ANR-2230

Cogongrass Management FAQ

Cogongrass (*Imperata cylindrica*) is one of the greatest invasive plant threats in Alabama and in the southeastern United States. Although it has been here for more than a century, the problem has dramatically increased in the last 20 years. Many land managers actively and aggressively manage cogongrass and Auburn University researchers have been working on solutions for cogongrass for many years. This publication provides a summary of many years of research and is in the form of answers to the most common questions regarding cogongrass management.

Q: Can I hand pull cogongrass?

Cogongrass has sharp leaf edges and razor-sharp sprouts at ground level making hand pulling quite hazardous. Furthermore, it is extremely difficult to pull cogongrass without leaving behind rhizomes (underground stems), making this approach largely ineffective, even for very small patches.

Q: Will tillage alone control cogongrass?

In areas that can be accessed with machinery, repeated tillage that breaks up the entire rhizome layer will eventually exhaust the energy reserves of cogongrass rhizomes. Tillage fragments the rhizome network, resulting in an increase in new shoot emergence. When repeated after new shoot emergence, tillage will further disrupt growth and decrease stored energy reserves. This approach of repeated tillage can work well over time. If tillage is not repeated, the cogongrass patch may end up thicker than it was to start with. Likewise, shallow, infrequent tillage will generally not control cogongrass. Care must also be taken to clean tillage equipment to avoid spreading rhizomes.

Q: Will prescribed fire control cogongrass?

NO. Prescribed fire at any timing promotes cogongrass to the detriment of almost all other species. Cogongrass can burn hot enough to kill fire tolerant species, even young loblolly and longleaf pine. Burning dense patches of cogongrass when trees are at risk is not recommended. Cogongrass can also be spread by fire-plows that can drag rhizome pieces to uninfested areas.

Fig. 1. Cogongrass fires burn extremely hot.

Q: Will grazing control cogongrass?

Cogongrass was tested as a potential forage crop in Mississippi and Florida more than 80 years ago and was found to be virtually useless. Cattle will graze very young cogongrass shoots, but they tend to avoid it as it matures. Cogongrass is high in silica and low in forage quality. Some cattle producers have used mowing to stimulate new growth for cattle grazing, but this is not an effective control strategy.

Fig. 2. Cogongrass rhizomes account for roughly 60 percent of plant biomass.

Q: What is the best herbicide to treat cogongrass?

Two herbicides, glyphosate and imazapyr, are effective against cogongrass. However, they are generally situation specific and require multiple treatments for complete control. Glyphosate is the safest option when treating cogongrass around desirable trees, shrubs, or other vegetation but is frequently less effective than imazapyr. Imazapyr is extremely effective but cannot be used near most desirable vegetation, unless severe injury or death of the vegetation can be tolerated. Some pines, including loblolly pine, are tolerant to imazapyr. Longleaf pine, however, is not tolerant of high rates of imazapyr.

Q: What rate of these herbicides should I use?

For any herbicide, use rates should be in accordance with label rates for the specific product you select. For glyphosate formulations that contain 41 percent active ingredient (4.0 lb./gal.), a 4 to 7 percent solution is recommended for spot treatments, and broadcast treatment rates should generally be between 3 and 5 quarts per acre. For glyphosate formulations that contain 54 percent active ingredient (5.4 lb./gal.), a 3.5 to 6 percent solution is recommended for spot treatments, and broadcast treatment rates should generally be at 7 pt./acre. For imazapyr formulations that contain 22.6 percent active ingredient (2 lb./gal.), a 2 percent solution is recommended for spot treatments, and broadcast treatment rates should generally be between 48 and 64 oz./acre. For imazapyr formulations that contain 43.3 percent active ingredient (4 lb./gal.), a 1 percent solution is recommended for spot treatments, and broadcast treatment rates should generally be between 24 and 32 oz./acre.

Q: Should I tank mix glyphosate and imazapyr?

There is no antagonism between glyphosate and imazapyr, and they can be tank mixed. There may be some benefit to mixing the two herbicides if lower imazapyr rates are used. However, at the high rates recommended here, research has not shown a strong benefit in mixing the two herbicides. Tank mixing herbicides such as these with different modes of action may be useful to prevent herbicide resistance. Cogongrass, however, has not been found to be resistant to either glyphosate or imazapyr in any case.

Q: What is the best herbicide application timing?

