

# Small Grains (Wheat, Barley, Oats, Rye)

## Control Strategies for Troublesome Weeds in Wheat

- 1. Little barley:** Start clean and apply metribuzin as soon as wheat reaches the two- to three-leaf stage. A second application may be required after wheat begins to tiller. Osprey, PowerFlex HL and Axial may provide some suppression but will not control little barley.
- 2. Ryegrass:** Two applications are usually required to manage ryegrass. The first application should be applied in the fall, and the second application should be applied in the winter (January or February). Metribuzin, Finesse, Osprey, Powerflex, Anthem Flex and Zidua are good choices for managing ryegrass in the fall. Metribuzin must be applied at the two- to three-leaf wheat stage before ryegrass emerges. To control ryegrass, Finesse should be applied preplant or preemergence before wheat and ryegrass emerge. When using Finesse, fields must be fallowed or planted to STS soybeans. Powerflex and Osprey should be applied postemergence when ryegrass reaches the two- to three-leaf stage.

Finesse, Powerflex and Osprey will not control ALS resistant ryegrass. Anthem Flex and Zidua must be applied as a delay-PRE following 80% wheat emergence. Hoelon and Axial XL are the best choices for managing ryegrass in January or February. Hoelon will not control ACCase-resistant ryegrass or ryegrass that has tillered. Axial has been the most consistent herbicide for managing ryegrass in February.

- 3. Vetch:** Two applications are often required to manage severe infestations. PowerFlex HL and Harmony Extra can be used in the fall for control. In most situations, PowerFlex HL in the fall followed by Harmony Extra in January or February is the best control strategy. 2,4-D can also be used after wheat has finished tillering and before jointing.

**Table 1. Weed response ratings for selected small grain herbicides applied preemergence.**

Table Legend		annual bluegrass	bittercress	buttercup	canarygrass	chickweed	curly dock	cutleaf eveningprimrose	henbit	little barley	ryegrass	shepherd's purse	swinncress	vetch	wild garlic	wild onion
Rating	Score															
None to Slight	0-3															
Fair	4-6															
Good	7-8															
Excellent	9-10															
Sharpen (preplant)		1	8	8	-	8	8	8	8	-	1	8	8	8	-	-
Finesse (preplant)		9	9	9	-	9	8	9	9	3	7	9	9	3	5	5
Finesse (preemergence)		9	9	9	-	9	8	9	9	3	7	9	9	3	5	5

Control expected under optimum conditions. LSU AgCenter does not guarantee these estimates since many factors influence herbicide performance. Resistance to recommended use rates of some herbicides has been identified in certain weed species in Louisiana.

**Table 2. Weed response ratings for selected corn herbicides applied postemergence.**

Table Legend		annual bluegrass	bittercress	buttercup	canarygrass	chickweed	curly dock	cutleaf eveningprimrose	henbit	little barley	ryegrass	shepherd's purse	swincress	vetch	wild garlic	wild onion
Rating	Score															
None to Slight	0-3															
Fair	4-6															
Good	7-8															
Excellent	9-10															
2,4-D		0	9	9	0	8	9	9	7	0	0	9	8	9	6	8
Anthem Flex		8	9	9	-	8	-	-	8	0	8	7	8	0	-	-
Axial		0	-	-	9	0	0	0	0	3	9	0	0	0	0	0
dicamba plus 2,4-D		0	0	0	0	9	9	9	8	5	0	9	9	9	8	9
Finesse		9	-	-	-	9	8	8	9	-	7	9	8	3	6	6
Harmony Extra		0	9	9	0	9	9	8	8	7	0	9	8	8	9	7
Hoelon		0	6	9	8	0	0	0	0	5	9	0	0	0	0	0
metribuzin		9	0	0	6	9	7	8	9	0	7	9	8	3	0	0
Osprey		9	9	9	8	7	7	6	9	3	9	9	8	3	5	5
Powerflex HL		8	9	8	9	9	9	9	9	0	9	9	9	9	5	5
Prowl H <sub>2</sub> O		9	-	-	8	-	3	3	9	-	7	-	-	0	0	0
Zidua SC		8	9	9	-	8	-	-	8	0	8	7	8	0	-	-

Control expected under optimum conditions. LSU AgCenter does not guarantee these estimates since many factors influence herbicide performance. Resistance to recommended use rates of some herbicides has been identified in certain weed species in Louisiana.

