

HERBICIDE EVALUATION OF HENBIT CONTROL IN NO-TILL WHEAT

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Introduction:

Henbit and purple deadnettle are related species that commonly occur in wheat in Kentucky. Purple deadnettle is believed to be slightly more difficult to control with some herbicides compared with henbit, yet the difference in control is very subtle.

Harmony Extra offers control of a broad-spectrum of weed species, including henbit; consequently, it is the standard treatment used to manage this broadleaf weed. While Harmony Extra is the primary option for controlling henbit, there may be inconsistent results, especially in controlling large plants that have overwintered.

Studies were conducted during the 2007-2008 growing season to evaluate certain new herbicides for henbit control in wheat. Table 1 lists herbicides in these studies.

Henbit Control with Huskie (see Table 2):

Huskie is currently labeled for partial control of henbit. Based on results of this study, Huskie provided complete control of henbit regardless whether it was tank mixed with Banvel or applied in the fall or spring. Although Huskie provided statistically better control of henbit than Harmony Extra, the difference was by only 3%.

Henbit Control with Finesse & Finesse Grass & Broadleaf (see Table 3):

Much of the earlier research on Finesse and Finesse Grass & Broadleaf have has focused on Italian ryegrass control in wheat. Both products are registered to control henbit.

This particular study evaluated Finesse and Finesse Grass & Broadleaf applied as a single treatment at planting or as a sequential treatment with Harmony Extra applied as a follow up spray in the spring. These were also compared with Harmony Extra applied as a sequential treatment of fall followed by spring timing and a single spray in the spring. In order to determine if a burndown herbicide was needed, all treatments received Roundup Original MAX at 22 oz/A at planting and compared with treatments that did not receive Roundup Weather MAX.

Henbit control was acceptable for all treatments and ranged from 90 to 100% control. The use of Harmony Extra as a sequential spray to Finesse or Finesse Grass & Broadleaf tended to enhance henbit control. Henbit control with Finesse and Finesse Grass & Broadleaf was comparable to that of Harmony Extra. Roundup Weather MAX improved henbit control by 6 % when combined with Finesse Grass & Broadleaf.

Wheat yields ranged from 123.4 to 138.4 bu/A. Based on the high yield for the non-treated check, the density of henbit was not great enough to limit wheat yield. The yield was low for the sequential treatment of Finesse Grass & Broadleaf followed by Harmony Extra. It is not clear why this occurred, since injury ratings did not reflect an injury issue with this treatment.

Based on this research, Finesse and Finesse Grass & Broadleaf applied at planting appear to be equal to spring applications of Harmony Extra applied in controlling henbit.

Table 1. Broadleaf Herbicides Evaluated in 2007-2008 Studies			
Product	Active Ingredient	Mode /Site of action	Application
Finesse	Chlorsulfuron (Glean) Metsulfuron (Ally)	ALS inhibitor ALS inhibitor	Preemergence or foliar applied
Finesse Grass & Broadleaf	Chlorsulfuron (Glean) Flucarbazone (Everest)	ALS inhibitor ALS inhibitor	Foliar applied
Huskie	Bromoxynil (Buctril) Pyrasulfotol	-Photosynthesis Inhibitor - HPPD inhibitor	Foliar applied
Harmony Extra	Thifensulfuron (Harmony) Tribenuron (Express)	Cell division inhibitor	Foliar applied
Orion ¹	Florasulam MCPA	ALS inhibitor Growth regulator	Foliar applied
¹ For Orion data, see ryegrass herbicide tankmix study with Axial XL			

Table 2. Henbit Control with Huskie Treatments and Harmony Extra in No-till Wheat (UKREC 2007-2008)			
Herbicide ¹ (Rate)	Application Timing ²	Henbit Control (%) (55 Days After Treatment)	Wheat Yield (Bu/A)
Huskie (13.5 oz/A)	Early Post	100	121.2
Huskie (13.5 oz/A)	Late Post	100	126.1
Huskie (11 oz/A) Banvel (0.25 pt/A)	Early Post	100	119.1
Harmony Extra (0.4 oz/A)	Early Post	97	128.4
Non-treated Check		0	119.6
LSD _(0.05)		2 %	9.5 Bu/A
¹ Non-ionic surfactant and liquid N used as an additive with Huskie treatments, Non-ionic surfactant used as an additive with Harmony Extra. ² Application Timings: Early Post: 11/09/07 Late Post: 03/11/08			

**Table 3. Henbit Control with Finesse, Finesse Grass & Broadleaf,
and Harmony Extra in No-till Wheat.
(UKREC 2007-2008)**

Herbicides ¹ (Rate)	Application Timing	Henbit Control (%) 4/22/08		Wheat Yield (Bu/A)	
		Glyphosate Burndown ²		Glyphosate Burndown	
		No	Yes	No	Yes
Finesse (0.5 oz/A)	At Planting	96	95	131.9	128.0
Finesse (0.5 oz/A) Harmony Extra (0.5 oz/A)	At Planting Spr Post	99	100	126.2	123.4
Finesse Grass & Broadleaf (0.9 oz/A)	At Planting	94	100	134.8	134.8
Finesse Grass & Broadleaf (0.9 oz/A) Harmony Extra (0.5 oz/A)	At Planting Spr Post	100	100	132.8	132.0
Harmony Extra (0.5 oz/A) Harmony Extra (0.5 oz/A)	Fall Post Spr Post	99	100	135.1	137.4
Harmony Extra (0.5 oz/A)	Spr Post	93	90	130.7	135.1
Non-Treated Check		0	---	138.4	---
LSD (0.05)		4 %		9.2 Bu/A	

¹ Non-ionic surfactant was used as an additive with all treatments.

² Each treatment was treated with or without Roundup Original MAX applied at planting at 22 oz/A

Application Timings:

At Planting: 10/13/07

Fall Post: 11/09/07

Spr Post: 03/11/08