WILD GARLIC CONTROL IN WHEAT USING HARMONY EXTRA, OSPREY, AND POWERFLEX APPLIED ALONE OR IN TANK MIX COMBINATIONS
(UKREC 2012 – 2013)

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INTRODUCTION

Some of the early research during 2008 on PowerFlex indicated it had activity on wild garlic. This prompted us to conduct more in-depth studies to compare PowerFlex with Harmony Extra applied alone or in combination with one another. Osprey was also included since it is an ALS inhibitor similar to PowerFlex and Harmony Extra. Visual ratings in the spring indicated PowerFlex was somewhat inconsistent in controlling of garlic but was usually better than Osprey. Including Harmony Extra as a tank mix partner improved garlic control.

A number of attempts were made to compare visual ratings with production of garlic aerial bulblets. Unfortunately the visual ratings did not correlate with the number of aerial bulblets at harvest. Competition from dense wheat stands or weeds in late spring and erratic distribution of garlic limited our ability to correlate control ratings with aerial bulblet production.

OBJECTIVE

The objective was to evaluate garlic control with PowerFlex, Osprey, and Harmony Extra using visual ratings and production of aerial bulblets.

METHODS

The field site was mowed and treated with a burndown of Roundup PowerMax on October 10, 2012. Pioneer 25R32 wheat was planted with a no-till drill on October 19, 2013. Table 1 lists herbicide treatments in this trial. All treatments were applied in a spray volume of 20 GPA using a CO_2 back pack sprayer. Fall applications were made November 30 when garlic was approximately 4.5" tall . Spring treatments were made on March 15 when garlic plants were 6" tall.

Visual ratings of garlic control were made April 13, 2013. Garlic aerial bulblets were collected June 4, 2013. Wheat was harvested with a plot combine. Grain yields were adjusted to 13.5% moisture.

RESULTS

Some of the main observations in this research are listed below:

• Visual rating indicated PowerFlex alone provided 50% garlic control when applied in the fall compared to 83% when applied in the spring. Osprey alone provided 20% garlic control when applied in the fall compared with 48% when applied in the spring. Harmony Extra provided 80 to 85% garlic control in the fall compared to 85 to 90% when applied in the spring.

• Including Harmony Extra with PowerFlex or Osprey tended to enhance garlic control compared with PowerFlex or Osprey applied alone.

• Although there was a number of garlic plants present when ratings were made on April 13, very few plants produced aerial bulblets.

SUMMARY

Aerial bulblet production was poor in all plots due to competition from the wheat and weeds; consequently, the visual rating did not correlate with the production of aerial bulblets. Although PowerFlex alone tended to be less effective than Harmony Extra in controlling garlic, it was usually better than Osprey. Including Harmony Extra at rates ranging from 0.45 to 0.9 oz/A with PowerFlex or Osprey tended to enhance garlic control. As a general rule garlic control tended to be better when treatments were applied in the spring than in the fall.

Table 1. **Wild Garlic Control and Wheat Yield Following Fall and Spring Applications of Harmony Extra, Osprey, and PowerFlex (UKREC 2012 -2013)**

HERBICIDE and RATE/A [1]	GARLIC CONTROL (%) [3]		GARLIC (CLUSTERS/35/ft^2) [4]		WHEAT YIELD (Bu/A) [5]	
	FALL APPLIED [2]	SPRING APPLIED	FALL APPLIED	SPRING APPLIED	FALL APPLIED	SPRING APPLIED
Harmony Extra 0.45 oz/A	85	85	0	0	113.7	110.7
Harmony Extra 0.75 oz/A	88	90	0	0	111.8	107.6
Harmony Extra 0.9 oz/A	85	90	0.3	0	112.8	114.6
Osprey 4.75 oz/A	20	48	1.3	2	112.0	112.4
Osprey 4.75 oz/A + Harmony Extra 0.45 oz/A	80	90	0	0	110.1	114.5
Osprey 4.75 oz/A + Harmony Extra 0.75 oz/A	90	90	0	0	110.0	113.4
Power Flex HL 2 oz/A	50	83	1	0.3	111.1	119.5
Power Flex HL 2 oz/A + Harmony Extra 0.45 oz/A	77	85	1.5	0	112.2	113.6
Power Flex HL 2 oz/A + Harmony Extra 0.75 oz/A	85	91	0	0	115.1	114.1
Non-treated Check	0		1		102.2	
LSD	11		NS		NS	

[1] Additives:

- All treatments included Activator 90 surfactant at 0.5% v/v and Ammonium Sulfate at 2 lb/A.

[2] Application Timing

- **Fall Nov. 30, 2012**: Wheat 3" tall, 3-leaf stage. Wild Garlic 2.5 to 7" tall, average 4.5" tall
- **Spring March 15, 2013:** Wheat 4.3" tall, 3 tillers. Wild Garlic 3 to 10" tall, average 6" tall

[3] Visual ratings of garlic control were made on April 13, 2013.

[4] Clusters of aerial bulblets of garlic were collected from border skip rows on June 4, 2013. Total area sampled per plot was approximately 29 ft^2.

[5] Wheat was harvested with a plot combine on June 26, 2013. Yields were adjusted to 13.5% moisture.