**Table 3. Preplant and preemergence herbicides.**

Active Ingredient and Rate	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
chlorsulfuron + metsulfuron - 0.0094-0.0234 lb/A	Finesse Cereal and Fallow 75 DF - 0.2-0.5 oz/A	Most common broadleaf weeds and annual bluegrass. Suppresses ryegrass.	<b>Wheat only:</b> Do not apply to soils with a pH above 7.9. Apply before planting. Drill wheat at least 1 inch deep or injury may occur. Do not use if wheat will be broadcast-seeded. Can be mixed with glyphosate to control emerged weeds. Extremely long rotation interval for most crops grown in Louisiana. STS soybeans can be grown six months after application; all other crops can be grown 18 months after application. Do not use an organophosphate insecticide within 60 days of application. Can be applied in a liquid nitrogen solution. No grazing restrictions.
saflufenacil – 0.067- 0.089 lb/A	Sharpen – 3-4 oz/A	Broadleaf weeds.	<b>Wheat, oats, and rye:</b> Apply preplant, preplant incorporated or preemergence. Small grain varieties may vary in their sensitivity to Sharpen; consult seed supplier. If foliar activity is needed, MSO at 1% v/v plus AMS at 8.5 to 17 lb/100 gal must be mixed with Sharpen.

**Table 4. Postemergence herbicides.**

Active Ingredient and Rate	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
2,4-D amine - 0.5-1.0 lb/A; 2,4-D ester - 0.21-0.5 lb/A; 2,4-D acid - 0.21-0.7 lb/A	Various formulations; See product label for specific rates.	Dock, plantain, mustard and other broadleaf weeds, plus winter peas and vetch; Wild onion or wild garlic. Use highest labeled rate. Control will not be complete, but aerial bulblet formation will be reduced. Less effective on wild garlic than on wild onion.	<b>Wheat, Oats, Rye:</b> Application timing and grazing restrictions may vary; always refer to the label. Most labels allow applications after the onset of tillering. Applications are safest after two to three tillers have formed. Do not apply at panicle initiation, panicle differentiation, boot or heading stages. Panicle initiation and differentiation occur around the time the first internode is 0.5 inches long. Choose sunny days for making the application. LVE formulation is more compatible with nitrogen solutions. Do not graze or feed forage from treated fields within two weeks after treatment. Do not exceed these rates, or severe injury may occur. <b>If used on oats or rye, make application only after tillering is complete and before jointing.</b>
dicamba - 0.125 lb/A + 2,4-D amine - 1 lb/A	Various formulations; See product label for specific rates.	Most broadleaf weeds, winter peas, vetch; More effective on wild onion and wild garlic than 2,4-D alone.	<b>Wheat:</b> Do not use unless potential injury is acceptable. Application timing same as for 2,4-D, except that this combination may not be used after jointing.

