



Cogongrass Eradication Strategies

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The Georgia Forestry Commission (GFC) began treating cogongrass in 2007. Tank mixes containing the active ingredients glyphosate (Accord[®], Razor Pro[®], Glypro Plus[®], Roundup[®], etc.) and imazapyr (Arsenal AC[®], Chopper[®] and Chopper Gen2[®]) have shown the most significant control. Glyphosate is not a product name but is the active ingredient found in the herbicide and there are numerous glyphosate products available. Individuals should carefully read and compare product labels when planning to purchase a glyphosate product. Products used for cogongrass control should contain at least 41% of the isopropylamine salt of glyphosate. Imazapyr is available as generic formulations. However, it is advisable to consult with chemical distributors for comparable generic imazapyr products. Imazapyr products will usually contain two (2) or four (4) pounds of active ingredient per gallon. Glyphosate has very limited soil activity, whereas imazapyr has both soil and foliar activity and can severely injure or kill susceptible plant species within the targeted spray area. An appropriate surfactant should be added to the herbicide mix to enhance herbicide effectiveness. The GFC has used Dyne-a-pak[®] in herbicide tank mixtures as well as with single product applications. The decision to use Dyne-a-pak surfactant was based upon research conducted by Dr. John Byrd at Mississippi State University which showed use of this product resulted in less resprouting even when using different herbicides and tank mixes.

The successful eradication of cogongrass can vary depending on the age of the stand and depth and density of the rhizome root mat. Getting sufficient herbicide to the root mat is often the most difficult part of eradicating the grass from the site. Younger infestations (<10 years of age) are easier to eradicate than older, well established infestations. Cogongrass will rarely be eradicated with one application, even when using high rates or tank-mix combinations of glyphosate and imazapyr. Infestations usually require multiple treatments over a period of 2-3 years to completely eliminate the rhizomes. Several small spots (<20 feet in diameter) have been controlled in one growing season, however, three consecutive years with no resprouting is necessary for an infestation to be officially classified as "eradicated" by the GFC.

The majority of known cogongrass infestations in Georgia are located in pine woodlands, rights-of-way (both utility and vehicle), open areas such as pastures, wildlife food plots and in home landscapes. The table below summarizes known cogongrass locations in Georgia. All known cogongrass sites found in Georgia are considered young (less than 10 years old); therefore, eradication can be expected within 2-3 years from the initial herbicide treatment. The GFC has treated cogongrass infestations using a variety of herbicide prescriptions in an effort to determine effective and economical strategies that can be used by landowners.

Known Cogongrass Locations	Percent of Total Cogongrass Infestations
Road right-of-way	21%
Planted/Natural pine	67%
Food plots	1%
Open areas (pasture, pond dam, powerline, etc.)	7%
Logging decks	1%
Urban areas	2%
Woods road construction	<1%
Parking lot	<1%

COGONGRASS CONTROL RECOMMENDATIONS

1) PINE WOODLANDS:

In order to remove the dense thatch to increase application effectiveness, cogongrass infestations can be prescribed burned during the winter months prior to the initial herbicide treatment. *A cogongrass fire is hot and fast, so extreme caution, careful planning and preparation are necessary to expect good results with minimal non-target impacts. Due to the extreme burning hazard of cogongrass, it is recommended that landowners consult with the GFC prior to burning.* A spring treatment of glyphosate herbicide will suppress seed production. This can be accomplished by applying a 2% glyphosate solution of 41+% active ingredient plus 1% Dyne-a-pak® in early spring once the new sprouts emerge yet prior to flowering. The timing of this application will vary depending on geographic location, but is usually sometime from March through April. **CAUTION:** *glyphosate herbicide should be considered non-selective when sprayed on plant foliage. Therefore keep spray and spray drift off any desirable plants.* Glyphosate has very limited soil activity, however imazapyr has both soil and foliar activity and can severely injure or destroy susceptible plant species.

The GFC recommends applying a tank mixture of imazapyr with glyphosate between May and November to eradicate cogongrass rather than seeking solely to suppress seed production in the spring. This single treatment is more cost effective and has greater first year control. Apply a tank mix of 1-2% Arsenal AC® plus 1-2% glyphosate plus 1% Dyne-a-pak®; or 2% Chopper Gen2® plus 1-2% glyphosate plus 1% Dyne-a-pak or 2-3% Chopper® plus 2% glyphosate plus 1% Dyne-a-pak®. Use 15-25+ gallons of water per acre. Be sure the spray contacts all leaves including the lower layers near the ground line. Spraying to runoff is not necessary, but all areas should be thoroughly covered including a 10 foot (minimum) zone completely surrounding the grass. The roots are often outside the above-ground zone before the above ground portions of the plant emerge, so spraying outside spots is necessary. Once again, if feasible, prescribe burn the site between January and March to eliminate the thatch.

