

# Controlling Ryegrass and Wild Radish in 2020-21 Wheat

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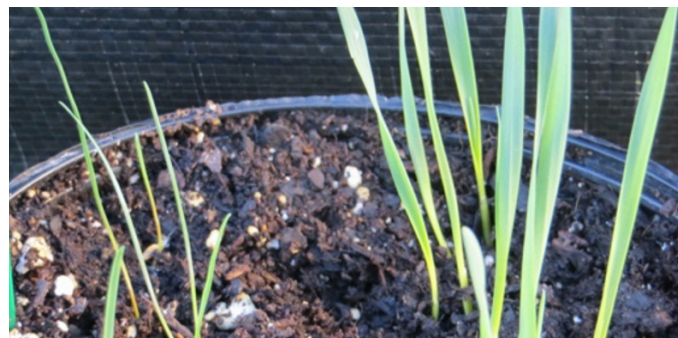
**Ryegrass** continues to threaten Georgia's wheat production. Most ryegrass escapes are a result of 1) planting into fields already infested with emerged ryegrass, and/or 2) making herbicide applications after the ryegrass is too large to control. However, herbicide-resistant ryegrass has become common with numerous populations being confirmed with resistance to Osprey, PowerFlex, Axial, and Hoelon. Ryegrass will likely achieve resistance to herbicides quicker than any other plant, even Palmer amaranth. Aggressive resistance management programs must be implemented, and ignoring this warning may destroy the long-term sustainability of grain production. Proper management begins by planting into a weed-free seedbed, growing a healthy vigorous crop, identifying ryegrass early (photo at right), making timely herbicide applications (Tables 1 and 3), tillage including deep turning when feasible, crop rotation, and making wise decisions.

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

Similar Chemistry
Hoelon & Axial
Same Chemistry
Osprey & PowerFlex
Fierce & Zidua



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Ryegrass

Wheat

## Critical thinking points for ryegrass control:

- Absolutely no ryegrass should be emerged when planting.
- For normal developing wheat, postemergence ryegrass herbicides **should be applied in late December**.
- Do not mix any ryegrass herbicide(s) with 2,4-D, MCPA, Quelex, or NITROGEN as antagonism often occurs!
- Zidua must be activated before ryegrass emergence, but the label does not allow preemergence application.
- Fierce must be activated prior to weeds reaching ½-inch; be prepared for some crop injury.

Table 1. Ryegrass management.

Scenario	Stage of Wheat	Herbicide Option	Comments
Emerged ryegrass	Burndown before planting	Roundup followed by Gramoxone	Apply Roundup 7 or more days before planting and follow with Gramoxone at planting. Deep turning is also effective when erosion is not a concern.
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. Must be activated before ryegrass emergence for control.
After planting; ryegrass ¼" or less plus residual control	95% of wheat in spike to 2-leaf stage	Fierce 1.5 oz/A	Apply in water only; no additives. Wheat must be planted 1 to 1.5" deep; do not apply to broadcast seedings. Use only in fields with known resistant ryegrass as injury can be observed. Avoid sands.
Ryegrass < 1 tiller	3-leaf through joint	Axial Bold 15 oz/A, PowerFlex HL 2.0 oz/A, or Osprey 4.75 oz/A	Assuming no ryegrass resistance and proper herbicide rotation. Add appropriate adjuvant.
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.

**Wild Radish** is the most problematic broadleaf weed infesting nearly every Georgia wheat field (photos below). Wild radish seedpods often contaminate harvested grain thereby reducing profits. The seedpod usually does not shatter, but instead, dries down and fragments into small sections. These seedpod sections are very close in size and shape to wheat seed and are difficult to remove in cleaning (right). Managing wild radish is not difficult if timely control decisions are implemented (Tables 2 and 3).



Table 2. Managing wild radish and other broadleaf weeds.

Scenario	Stage of Wheat	Herbicide Option	Comments
Radish < 8" diameter, henbit, chickweed, most broadleaves	2-tiller through full tiller	MCPA (12-16 oz/A)+ Harmony Extra TS or Quelex (0.75 oz/A)	MCPA rate based on 3.8 lb/A. 2,4-D could be used to replace MCPA at full tiller wheat. Many Harmony-type products are available; select rate based on product used.
Henbit or chickweed populations emerging early plus wild radish	Harmony Extra TS OR Quelex 0.75 oz/A (2-leaf to 2 tiller wheat) <b>followed by</b> MCPA (2-tiller through full-tiller wheat)		Sequential applications may be needed when early-emerging weed populations are intense and applications are needed prior to 2-tiller wheat. 2,4-D could replace MCPA in wheat fully tillered.

Table 3. Managing both ryegrass and wild radish.

Scenario	Stage of Wheat	Herbicide Option	Comments
Radish < 6" diameter and ryegrass < 1 tiller	3-leaf to joint	PowerFlex HL 2.0 oz/A	Add crop oil concentrate at 1% v/v. Harmony Extra TS can be added to improve broadleaf weed control.
Sequential treatment	Axial Bold 15 oz/A (3-leaf through pre-boot wheat) <b>followed by</b> MCPA + Harmony Extra TS OR Quelex (2-tiller through full tiller)		Apply Axial Bold to control ryegrass. Wait at least 7 days and then apply MCPA + Harmony Extra or Quelex when wheat is between 2 tiller and full tiller.

### Critical thinking points for wild radish control

- For normal developing wheat, postemergence ryegrass herbicides **should be applied in late December**.
- Harmony Extra Total Sol rate ranges from 0.45 to 0.9 oz/A; 0.75 oz/A ideal usually. Other formulations exist.
- 2,4-D is better than MCPA on larger weeds but MCPA poses less crop injury potential, so be timely and use MCPA.
- MCPA offers 2 to 3X more residual radish control (but only about 10 days) when compared to Quelex or 2,4-D.

**QUELEX** is a relatively new broadleaf herbicide for wheat, barley, and triticale. It can be used as a preplant burndown treatment for wheat to control emerged weeds prior to or shortly after planting (prior to emergence) and can also be used postemergence between two-leaf and flag leaf. Do not apply more than 0.75 oz/A per growing season and no more than 2.25 oz/A per year for both burndown and in-season use. A crop oil concentrate at 0.5 to 1% v/v is suggested. Control of small common chickweed, Carolina geranium, henbit, and horseweed is expected. For radish, it is effective when the weed is small but on larger plants mixtures with MCPA or 2,4-D should improve control significantly.

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