.0 gallons of water per acre
Pressure:	32 pounds per square inch
Nozzle Size:	11002 Air Induction on 20 inch centers
Boom Height:	11 inches
Ground Speed:	3.25 miles per hour
Application Device:	Self propelled rig with 13.3 foot boom
Plot Size:	13.3 feet X 60 feet for Italian ryegrass Block
Time Applied:	10:00 a.m. until 1:45 p.m.
Test Design:	Replicated (3 times), Randomized Complete Block
Test Plot Evaluated:	Final Evaluation April 29, 2003

Evaluations: The plot was evaluated three times. The first evaluation was to determine the amount of chemical injury to the wheat; none was found in any treatment. The second evaluation on February 27 was to determine if weed control was occurring; varied by treatment. The third and final evaluation was to determine the percentage of Italian ryegrass control. In each treatment 10 counts were taken for a total of thirty counts. 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 excellent soil moisture, weeds growing rapidly and in the desired growth stage. Soil moisture was good for most of the growing season.

Italian ryegrass control tests have been established on this farm for five years and the level of control continues to improve each year. 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.

The Sencor at 4 ounces plus Amber at 0.56 ounce provided very good control of the Italian ryegrass. The Hoelon at 32 ounces performed well but the 42 ounce rate used in previous years provided higher levels of control. This is the first time that Maverick has been used in the plot for Italian ryegrass control and the performance was lower than expected.

Table 1. Information Collected from Italian Ryegrass Control Test (Brown County, 2003)
Evaluation conducted on April 29, 2003

Herbicide and rate per acre	% Italian Ryegrass Control
Osprey @ 0.286 oz. + Activator 90 Non-Ionic Surfactant @ 24 oz. + Nitrogen 28% @ 60.8 oz.	97 a
Osprey @ 0.286 oz. + Destiny @ 24 oz. + Nitrogen 28% @ 60.8 oz.	95 ab
Osprey @ 0.286 oz. + Ammonium Sulfate @ 17 lbs. per 100 gal. of Solution + Herbimax Crop Oil Concentrate @ 1% v/v	93 ab
Osprey @ 0.286 oz.+ Hasten @ 24 oz. + Nitrogen 28% @ 60.8 oz.	91 ab
Sencor @ 4 oz. + Amber @ 0.56 oz.	90 ab
Hoelon @ 32 oz.	78 bc
Discover @ 4 oz.	61 cd
Sencor @ 4 oz.	52 d
Maverick 75% @ 0.66 oz. + Activator 90 Non-Ionic Surfactant @ 0.5% v/v	15 e
Check	0 e

Economic Analysis

The high levels of Italian ryegrass control should result in higher yields due to the weed competition being removed. Italian ryegrass 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 then the control of Italian ryegrass would be hard to justify since it is a productive useful forage plant.

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