

UGA Programs for Controlling Ryegrass and Wild Radish in 2024/2025 Wheat

University of Georgia; A. S. Culpepper and J. C. Vance, Tifton GA

Ryegrass is the greatest weedy threat to grain production in Georgia. Most escapes occur when 1) planting into fields infested with emerged ryegrass and/or 2) treating ryegrass that is too large to control. However, ryegrass resistant to Osprey, PowerFlex, Axial XL, and Hoelon are common across the state and can eliminate grain production. **Proper management includes planting into a weed-free seedbed, growing a healthy vigorous crop, applying residual herbicides, treating emerged ryegrass early, and rotating herbicide chemistry to avoid treating the same field two years in a row with the same chemistry.** Additionally, deep turning the land once every 4-7 years if feasible and rotating to crops where other management tools can be used to control this pest is critically important.

Fierce, Zidua, Anthem Flex
Contain Same Chemistry

Hoelon & Axial Bold
Similar Chemistry

Osprey & PowerFlex
Same Chemistry

Table 1. Herbicide options and stages of wheat growth for controlling ryegrass

Scenario and Stage of Wheat Growth	Control Options	Comments
<i>Remove ryegrass before planting</i>	Tillage, Roundup, or Roundup followed by Gramoxone	For ryegrass \geq 3 leaf, Roundup followed by Gramoxone 5 days later may be the best option.
<i>Residual just after planting, drilled wheat:</i> 80% of wheat seeds germinated with shoots at least 1/2" long; must be activated before ryegrass emerges.	Zidua 4.17 SC: 1.25-2.5 fl oz/A or Anthem Flex 4 SE: 2.0-3.65 fl oz/A	Plant wheat at least 0.75" deep; do not apply to broadcast seeded. <u>Coarse soils:</u> Zidua SC 1.25-1.75 oz/A or Anthem Flex 2.0 – 2.7 fl oz/A; higher rates for medium textured soils.
<i>Residual soon after planting, drilled wheat:</i> wheat spike to 2-leaf; must be activated before ryegrass is 1/4" tall.	Fierce 3.04 EZ: 3 fl oz/A (Avoid Sands!)	Plant wheat at least 1" deep; do not apply to broadcast seeded. <i>Do not tank mix with any other product.</i> Fierce is more effective than Zidua/Anthem Flex but expect more injury.
<i>Controlling emerged plants:</i> wheat 3-leaf to jointing; ryegrass treated before tillering. Ryegrass with resistance to each of these herbicides is in Georgia.	Axial Bold: 15 oz/A, or PowerFlex HL: 2.0 oz/A, or Osprey: 4.75 oz/A	Axial Bold: no adjuvant. Powerflex: crop oil concentrate at 1% v/v. Osprey: nonionic surfactant 2 qt/100 gal solution + approved ammonium nitrogen fertilizer at 1-2 qt/A.
<i>Residual postemergence application:</i> wheat spike to 4-tiller; must be activated before ryegrass emerges. May apply at-plant and postemergence with treatments separated by at least 14 days.	Zidua 4.17 SC: 1.75-4.0 fl oz/A or Anthem Flex 4 SE: 2.0-3.65 fl oz/A	Zidua SC 1.75 - 4 oz/A on coarse and medium texture soils; Anthem Flex 2-2.7 oz/A on coarse and 2.75-3.65 oz/A on medium textured soils. <i>Do not exceed 4 oz/A Zidua SC or 4.55 oz/A of Anthem Flex for the year.</i>

Table 2. Suggested programs to manage ryegrass

1. NO ryegrass emerged when planting; use tillage or non-selective herbicides to remove all plants.
2. Apply either Zidua, Anthem Flex, or Fierce as a delayed PRE; Fierce is more effective but likely causes more injury. Zidua/Anthem Flex must be activated before ryegrass emerges; Fierce must be activated before ryegrass is 1/4 inch.
3. Apply postemergence herbicides Axial Bold, PowerFlex, or Osprey before ryegrass tillers which **should occur around or soon after Christmas**. If you treated a field with PowerFlex or Osprey last year, apply Axial Bold this year and vice versa. Suggest not mixing these products with 2,4-D, MCPA, Quelex, or NITROGEN to avoid antagonism!!!



