

UGA Programs for Controlling Ryegrass and Wild Radish in 2017/2018 Wheat.

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Ryegrass threatens Georgia wheat production. Most ryegrass escapes are a result of 1) planting into fields already infested with emerged ryegrass and/or 2) making herbicide applications after the ryegrass is too large to control. However, herbicide resistant ryegrass has become very problematic. Numerous Georgia populations are resistant to Osprey, PowerFlex, Axial and Hoelon. Ryegrass will achieve resistance to herbicides quicker than any other plant, even Palmer amaranth. Aggressive resistant management programs must be implemented; ignoring this warning will ensure resistance that threatens long-term sustainability of grain production. Proper management begins with a healthy vigorous crop, early identification of ryegrass (below), timely herbicide applications (Tables 1 and 4), tillage including deep turning when feasible, crop rotation, and making wise decisions (Table 2).

Growers must avoid treating fields two years in a row with the same or similar herbicide chemistry.

**Hoelon & Axial
Similar Chemistry**

**Osprey & PowerFlex
Same Chemistry**

**Fierce & Zidua
Contain Same Chemistry**

Table 1. Ryegrass Management

Scenario	Stage of Wheat	Herbicide Option	Comments
Emerged ryegrass	Before planting	Roundup before planting	Follow with Gramoxone at planting if needed. Tillage, especially deep turning, can be effective.
After planting; before ryegrass emerges for residual control	80% of seed germinated with shoot at least ½” long through spiking	Zidua 0.75 to 1.25 oz/A	Label prohibits true PRE. Plant wheat seed at least 0.75” deep; do not apply to broadcast seeded wheat. Use rate of 1.0 oz/A is ideal for most soils. <i>Must be activated before ryegrass emergence.</i>
After planting; ryegrass ¼” or less plus residual control	95% of wheat in spike to 2-leaf stage	Fierce 1.5 oz/A	<u>Apply only in water; no additives.</u> Wheat must be planted 1 to 1.5” deep; do not apply to broadcast seeded wheat. <i>New label, limit acres. Do not apply on sands. Must be activated before weeds reach ½”.</i>
Ryegrass ≤ 1 tiller	3-leaf through joint	Axial XL 16.4 oz/A, PowerFlex HL 2.0 oz/A, or Osprey 4.75 oz/A	Assuming no resistance and proper herbicide rotation. Add appropriate adjuvant. Be certain to use proper rate with formulation selected.
Ryegrass ≤ 1 tiller plus residual control	3-leaf through 4-tiller	Axial XL 16.4 oz/A + Zidua 1 to 1.5 oz/A	If ryegrass is not resistant to Axial then excellent postemergence and residual control expected.

Table 2. Critical Thinking Points for Ryegrass Control

1. ABSOLUTELY NO ryegrass emerged when planting wheat. A double knock program is ideal; Roundup fb Gramoxone 5 d later.
2. For normal planting and developing wheat, postemergence ryegrass herbicides **should be applied by Christmas.**
3. Do not mix any ryegrass herbicide(s) with 2,4-D, MCPA or NITROGEN as antagonism often occurs!!!
4. Zidua and Fierce are new products; limit acres treated. These products must be activated by timely rains or irrigations.
5. Under no circumstances should any additive be included with Fierce. Fierce must be activated prior to weeds reaching ½ inch.
6. Rotation of herbicide chemistry and crops is critical for long-term sustainability of small grain production.



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Wild radish is the most problematic broadleaf weed infesting nearly every Georgia wheat field. Seedlings possess heart-shaped cotyledons while the first true leaves will be slightly serrated and indented, and are about two to three times as long as wide. As the leaves mature, the serrations will be more jagged with deeper indentations. Wild radish seed pods often contaminate harvested grain thereby reducing profits. The seed pod usually does not shatter, but instead, dries down and fragments into small sections. These seed pod sections are very close in size and shape to wheat and are difficult to remove in cleaning (right). Managing wild radish is not difficult if timely management decisions are implemented. Tables 3 and 4 provide management programs while Table 5 includes some critical thinking points.



Table 3. Wild Radish and Other Broadleaf Weeds

Scenario	Stage of Wheat	Herbicide Option	Comments
Radish < 8" diameter, henbit, chickweed	2- tiller through full tiller	MCPA (12-16 oz/A) + Harmony Extra	MCPA rate based on a 3.8 lb ai material. 2,4-D could be used to replace MCPA at full tiller wheat. Numerous Harmony type products are available; select rate based on product selected.
Early henbit infestations plus radish	Harmony Extra (2-leaf through jointing wheat) followed by MCPA (2-tiller through full-tiller wheat)		Intense henbit populations may need to be treated prior to wheat being large enough to use MCPA; this program would be the best approach to address that scenario. 2,4-D could be used to replace MCPA but must be applied to full tiller wheat.

Table 4. Both Ryegrass and Wild Radish

Scenario	Stage of Wheat	Herbicide Option	Comments
Radish < 8" diameter and ryegrass < 2 tiller	3-leaf to joint	PowerFlex HL 2.0 oz/A	Add adjuvant according to label. Harmony Extra can be added to improve broadleaf weed control.
After planting; ryegrass, wild radish, henbit ¼" or less	95% of wheat in spike to 2-leaf stage	Fierce 1.5 oz/A	<u>Apply only in water; no additives.</u> Wheat must be planted 1 to 1.5" deep; do not apply to broadcast seeded wheat. <i>New label, limit acres. Do not apply on sands. Must be activated before weeds reach ½".</i>
Sequential treatment	Axial XL (3-leaf through 4-tiller wheat) followed by MCPA + Harmony Extra (2-tiller through full tiller)		Apply Axial to control ryegrass. Wait at least 7 days and then apply MCPA + Harmony Extra when wheat is between 2 tiller and full tiller.

Table 5. Critical Thinking Points for Wild Radish Control

1. For normal planting and developing wheat, **broadleaf weeds and ryegrass should be treated by Christmas.**
2. Harmony Extra alone usually only suppresses very small wild radish; poor control is expected when treating larger plants.
3. Numerous products with the same active ingredient as Harmony Extra exist; Harmony Extra Total Sol rate is 0.45 to 0.9 oz/A.
4. 2,4-D is more effective than MCPA on larger weeds but MCPA poses less crop injury potential; so be timely and use MCPA.
5. Add appropriate adjuvant according to the mixture applied, see pest control handbook or label.
6. Zidua and Fierce are new products; limit acres treated. These products must be activated by timely rains or irrigations.
7. Under no circumstances should any additive be included with Fierce. Fierce must be activated prior to weeds reaching ½ inch.