Active Ingredient and Rate	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
mesosulfuron-methyl 0.013 lb/A	Osprey - 4.75 oz/A; Add MSO - 1.3-1.5 pt/A	Annual bluegrass, limited broadleaf weed control; Good control of non-ALS resistant ryegrass.	<b>Wheat:</b> Apply when ryegrass is in the one-leaf to two-tiller stage. Can be applied from wheat emergence to jointing. Best results are obtained if applications are made before ryegrass tillers. Some transient leaf burn may occur if applied with nitrogen fertilizers. Can be tank-mixed with some broadleaf herbicides, insecticides and fungicides; consult label. See label for rotation intervals.
metribuzin - 0.094-0.14 lb/A	75 DF formulation – 2-3 oz/A; 4 lb/gal formulation – 3-4.5 oz/A	Annual bluegrass, henbit, chickweed.	<b>Wheat:</b> Apply between the two-leaf and two-tiller crop stage before weeds emerge. Injury may occur when applications are made to waterlogged soils. Some varieties may be sensitive to metribuzin. Do not use if wheat has been broadcast-seeded.
pendimethalin - 0.7-1.4 lbs ai/A	Prowl H2O – 1.5-3 pt/A; See product label for specific rates.	Residual/preemergence control of many broadleaf weeds and annual grasses. Suppresses ryegrass.	<b>Wheat:</b> Only microencapsulated formulation (ME) of pendimethalin can be utilized. The emulsified concentration (EC) formulation is not labeled for use. May be applied by ground, air, chemigation or on dry bulk fertilizer. Wheat should be planted 0.5-1 inch deep. Apply after wheat reaches the one-leaf stage until flag leaf emergence. Must be applied before weeds emerge. May be applied with any herbicide labeled for wheat. Applications before wheat emerges may result in severe stand reductions. Do not harvest hay or forage within 28 or 11 days of application, respectively. Do not apply within 60 days of harvest.
pinoxaden - 0.054	Axial XL - 16.4 oz/A	Ryegrass – Will not kill Hoelon resistant ryegrass. Does not control annual bluegrass.	<b>Wheat:</b> Apply between the two-leaf and preboot stage. For optimum control, apply prior to the three-tiller stage of ryegrass. Can be tank-mixed with some broadleaf herbicides, insecticides and fungicides. Consult label for approved pesticides. Do not graze within 30 days of application or harvest within 60 days of application. Straw can be fed to livestock 60 days after application. Rotation restrictions: 0 days – wheat and Barley; 30 days – leafy and root crops; 120 days – all other crops.
pyroxasulfone - 0.05-0.08 lb/A	Zidua SC - 1.75-4 oz/A	Annual bluegrass, ryegrass, other small-seeded broadleaf weeds.	<b>Delayed preemergence to early postemergence only.</b> Do not apply until 80% of the wheat has germinated and the shoot is at least 1/2 inch tall up to the fourth tiller stage. Do not apply seed wheat deeper than 1.5 inches, but seed at least 1 inch deep. Excessive rainfall after application or poor environmental conditions can lead to injury. Do not apply to broadcast seeded wheat.

Active Ingredient and Rate	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
pyroxasulfone + carfentrazone - 0.063-0.141 lb/A	Anthem Flex – 2-4.5 oz/A	Annual bluegrass, ryegrass, other small-seeded broadleaf weeds.	<b>Delayed preemergence to early postemergence only.</b> Do not apply until 80% of the wheat has germinated and the shoot is at least 1/2 inch tall up to the fourth tiller stage. Do not apply seed wheat deeper than 1.5 inches, but seed at least 1 inch deep. Excessive rainfall or poor environmental conditions after application can lead to injury. Do not apply to broadcast seeded wheat.
pyroxsulam - 0.002 lb ai/A	Powerflex HL - 2 oz/A; Add 0.25-0.5% v/v NIS + plus 1-2 qt/A UAN or 1.5-3 lb/A AMS; 1-1.25 % v/v COC; or 1% v/v MSO.	Most common broadleaf weeds, including vetch. Good annual bluegrass control when applied in the fall. Excellent control of non-ALS resistant ryegrass.	<b>Wheat:</b> Apply anytime between the three-leaf stage and jointing. Best results obtained when applied in the fall to actively growing weeds. COC or MSO may be required with spring applications, large weeds or under poor growing conditions. COC and MSO increase the risk of injury. Do not apply liquid fertilizer within seven days of an application. Do not graze within seven days or cut hay within 28 days of an application. Do not apply organophosphate insecticides within five days of an application. Cotton, soybean, grain sorghum and sunflowers can be planted three months after application. Corn can be planted nine months after application. The rotation interval for rice and sweet potatoes is 12 months.
thifensulfuron + tribenuron – 0.02-0.028 lb/A	Harmony Extra SG - 0.45-0.9 oz/A; Add 0.25% v/v NIS.	Wild garlic and many broadleaf weeds. Use 0.75-0.9 oz/A for wild garlic. Does not control wild onion.	<b>Wheat, Oats:</b> Apply after the two-leaf stage but before the flag leaf emerges. Do not use with nitrogen.

