MANAGEMENT OF ITALIAN RYEGRASS IN SOYBEANS

Following is a list of resources to access for information about control and/or management of Italian ryegrass [IRG]. Keep in mind that some of the articles precede the latest technology and information about herbicide resistant [HR] biotypes that have developed in this weed species in recent years. It is likely then that the most recent articles will have the most up-to-date information about control of this problematic weed that can plague soybeans if not properly controlled/managed.

Preplant Burndown Options for Glyphosate Resistant Italian Ryegrass, Univ. of Marylant Ext. [2024]
In battle against Italian ryegrass, cover crops add to arsenal of control options, LSU AgCenter [2024]
Italian Ryegrass Management, Bayer Crop Science [2023]
Italian ryegrass update: latest research and management strategy, UC ANR [2023]
Italian ryegrass, GrowIWM [2022]
Investigating Italian Ryegrass Management Options, SRIN [2022]
Management of Italian ryegrass in agronomic crops, Univ. of Arkansas [FSA2191, 2020]
Herbicide Programs for Italian Ryegrass Control in Winter Wheat, Oklahoma State Univ. [2019]
Control Italian Ryegrass Early, Miss.-crops.com [2017]
Spring Tillage Ineffective for Glyphosate-resistant Italian ryegrass, Miss.-crops.com, [2017]
Management Suggestions for Glyphosate-Resistant Italian Ryegrass, Miss.-crops.com, [2016]
Herbicide Programs for Managing Glyphosate-Resistant Italian Ryegrass, MAFES IS 1359 [2013]

Major points gleaned from the above articles about control of IRG follow.

- Italian ryegrass is a winter annual grass that emerges in both the fall and early spring. It is highly competitive, grows rapidly, and produces tillers.
- Experts generally agree that IRG is second only to Palmer amaranth as a problem weed in Miss. soybean fields. This is especially so if it is not managed prior to soybean planting.
- Since control of this weed has largely depended on herbicides, IRG has developed resistance to multiple classes of herbicides that include ACCase-inhibitors [Group 1], ALS-inhibitors [Group 2], PSII inhibitors [Group 5], EPSPS inhibitors [Group 9], glutamine synthetase inhibitors [Group 10], long chain fatty acid [VLCFA] inhibitors (Group 15], and PSI electron diverter [Group 22]. Some biotypes have developed resistance to multiple herbicide classes [Heap, I. 2025]
- Seed of IRG remain viable in the soil for about 18 months, so a diligent control program used for 2 years will significantly reduce the IRG population.
- Glyphosate + clethodim and sequential applications of paraquat can control IRG if applied when IRG plants are no taller than 6 in. Of course, this control option will only work if IRG populations are not resistant to the classes of herbicides these herbicides are in.
- A cereal rye cover crop used in conjunction with a fall-applied residual herbicide can effectively control IRG.
- Managing field-edge IRG is the best way to prevent field infestations.
- Fall tillage is an effective control measure if conducted when IRG seedlings are small.
- A well-designed IRG management program that includes effective PRE herbicides applied in the fall, and PRE and POST herbicides applied in the spring, appears to be the most effective strategy for controlling this weed. These programs should rotate herbicides with different modes of action to lessen the potential development of HR IRG biotypes. This will help ensure that chemical methods that are used to provide control of the weed will remain effective over a longer period.
- Harvest weed seed control [HWSC] tactics can potentially reduce IRG populations by reducing the amount of seed that are available to replenish the soil weed seedbank.
- Control of IRG is done best with an integrated weed management [IWM] approach that includes cultural and mechanical tactics that include crop rotation and fall tillage, use of an effective cover crop such as cereal rye, use of an effective HWSC

method, and use of effective PRE and POST herbicides that are rotated. Using an IWM control strategy will enhance the longer availability of herbicides that can be used to control this problem weed.

- Pay special attention to IRG biotypes that may be resistant to certain classes of herbicides when using a control strategy that is heavily dependent on chemical control of this weed. Also be aware of HR IRG biotypes that may already be present in fields.

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