



# Result Demonstration Report

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2005 Italian Ryegrass Control Demonstration in Wheat  
Cooperators: David and Dwayne Grooms  
Brown County

Scott Anderson and Billy Warrick \*

## Summary

Twelve treatments were applied over the top of wheat on January 19, 2005 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 2 to 4 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 6 per square foot at the time the chemicals were applied. Italian ryegrass control ranged from 20 to 82 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: December 31, 2004  
Planting Rate: 95 pounds per acre

### Herbicide Application Information:

Date Applied: January 19, 2005  
Wind Speed: 4.0 to 7.0 miles per hour  
Wind Direction: West  
Air Temperature: 58 to 69<sup>0</sup> Fahrenheit  
Relative Humidity: 40 to 62%  
Carrier: 18.0 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: 3.25 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: 1:30 p.m. until 5:00 p.m.  
Test Design: Replicated (3 times), Randomized Complete Block  
Test Plot Evaluated: Final Evaluation April 26, 2005

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. Evaluations were conducted on March 22 and April 26 to determine the percentage of Italian ryegrass control. The data collected was analyzed using a statistical program called SAS and treatment differences were based on Duncan's mean separation at the 0.05 level.

## 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 six 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 Hoelon at 42.5 ounces performed well and was equal to any treatment in the test. This treatment has been used for years but the grazing restriction is a problem. Osprey and Finesse Grass and Broadleaf herbicides don't have a grazing restriction.

Puma is used to control Wild oats and was in the test to see if a tank mix with Osprey reduced the level of Italian Ryegrass control. It didn't reduce the level of weed control in this test.

Finesse Grass and Broadleaf performed well but I'm not sure why the higher rate was not as good as the lower rates used. Compared to each other they were the same. But two of the Osprey applications statistically provided a higher level of control than the high rate of Finesse Grass and Broadleaf. Additional field work will be needed to see if performance can be enhanced.

Table 1. Information Collected from Italian Ryegrass Control Test (Brown County, 2005)  
Evaluations conducted on March 22 and April 26, 2005

Herbicide and rate per acre	% Italian Ryegrass Control	
	(3/22)	(4/26)
OSPREY at 4.75 ounces + 0.5% v/v NIS + 4 pints of U.A.N. 28%	82 a	77 a
OSPREY at 4.75 ounces + Puma at 10.8 ounces + plus 0.5% v/v NIS	80 a	68 ab
OSPREY at 4.75 ounces + 24 ounces Hasten (Methylated Seed Oil)	75 abc	75 a
Finesse Grass and Broadleaf @ 0.75 ounce + 0.5% v/v NIS oz.	78 ab	57 abc
OSPREY at 4.75 ounces + 1.0% v/v Dyne-Amic (Blended Methylated Seed Oil)	75 abc	55 abc
Hoelon at 42.5 ounces	78 ab	50 abc
Finesse Grass and Broadleaf @ 0.60 ounce + 0.5% v/v NIS	63 abcd	60 ab
Finesse Grass and Broadleaf @ 0.91 ounce + 0.5% v/v NIS	57 bcd	57 abc
OSPREY at 3.2 ounces + Olympus at 0.30 oz + 24 ounces Hasten (Methylated Seed Oil)	55 cd	57 abc
Everest at 0.61 ounce + 0.5% v/v NIS	52 d	33 bcd
Puma at 10.8 ounces	30 e	20 cd
Olympus at 0.75 oz + 0.5% v/v NIS	23 e	20 cd
Check	0 f	0 d

NOTE: In treatments that have NIS listed it refers to the Non-Ionic Surfactant Activator 90.

### 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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Activator 90 and Phase provided by United Agra Products (UAP)