with the capacity to dominate prairies and savannas once established. Lack of natural enemies allows teasel to proliferate. If left unchecked, teasel quickly forms large monocultures that exclude other native vegetation. Cut-leaved teasel is more aggressive than common teasel and has severely threatened several northern and central Illinois natural areas.

A single teasel plant can produce over 3000 seeds and, depending on conditions, up to 30 - 80% of these seeds will germinate. Seeds may also remain viable for at least two years. Seeds typically don't disperse far; most seedlings will be located around the parent plant. Parent plants often provide an optimal nursery site for new teasel plants after the adult dies. Dead adult plants leave a relatively large area of bare ground, formerly occupied by their own basal leaves, which new plants readily occupy. It is possible that teasel seeds can be water-dispersed, which would allow them to be dispersed over longer distances.

Cutting, removal, burning, and herbicides offer the best solutions for control of these two species. Each of these control methods is being researched.

In small natural areas, rosettes can be dug up using a dandelion digger. As much of the root as possible must be removed to prevent resprouting, just as with dandelions. As an alternative, the flowering stalks can be cut at ground level once flowering has initiated. The plant should not reflower and will die at the end of the growing season. Cut flowering stalks should be removed from the natural area, because immature seed heads can produce viable seed on the stem even after cutting. A very small percentage of cut plants may reflower if they are not cut low enough. The area should be visited again to cut any reflowering stems. Cutting the stalk before flowering should be avoided because the plant will usually send up one or more new flowering stalks. This treatment (cutting of flowering stems) may have to be repeated for several years to control teasel. Teasel in nearby areas should also be eliminated to prevent introduction of new seed.

Foliar application of glyphosate, triclopyr

amine, or 2,4-D amine herbicide is recommended where cutting (and removal) or digging-up is not feasible. Glyphosate is available under the trade name Roundup, triclopyr amine is available under the trade name Garlon 3A, and 2,4-D amine is available under various trade names.

Glyphosate is nonselective, so care should be taken not to let it come in contact with nontarget plants. Although glyphosate is most effective during the summer when the plant is actively growing, it is also effective in late fall or early spring. In the fall, teasel rosettes remain green and active after most prairie plants have died back. They green up and start growing again in the spring before many of the prairie plants. Application at these times will result in less harm to nontarget species.

Roundup should not be used to control teasel in natural areas during the active growing season of most native plants because other native species could be injured. Roundup should be applied carefully by hand sprayer to individual teasel rosettes at a 1.5% solution (2 oz. Roundup/gallon of clean water) during late fall or early spring. Application should be made on a spray-towet basis. Spray coverage should be uniform and complete. Do not spray so heavily that herbicide drips off the target species.

Triclopyr and 2,4-D amine are selective for broadleaf plants; they will not harm most grasses. These herbicides can be applied to the rosettes when green. Flowering plants should be treated early to prevent the possibility of viable seed production. 2,4-D amine and triclopyr should be applied by hand sprayer at the recommended application rate on the label for spot-spraying weeds. Application should be uniform: the entire leaf should be wet. The amine formulations of 2,4-D and triclopyr should be used rather than the ester formulations to reduce vapor drift.

Whichever herbicide is used, it should be applied while backing away from the treated area to avoid contacting the wet herbicide. By law, herbicides must be applied according to label instructions and by licensed herbicide applicators or operators when working on public properties. Spraying of

VEGETATION MANAGEMENT GUIDELINE: CUT-LEAVED TEASEL (Dipsacus laciniatus L.) AND COMMON TEASEL (Dipsacus sylvestris Huds.)

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The genus *Dipsacus*, commonly known as teasels, includes aggressive exotic species

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herbicide on the rosettes should be followed by cutting of any flowering stalks that survive spraying.

Late-spring burns may be useful for controlling teasel before it becomes dense. Once an area is densely covered with teasel rosettes, fire does not carry well through the teasel-infested area. Prescribed burns probably work best in conjunction with other methods indicated above.

Natural areas should be monitored periodically for teasel invasion. New plants should either be dug up or flowering stems should be cut and removed as described above. Periodic fall or late-spring prescribed burns should help control teasel.

No biological control of teasel is known that is feasible in natural areas.

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