

## POTENTIAL BENEFITS OF ANNUAL RYEGRASS (ARG):

- Greater rooting depth.
- Reduce or eliminate soil erosion.
- Reduce N and P runoff into surface water.
- Increase soil tilth and water infiltration.
- Capture residual soil N.
- Increase crop yields, especially in years of low summer rainfall.

## ANNUAL RYEGRASS VARIETY SELECTION AND SEEDING DATES:

- Select a variety with adequate winter hardiness that has been tested in the Midwest.
- Mixes well with other species, such as radish and clover, but not with cereal rye.
- Plant when soil temp is still above 60° F
- If seeding after corn/soybean harvest:
  - Above highway I-70, seed late August-September 15.
  - Below highway I-70 seed September 10 – October 1.
- N is not necessary on fields with adequate residual N.
- Adding 30 lb N/ac will increase plant growth and may help with winter survival.

## BEFORE PLANTING ANNUAL RYEGRASS AS A COVER CROP:

- Fields need to be weed-free when planting ARG; control annuals.
- Annual ryegrass seed may carry over to another year. Kill it (spring germination) or let it become another cover crop (fall germination).

## EQUIPMENT:

- **Drilling** is the most dependable method (12-15 lb/ac).
  - Seed depth ¼ - ½ inch.
  - Germination occurs in 7-10 days.
- **Broadcast** with airflow spreader or fan spreader allows mix of fertilizer and seed (20-25 lb/ac). Experienced growers having good luck with lower rates.
  - May run vertical tillage tool or very shallow tillage to provide some incorporation.
  - Fan spreader pattern requires ½ rate, then double spreading due to light weight of ARG seed - spread width is 25 feet, not 60 feet.
  - Establishment is more weather dependent than planting with a no-till drill.
- **Aerial** allows early broadcast seeding; more important in locations north of I-70. More consistent results in corn. Seeding rate (20-25 lb/ac).
  - Pilot advisory: calibrate plane (light seed results in narrower swath) and do not broadcast if wind is > 7 mph. Spread end-rows first to prevent seed on neighbors.
  - In corn: seed after leaves turn yellow; 4-6 weeks before harvest.
  - In soybeans: in general, seed when beans are yellow and after 1<sup>st</sup> leaf drop. Successful seeding can occur when beans are green or turning yellow.
- **High clearance seeders** can also aid early planting into standing crops
  - Modified "Hi-Boy" sprayers have been used successfully.
  - Similar to broadcast methods, establishment depends on rainfall.

## GROWTH AND DEVELOPMENT:

- Even if stand looks thin in the fall, it will develop significant root growth.
- By Mid-April, most root growth has occurred.
- Roots 28-31" in fragipan and claypan soils.
- Roots 48-50" in better soil with no restrictive layer.



Annual Ryegrass' deep roots allow subsequent corn and soybean roots to find additional moisture.



Annual Ryegrass is the fastest cover crop to establish, whether with a drill or broadcast.



Aerial seeding into a standing crop is an efficient method of broadcasting seed.



Annual ryegrass can substantially increase corn yield, especially in a dry year.

**ANNUAL RYEGRASS CONTROL:**

- **WHEN?**
  - ARG should be actively growing (5-7 days), with soil temp above 45° F.
  - Late March/Mid-April – with the plant typically 6-9” tall.
  - Good spray coverage with medium spray droplets is key.
- **USING GLYPHOSATE?**
  - Use full rates: **1.25-1.50 lb a.e./ac minimum** even if the ryegrass is small.
  - Daytime temperatures a minimum of 55° F (above 60° F optimum).
  - Night time temperatures should be above 38° F (3 nights above 40° F).
  - Spray at least 4 hours before sunset.
  - Reduce water volume to 8-10 gpa.
  - Do not use nozzles that produce coarse spray droplets.
  - Pay attention to water quality. Use AMS plus water conditioners or pH buffers according to label directions and follow order of mixing carefully.
  - Plan 2 applications, especially if initial spray conditions were marginal. Consider using a herbicide with a different mode of action if re-spraying is needed.
- **USING GRAMOXONE OR GLUFOSINATE?**
  - Full label rate only 70-85% effective on ARG, worse after node development.
  - Two applications (2-3 weeks apart) improve control.
- **PLANTING CORN AFTER ARG:**
  - Don't add atrazine or Calisto to glyphosate. You'll cut effectiveness by 40%.
  - OK to add simazine, Prowl H2O, Basis Blend, or other residual herbicides for better weed control. Or apply 7-10 days later.
  - ARG “escapes” can be controlled with labeled rates of Accent Q, Steadfast Q, or Option.
- **PLANTING SOYBEANS AFTER ARG:**
  - Early kill of ARG allows quick decomposition and a good seed bed for beans
  - Using RR seeds allows easier control of “escapes”.
  - ARG can be controlled in beans with Select Max, Poast Plus, or Fusilade DX. Use MSO and liquid fertilizer according to product labels.
  - Poast and Assure have shown poor control.
- **PLANTING WHEAT AFTER ARG:**
  - ARG can be a very competitive weed in winter wheat.
  - Apply a glyphosate burn down before planting wheat.
  - Consider using a preemergence or early postemergence herbicide such as Axiom or Zidua (to be registered in winter wheat soon) to control annual ryegrass that emerges with the wheat.
  - Spray a post-emergence grass herbicide like Osprey, Axial XL, or PowerFlex in late winter or early spring. Check plant back restrictions.



Converting to no-till with cover crops requires new management know-how.



Preliminary research suggests annual ryegrass may also curtail soybean cyst nematode.



Seeding annual ryegrass into standing corn.

**For information on using and managing Annual Ryegrass as a cover crop, visit:**

**[RyegrassCoverCrop.com](http://RyegrassCoverCrop.com)**

*Listing of brand or trade names is for guidance only, not an endorsement of those products.*

