

# Tips for terminating an annual ryegrass cover crop

**Glyphosate rate, ammonium sulfate presence and weather are all important in terminating an annual ryegrass cover crop.**

Posted on **April 15, 2016** by [Erin Hill](#), Michigan State University Extension, Department of Plant, Soil and Microbial Sciences



Annual ryegrass interseeded into seed corn in St. Joseph County, April 2016. Photo by Erin Hill, MSU.

As planting season is quickly approaching, it is time to terminate some of our overwintered cover crops. Annual ryegrass is one of the more challenging cover crops to terminate with herbicides due to its aggressive growth and extensive root system. Glyphosate has thus far been the preferred herbicide for ryegrass termination, however the following points will increase termination success.

**Use a high rate of glyphosate.** A minimum of 36 fluid ounces per acre of Roundup PowerMax, or 1.25 pounds acid equivalent (ae) per acre glyphosate, is recommended, with up to 72 fluid ounces per acre (2.5 pounds ae per acre glyphosate) in situations where the cover crop is extremely dense, greater than 8 inches tall or starting to flower. When using higher rates of glyphosate, growers should consider how this fits into their maximum total quarts allowed for preplanting through pre-emergence and the annual total according to the Roundup PowerMax label.

**Make sure the weather is appropriate for glyphosate uptake.** Glyphosate is a systemic herbicide, so the plant needs to be actively growing for it to be effective. Minimum air temperatures need to be greater than 45 degrees Fahrenheit for three or more days after application, with warmer temperatures resulting in greater uptake and faster activity.

**Ammonium sulfate is needed.** As with all glyphosate applications, it is important to add ammonium sulfate at 17 pounds per 100 gallons of spray solution. The ammonium sulfate counteracts the effects of hard water on glyphosate and helps with glyphosate uptake into the annual ryegrass for more effective control.

In December 2015, Purdue University Extension released an article, "[Successful Annual Ryegrass Termination with Herbicides](#)," that provides an excellent summary of their research findings, including tank mixtures that can help increase the effectiveness of annual ryegrass termination. Their current recommendation is as follows:

36 fluid ounces per acre Roundup PowerMax + 1 fluid ounce per acre Sharpen + 17 pounds per 100 gallons ammonium sulfate + 1% v/v methylated seed oil

As with any herbicide application, attention needs to be paid to any rotation restrictions for the subsequent cash crops, which can be found on the herbicide label or [Michigan State University Extension's "Weed Control Guide for Field Crops"](#) (E0434). For example, higher rates of Sharpen (i.e., 1.5-2 ounces) would require a minimum of 14-30 days between application and soybean planting.

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