

## Identification and Control of Common Reed (*Phragmites australis*) in Virginia

Virginia Pitman Barnes, Extension Agriculture and Natural Resources agent, Lancaster and Northumberland counties



### Identification

Common reed is a tall perennial grass with creeping rhizomes that may make a dense vegetative mat. The leaves are rolled in the shoot, no auricles are present, and the ligule is a fringe of hairs. Leaf blades are 1 to 5 cm wide, 20 to 60 cm long, flat, and glabrous. The leaf margins are rough and the sheaths are overlapping. The panicle is large and showy, but plants rarely produce viable seed. Most reproduction occurs vegetatively. Reed canarygrass

(*Phalaris arundinacea*) has a similar appearance to common reed, but is much smaller and has a membranous ligule. Giant reed (*Arundo donax* L.) has a similar appearance and habitat, but has a hairy lemma and hairless spikelet stalk, the opposite of common reed. Common reed occurs throughout the United States, Canada, Europe, Asia, Africa, and Australia. Its habitat includes roadside ditches, marshes, natural wetlands, and areas of standing water. It does not tolerate rapidly flowing water. It is tolerant of salt and alkaline soils and soils that have been disturbed.

### Uses

Common reed actually provides high-quality forage and before it reaches maturity, it is palatable for cattle and horses. Native peoples in many regions also use it

for thatching, lattices, baskets, sandals, and mats. Processed common reed is used in Russia for starch. In many areas, people use the panicles for making brooms and decorations. However, in the United States and other countries, common reed is generally recognized as an invasive species, sometimes guilty of altering the structure of local ecosystems and rendering them a monoculture. Thick rhizomal growth and the accumulation of litter from the aerial shoots prevent other species from becoming established. These monocultures have decreased value as wetland habitat for wildlife. Common reed is an undesirable species in areas where stands are spreading and overtaking the habitat, and species typical of the community are diminishing.

### Control

Control methods for common reed can include mowing, disking, dredging, flooding, draining, burning and grazing, but the most effective control is the application of glyphosate herbicide. Because common reed reproduces vegetatively, some cultural control methods, such as mowing, grazing, disking, and cutting can actually increase its spread. Apply glyphosate to the plant's foliage in late August through October, prior to the first frost. Additional herbicide applications in subsequent years will be necessary to provide long-term control.

Several companies manufacture glyphosate. The primary formulation used to control aquatic weeds and marginal weeds in aquatic systems is manufactured by Monsanto under the trade name Rodeo. Other companies marketing formulations of glyphosate include, but are not limited to: Dow AgroSciences, Griffin, DuPont, and BASF. You must consult the label for specific instructions pertaining to the formulation you select.

[www.ext.vt.edu](http://www.ext.vt.edu)



Rodeo requires the addition of a nonionic surfactant labeled for herbicides. However, some generic forms of the product already contain a surfactant and do not require additional surfactant. Be sure to consult the label of your product to ascertain whether it requires the addition of a surfactant. Many such suitable products are on the market. Always read and follow the instructions of the surfactant you choose to use.

Rodeo is an aquatic herbicide. For terrestrial infestations of common reed, you may use a nonwater-safened version of glyphosate, such as Roundup. Roundup is not labeled for use in aquatic environments. Consult the label for use instructions for Roundup.

## Use Instructions for Homeowners

You must wear a long-sleeved shirt, long pants, shoes and socks, and non-permeable gloves when using glyphosate. Wearing a facemask or goggles is recommended.

## For Hand-held Sprayers

Fill the mixing or spray tank with the required amount of water. Do not use water containing soil particles, such as visibly muddy water or water from ponds and ditches that is not clear. Add the recommended amount of glyphosate and the required surfactant near the end of the filling process and mix well. Maintain good agitation at all times throughout the spraying process.

Prepare the desired amount of spray solution by mixing the amount of this product in water as shown in the table below.

For example, if you have a 2-gallon sprayer and would like to spray a 1.5% solution of glyphosate to common reed (the recommended rate for hand-held sprayers), you would fill a container with almost 2 gallons of clean water, then add 4 ounces of glyphosate and 1.28 ounces of nonionic surfactant. The final volume should be 2 gallons. For use in a backpack or hand-held sprayer, you should mix the product, water, and surfactant in a larger container and transfer it to the sprayer when it is mixed.

When applying the spray mixture to common reed plants, be very careful to avoid contact with any desirable species. Glyphosate is a nonselective herbicide that kills plants by moving from the point of foliage contact to and into the root system. DO NOT attempt to apply this product on a windy or breezy day, as even minimal contact with vegetation can cause severe damage or destruction to crops and plants in areas where treatment was not intended. Avoid drift of the spray mixture at all costs.

### Spray Solution

Desired Volume	Amount of Glyphosate Product				
	0.75%	1.0%	1.25%	1.5%	5.0%
1 gal	1.0 oz	1.33 oz	1.67 oz	2.0 oz	6.0
25 gal	1.5 pt	1.0 qt	1.25 qt	1.5 qt	5.0 qt
100 gal	3.0 qt	1.0 gal	1.25 gal	1.5 gal	5.0 gal
<b>Amount of Surfactant</b>					
1 gal	0.64 oz minimum				
100 gal	2.0 qt minimum				

## Aerial Application

Follow the use and mixing instructions above, taking particular care to AVOID DRIFT. Do not spray in winds gusting over 10 mph and respect appropriate buffer zones with desirable vegetation. Use the recommended rates of glyphosate (0.75% to 1.5% for common reed) and surfactant in 3 to 20 gallons of water per acre as a broadcast spray, unless otherwise specified on the product label.

**Note:** Glyphosate does not control plants that are completely submerged or have a majority of their foliage under water. The dense vegetative nature of common reed may prevent complete spray coverage; therefore, you may need to make repeat treatments to maintain control. Visual control symptoms will be slow to develop.

## References

Uva, Richard, et al. 1997. *Weeds of the Northeast*. Cornell University Press, Ithaca, N.Y.

Agricultural Research Service, USDA. 1970. *Common Weeds of the United States*. Dover Publishing, Mineola, N.Y.

Cornell University, Ecology and Management of Invasive Plants Program, <http://www.invasiveplants.net>

Duke, James A. 1983. *Handbook of Energy Crops*. Purdue University. Unpublished.

## Acknowledgments

I would like to express my gratitude to Scott Hagood and Lloyd Hipkins, Extension specialists, Department of Plant Pathology and Weed Science, Virginia Tech, and Keith Balderson, Essex County Extension agent, for their review and comments.

*Reviewed by Edward S. Hagood, Jr., Extension specialist, Plant Pathology, Physiology, and Weed Science*

### **Disclaimer**

*Commercial products are named in this publication for informational purposes only. Virginia Cooperative Extension does not endorse these products and does not intend discrimination against other products which also may be suitable.*