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*Acreage Living is published monthly. Please share it with your acreage neighbors. Call your local ISU Extension Office for more information or contact an ISU Extension staff member listed below to suggest topics for future articles.*

*Editors:*  
**Paul Brown**  
*Assistant Director*  
*Ag & Natural Resources*  
*Extension*  
*pwbrown@iastate.edu*  
*(515) 294-7801*

*Shawn Shouse*  
*Extension Field Specialist*  
*sshouse@iastate.edu*  
*(712) 769-2600*

*Designer:*  
**Paulette Cambridge**  
*paulette@iastate.edu*  
*(712) 769-2600*

**Brush Management with Herbicides**

*By Robert Hartzler, ISU Professor of weed science*

Disturbances within Iowa’s natural areas make them susceptible to invasion by exotic woody plants. In our last issue, we identified three common Iowa invasive woody species (buckthorn, honeysuckle and multiflora rose).

**Control strategies**

Non-chemical control tactics include pulling, mechanical removal and repeated mowing. In many situations, herbicides provide the most effective and economical control option. Three distinct types of herbicide treatments are commonly used to control woody plants.

Cut surface applications are used to prevent resprouting after mechanical removal of the woody plant. The herbicide should be applied shortly after cutting while the wound is still fresh. For larger trees, the herbicide only needs to be applied to the cambium, the tissue directly underneath the bark. Herbicides can be painted onto the surface or applied with a squirt bottle or small sprayer.



Roundup (glyphosate) at a 50 percent dilution (one part Roundup to one part water) is effective against most species. Use only concentrated formulations with at least 40 percent active ingredient for cut surface applications. Tordon RTU (picloram) is a premixed formulation for cut surface treatments. Caution is required with this product since picloram can be absorbed by roots of adjacent trees and plants, resulting in significant injury.

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Basal bark applications involve applying herbicide to the lower 12 inches of stems and trunks. The herbicide is applied using an oil based carrier (diesel fuel, kerosene, bark oil) to increase movement of the herbicide through the bark. Dyes formulated for basal applications allow the applicator to easily see coverage of the target and if excessive off-target spray is occurring. Basal applications are most effective on trees with a diameter less than four to six inches since the bark on larger trees may reduce herbicide absorption. Trees can be treated any time of the year, but the stems must be dry at the time of application. The bark should be thoroughly wetted with the spray, but applying until runoff is not necessary.



Several herbicides are labeled for basal bark application and their effectiveness varies with target species. Triclopyr is effective against most invasive woody species, and is sold under the tradenames of Garlon, Remedy Ultra, Tahoe and Tailspin. Only the ester formulation (e.g. Garlon 4) should be used for basal bark

treatments because it is oil soluble (important when mixing with oil) and esters penetrate bark more effectively than amine formulations such as Garlon 3A. A mix of 20 ounces of herbicide in one gallon of oil based carrier is effective against most species. Garlon concentrate is available in 2.5 gallon containers that may be more than required for many users. Pathfinder II is a ready-to-use formulation of triclopyr for basal applications that does not require dilution. The combination of convenience and smaller quantity make this type of product suitable for many acreage owners.

Foliar applications require complete coverage of the plant canopy to provide consistent control. They can be made from the time leaves are fully expanded until fall color develops. Mid to late summer application may be less effective if made during periods of extended hot, dry weather. There is a greater risk of the herbicide contacting nearby sensitive vegetation with foliar sprays than with the other techniques, especially when spraying large plants. Applications should be made on relatively calm days (wind speeds less than 10 miles per hour) to minimize off-target movement of herbicides.

Triclopyr is available either as an amine formulation (Garlon 3A) or ester formulation (Garlon 4). For foliar applications, mix one to three ounces Garlon 4 or two to four ounces Garlon 3A per three gallons of water. The ester

formulation can be used for either foliar or basal bark applications. Avoid applications of the ester formulation when temperatures exceed 85° F or in areas where the herbicide may come in contact with water (streams, ponds, etc.). The amine formulation can be used in areas where the spray will come in contact with standing water, making it useful in controlling willows that may invade pond edges.