A single application of either glyphosate or imazapyr will rarely, if ever, completely eliminate the entire rhizome layer at any timing. However, the optimal treatment window for both herbicides is late summer through early fall. If spraying in the fall, it is important to spray early enough to give the treatment time to work (approximately 4 weeks) before a killing frost.

Q: Can I treat in the early spring to prevent cogongrass flowering and seed production?

Early spring treatment of the first green cogongrass shoots generally provides inconsistent reduction of flowering. However, fall treatment has worked very well to prevent flowering the following spring.

Q: Should I add surfactant to the tank?

For glyphosate, some products already contain a built-in surfactant and do not need any extra. If the label recommends it, add a nonionic surfactant at 0.25 to 0.5 percent v/v. If water hardness is an issue, the addition of ammonium sulfate to the spray tank is recommended when using glyphosate. For imazapyr, add a nonionic surfactant at 0.25 percent v/v or methylated seed oil at 1 percent v/v depending on the herbicide formulation used.

Q: Should I add a dye or spray indicator?

A blue spray indicator is useful when spot spraying small cogongrass patches and is generally easier to see on the treated foliage than are other colors, such as red. Spray indicators are not usually needed for broadcast applications. Spray indicators are easy to work with and do not stain the way some true dyes stain.

Q: Should I mow or burn to remove the thatch layer before treatment?

For summer or fall treatments, the answer is no. For spring treatments, removing the old growth may stimulate new cogongrass growth and result in more leaf area at the time of treatment. However, as previously discussed, burning cogongrass at any time may injure or kill many trees. There is also some evidence that mowing or burning in the winter may stimulate flowering in the spring.

Q: How much regrowth do I need if I plan to spray after mowing or burning?

It is usually good to allow at least 12 to 18 inches of regrowth before treating. If you treat with less regrowth, control may be poor. It is also fine to allow more than 18 inches of regrowth.

Q: Should I spray beyond the edge of the patch?

Cogongrass spreads laterally by creeping rhizomes. You can often find a few small shoots creeping out beyond the patch edge into numerous vegetation types. Some applicators have reported the formation of cogongrass halos around patches in the growing season after treatment. This has prompted some applicators to spray a band about 10 feet wide beyond the patch edge. This is not recommended if you are using glyphosate, because it has no soil activity. This is a useful option if you are using imazapyr, because it may provide several months of soil activity. Quickly digging out beyond the patch edge will help you determine the prevalence of rhizomes beyond the patch edge.

Fig. 3. Including a blue spray indicator is useful when spraying.

Q: Can I treat cogongrass growing along water?

Yes. Use a formulation of glyphosate or imazapyr that is labeled for use in or along the aquatic environment of concern, and always follow the label directions. DO NOT use any glyphosate product not labeled for aquatic use as it may contain a surfactant that is toxic to aquatic organisms.

Q: How many times will I have to spray to completely eliminate all the rhizomes?

Recent research at Auburn has shown that imazapyr applied once per year for 2 or 3 years can eliminate the entire rhizome layer. Glyphosate applied twice per year in the late spring and fall for 2 or 3 years can also completely eliminate the rhizome layer. Significant differences have also been observed between cogongrass patches in the time it takes to completely eliminate the rhizome layer. This has been noted by many land managers.

Q: Are there any cost share programs available to help with cogongrass treatment?

The National Resource Conservation Service (NRCS) has offered, at times, assistance for cogongrass treatment through the Wildlife Habitat Incentive Program (WHIP) or the Environmental Quality Incentive Program (EQIP), so check with your local office. The Alabama Cogongrass Control Program was active from 2010 to 2012, but is no longer available.

Fig. 4. Buds along cogongrass rhizomes can sprout and form new shoots. This is why leaving even small pieces of rhizomes can result in reinfestation.

Stephen Enloe, *Extension Weed Specialist,* Associate Professor, Crop, Soil, and Environmental Sciences, and **Nancy Loewenstein**, *Research Fellow IV* and *Extension Specialist,* both with Auburn University

ANR-2230

For more information, contact your county Extension office. Visit www.aces.edu/directory.

The pesticide rates in this publication are recommended only if the product(s) is registered with the Environmental Protection Agency and the Alabama Department of Agriculture and Industries. If a registration is changed or canceled, the rate listed here is no longer recommended. Read and follow all directions on the label.

Published by the Alabama Cooperative Extension System (Alabama A&M University and Auburn University), an equal opportunity educator and employer.

New Dec 2014, ANR-2230

www.aces.edu