Pest Management – Invasive Plant Control
Grecian foxglove

Conservation Practice Job Sheet *MN-797*

Grecian foxglove (Digitalis lanata) *plant*
Photo J.S. Peterson@USDA-NRCS Plants Database

Grecian foxglove *flower*
photo G.A. cooper@USDA-PLANTS Datbase

Grecian foxglove
Grecian foxglove is an exotic plant that is native to the scrub oak forests of southeast Europe. It was introduced into the Untied States as an ornamental and has escaped cultivation.

Ecological Threat
Grecian foxglove contains a number of chemicals that are used in the most effective heart medicines for heart failure. Some of these include digitalis and digoxin, which can be fatal to horses and cattle if small amounts of fresh or dried plant material are ingested. People may also be adversely affected if the plant is eaten or if bare skin is subject to prolonged exposure to the plant. Symptoms of digitalis poisoning include nausea, vomiting and severe headache.

The plant appears to expand rapidly, re-flowers when cut, and develops a prostrate form when grazed. It spreads by seed only. It grows in single species stands and is a potential threat to savanna and prairie communities.

Grecian foxglove seeds develop in pods that have small hooks on the end. They may become attached to clothing or animal fur and transported long distances to begin new infestations.

Description
Grecian foxglove is a perennial broadleaf plant that is capable of being either a perennial or biennial depending on the length of the growing season. In Minnesota it is primarily a biennial. It forms a rosette the first year of growth, and produces a flowering stalk the second year. Leaves of the rosette resemble buckthorn plantain, a common plant found in lawns.

Flowers form an elongated flower cluster, of conspicuous cream colored, tubular flowers with purplish-brown veins, blooming in June.

Control

Biological Control: There are no known biological control methods at this time.

Mechanical or Manual Control
Frequent mowing or pulling by hand are two methods of control. Pulling at the proper time, prior to seed maturation, is effective but requires diligence due to differential blooming times. If plants are pulled prior

to seed head maturation they can be left on the site without treatment. If there is a chance the seed is viable, then the plants should be bagged in plastic and left in the sun for days, or taken to a compost facility and ran through a controlled "process to further reduce pathogens" which results in temperatures lethal to the seed.

Manual control of Grecian foxglove is best suited to less accessible areas and isolated small patches where there is a commitment to avoid herbicide use.

Prescribed Burning
There is no information about the efficacy of burns.

Chemical Control
Trials are still being conducted to determine which chemicals might be effective in controlling Grecian foxglove. Minnesota Department of Transportation (MnDOT) has done trials with a number of different herbicides, times and rates. The herbicide that worked most effectively was Metsulfron methyl (Msm). Several other chemicals also provided some measure of control. Many of these are only available commercially.

Important Note
Mention of specific pesticide products in this document does not constitute an endorsement. These products are mentioned specifically in control literature used to create this document.

By law, herbicides may only be applied as per label instructions. Follow all label instructions when applying pesticides including "grazing and re-entry level restrictions" and application site restrictions (is the product labeled for "the application site" you are considering?).

Most of the products listed are not acutely toxic but have high potentials to move off-site via leaching or runoff under certain conditions. Off-site movement potential can be minimized by avoiding over-spraying or application to the point where products are reaching or dripping onto the ground.

Information and Recommendations compiled from:

- Walvatne, Paul; Tina Klein and Dwayne Stenlund, Herbicide Trials on Grecian Foxglove Along State Highway 95 Right-of-Way in Minnesota, Minnesota Department of Agriculture. http://www.mda.state.mn.us/IPM/thicket/volume1no1/foxglove.htm
- Minnesota Department of Natural Resources http://www.dnr.state.mn.us/invasives/terrestrialplants/herbaceous/grecianfoxglove.html
- Kansas Department of Agriculture, Plant Protection & Weed Control Program http://www.ksda.gov/includes/document_center/plant_protection/Miscellaneous%20Plans%20Reports%20and%20Guidelines/gfox.pdf