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Nick T. Place, Dean and Director



Wild radish is the most problematic broadleaf weed of wheat infesting nearly every field across Georgia (pictures above). Growers should be prepared to treat every field to avoid wild radish seedpods contaminating harvested grain. 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 making it difficult to remove during cleaning (right). Managing wild radish in wheat is not difficult or expensive if timely control decisions are implemented.



Table 3. Herbicide options and stages of wheat growth for controlling radish

Scenario and Stage of Wheat Growth	Control Options	Comments
<i>Remove wild radish before planting</i>	Tillage or Roundup, Roundup + Quelex, or Roundup + Harmony Extra TS	No plant back interval is needed for Quelex or Harmony Extra TS. Valor or 2,4-D can be used but require 30-day plant back intervals.
<i>Wheat 2-tiller to full tiller:</i> wild radish < 8" diameter, henbit, chickweed, most other broadleaf weeds.	MCPA 3.7 SL: 12-20 oz/A + Harmony Extra ¹ TS 50 SG: 0.75 oz/A <i>or</i> Quelex ¹ 0.2 WG: 0.75 oz/A	MCPA 3.7 SL: 12-16 oz/A after 2-tiller wheat and 16-20 oz/A at full tiller. Can replace MCPA with 2,4-D 3.8 SL: 16-20 oz/A <u>at full tiller wheat</u> .
<i>Sequential applications:</i> Apply Harmony Extra or Quelex as soon as 2-leaf wheat followed by MCPA when wheat is 2-tiller to full-tiller or 2,4-D once wheat is fully tillered.	Harmony Extra ¹ TS 50 SG: 0.75 oz/A <i>or</i> Quelex ¹ 0.2 WG: 0.75 oz/A <i>followed by</i> MCPA <u>or</u> 2,4-D	MCPA 3.7 SL: 12-16 oz/A when wheat has 2-tillers, up to 16-20 oz/A at full tiller. 2,4-D 3.8 SL: 16-20 oz/A at fully tillered wheat.

¹Adjuvants: **Quelex:** add crop oil concentrate at 4-8 pints/100 gallons of solution when applied alone; if mixed with an EC formulation of MCPA or 2,4-D adjuvant not required. **Harmony Extra TS:** Add nonionic surfactant (NIS) at 1 qt/100 gal solution when using water; if mixing with liquid nitrogen (<50% total volume) or 2,4-D/MCPA add NIS at 0.5-1 pt/100 gal solution; or no adjuvant if using liquid nitrogen + MCPA/2,4-D.

Table 4. Postemergence control of both ryegrass and wild radish

Scenario and Stage of Wheat Growth	Herbicide Option	Comments
<i>Postemergence:</i> wheat 3-leaf to jointing; radish < 6" diameter and ryegrass prior to tillering.	PowerFlex HL: 2.0 oz/A	Add crop oil concentrate at 1% v/v. Include Harmony Extra TS to broaden the control of other broadleaf weeds if desired.
<i>Sequential applications:</i> apply Axial Bold to pre-tiller ryegrass; wheat 3-leaf to pre-boot. After at least 7 days, apply broadleaf herbicides when wheat is 2-tiller to full-tiller.	Axial Bold: 15 oz/A <i>followed by</i> MCPA + Harmony Extra ¹ TS <u>or</u> Quelex ¹	Axial Bold = no adjuvant. MCPA 3.7 SL = 12-16 oz/A at 2-tiller wheat and 16-20 oz/A at full tiller; Quelex = 0.75 oz/A; Harmony Extra TS = 0.75 oz/A. See footnote above for adjuvant requirements.

Table 5. Critical Thinking Points for Broadleaf Weed Control

1. For normal developing wheat, postemergence herbicides **should be applied around Christmas or just after.**
2. Harmony Extra Total Sol (TS) rate ranges from 0.45 to 0.9 oz/A; other formulations exist with different use rates.
3. 2,4-D is better than MCPA on larger weeds but MCPA poses less crop injury potential, so be timely and use MCPA.
4. MCPA offers 2 to 3X more residual radish control (only about 10 days though) when compared to Quelex or 2,4-D.