Imazapyr will damage or kill many hardwood species such as members of the red and white oak groups, sweetgum, yellow poplar, various maple species, etc. Resistant hardwoods include black cherry and winged elm. Therefore, if any desirable hardwoods are present within the cogongrass treatment area, an alternative herbicide treatment may need to be prescribed.

Loblolly pine has a higher tolerance to imazapyr than slash or longleaf pine; therefore, lower rates of imazapyr (14 ounces of Arsenal AC® / 28 ounces of Chopper® or less per acre) are recommended when spraying near these species. The use of lower rates may require additional treatments to eradicate cogongrass.

The second growing season and subsequent years thereafter will require only a summer herbicide application between June and September.

2) WOODLAND AREAS WITH DESIRABLE HARDWOODS:

Areas with desirable hardwood trees should be treated only with glyphosate products. During the active growing season (May-November), apply 2% glyphosate plus 1% Dyne-a-pak® in 15-25+ gallons of water per acre. The spray should contact all above ground leaves including the lower layers. Spraying to runoff is not necessary, but all areas should be thoroughly covered including the multiple layers of above ground grass. Since soil activity is minimal, it is absolutely critical to thoroughly cover all above ground portions of cogongrass for best control. Depending on timing of the herbicide treatment, it may be possible to make two applications in the same growing season.

3) RIGHTS-OF-WAY OR OPEN AREAS:

Higher rates of herbicides can be used in these areas; however, the same herbicides and adjuvants may be used. Chopper® can be applied at rates up to 64 oz. per acre while Arsenal AC® can be applied up to 32 oz. per acre. Burning or mowing prior to herbicide application may increase chemical effectiveness by eliminating thatch and causing the production of new growth, which better absorbs pesticide.

MONITORING a treated site is critical to any invasive species eradication. Eradicating invasive plants requires persistent treating and monitoring the applied treatments. Herbicide effectiveness should be monitored following each herbicide treatment. Unless 100% eradicated, cogongrass will reclaim the site.

APPLICATION METHODS:

Match the spray equipment to the size of the spot while considering limiting factors such as thick trees, steep terrain or distribution of the cogongrass on the site. The average site in Georgia is 0.25 acres or less, and the largest site is over 12 acres. Smaller sites were treated using ATV's equipped with 25 gallon tanks and boomless nozzles or handheld wands while back-pack-type sprayers were used for the smallest spots. The largest areas were treated by private contractors using large equipment with long hoses that could treat several hundred feet away from the pump. Subsequent treatments of these larger sites were handled by GFC personnel using backpack or ATV mounted sprayers.

***DISCLAIMER**

The Georgia Forestry Commission does not promote the use of any particular brand of chemical products. However, a partial list of products used to date by GFC to eradicate cogongrass is provided below. Landowners should read and follow all chemical product labels and directions. Additional herbicide application information will become available as additional treatments are made and monitored. *Proper planning, handling and usage of all pesticides are critical for success.*

Reference Table: Pine woodlands – Number of sites treated = 215

	Timing	Herbicide Rate*	Avg. % control (Visual insp.)
1st year	May-Nov. (Slash pine stands)	2% Chopper® + 1-2% Accord XRT® + 1% Dyne-a-pak® + water	93-98 (following year)
	May-Nov. (loblolly pine stands)	2.0-3.0% Chopper® + 1-2% Accord XRT® + 1% Dyne-a-pak + water	93-98 (following year)
		1-1.5% Arsenal AC® + 1-2% Accord XRT® + 1% Dyne-a-pak® + water	93-98 (following year)
2nd year-until eradicated	May-Nov.	Spot treat or broadcast at the above rates depending on quantity of grass.	undetermined

Reference Table: Right-a-way or Open areas – Number of sites treated = 92

	Timing	Herbicide Rate*	Avg. % control (Visual insp.)
1st year	May-Nov.	3% Chopper® + 2% Accord XRT® + 1% Dyne-a-pak + water	93-98 (following year)
		1-2% Arsenal AC® + 1% Accord XRT® + 1% Dyne-a-pak® + water	93-98 (following year)
		3-4% Accord XRT® + 1% Dyne-a-pak® + water	85-90 (following year)
2nd year-until eradicated	May-Nov.	Spot treat or broadcast at the above rates depending on quantity of grass.	undetermined

More information on cogongrass identification, distribution and treatments can be found at these websites:
<http://www.GaTrees.org/ForestManagement/Cogongrass.cfm> or <http://www.cogongrass.org/>

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