Most products sold for brush control at garden stores are a combination of two or three growth regulator herbicides intended for foliar applications. Products containing triclopyr generally are more effective on woody species than those based on 2,4-D, dicamba or other herbicides. Products available at garden stores typically contain lower concentrations of active ingredient than products sold for agricultural or commercial uses. Follow the label recommendations for proper mixing. These garden store products are suitable for small jobs, but for larger infestations a commercial formulation such as Garlon may be more economical.

The herbicides used for brush are active at very low concentrations. Caution must be used to minimize their movement onto desirable plants. A separate sprayer should be obtained specifically for applying herbicides since it is difficult to clean herbicide residues from the sprayer. Although most herbicides have a relatively low

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acute toxicity, steps should be taken to minimize your exposure to the chemical. The herbicide label will provide specific information on protective clothing

required when using the product (e.g. rubber gloves, long-sleeved shirts, eye protection, etc.).

Acknowledgment: Loren Lown, Polk County Conservation Board,

provided valuable assistance in developing this information.

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## Conservation Help for Iowa Landowners

*By J. Gordon Arbuckle, Jr., ISU Assistant Professor and Extension Sociologist*

Thinking about addressing soil erosion or water quality problems, improving your grazing system or enhancing wildlife habitat on your land? If you are, there are many state, federal and nongovernmental programs that can help you reach your conservation goals. Between the Iowa Department of Agriculture and Land Stewardship (IDALS), Soil and Water Conservation Districts (SWCDs), the Iowa Department of Natural Resources (IDNR), the USDA Natural Resources Conservation Service (NRCS), the Farm Service Agency (FSA) and private groups such as Pheasants Forever and Ducks Unlimited, there are a myriad of funding and technical assistance options upon which landowners can draw.

### **One-Stop Shop**

Your local USDA Service Center should be one of the first stops for your conservation assistance needs. Located in every county, these offices house NRCS, SWCD and FSA staff who work with private landowners to help them plan and fund their

conservation activities. While each agency has its own programs, local staff are familiar with all of them and can help you match programs to your unique land management needs.

The USDA's better-known programs include the Conservation Reserve Program, or CRP, which is an agreement between the USDA and private landowners to establish conservation practices on environmentally sensitive lands in exchange for cost share and incentive payments as applicable, and an annual rental payment. Typical practices include establishment of native grasses or riparian (streamside) forest buffers to retain soil, capture nutrients and provide wildlife habitat. Another major program is the Environmental Quality Incentives Program (EQIP). While CRP takes land out of production, EQIP facilitates improvement of environmental performance on working lands, including operations with livestock components. Typical practices that EQIP supports through technical assistance and cost-share are management-

intensive grazing systems, terraces, grassed waterways, nutrient management and manure management activities. The Conservation Reserve Enhancement Program (CREP) helps landowners restore or establish wetlands to improve water quality and provide habitat for wildlife.

At the state level, both IDALS and IDNR—in coordination with the USDA—provide landowners with financial and technical support for conservation. Through the Iowa Financial Incentives Cost-Share, the IDALS Division of Soil Conservation (DSC) can fund up to 50 percent—and sometimes more—of the overall cost of establishing erosion and runoff control structures such as terraces and buffers. The IDNR offers technical expertise through private lands biologists who assist landowners with wetland and grassland restoration efforts. For landowners who have cropland or expiring CRP land, the IDNR, IDALS, NRCS and private organizations have teamed up to offer the State Acres for Wildlife

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Enhancement (SAFE) program. The SAFE program can fund up to 90 percent of the establishment costs (plus a sign-up bonus) of wildlife-friendly wetlands and native grasslands. The IDNR and IDALS also partner on two conservation loan programs: the Local Water Protection Program (LWPP) and the Livestock Water Quality (LWQ) program. These initiatives offer low-interest loans that can be used to fund all manner of conservation projects. Landowners can use them to fund the entire cost of their conservation projects, or they can cover their share of project costs

when using cost-share programs described above.

### **Private Organizations**

Many landowners with species-specific interests have also worked with private organizations such as Pheasants Forever and Ducks Unlimited. Staff and volunteers from these organizations can help landowners identify and access informational and financial resources and assist their efforts to improve habitat for desired species such as pheasant, quail and waterfowl. Whether your interest is hunting or viewing, local representatives and members of these groups can help you on your way.

### **What Are You Waiting For?**

Every farm or acreage presents opportunities to improve environmental performance while enhancing quality of life for its owners as well as those who live downstream. Lucky for us in Iowa, there are resources available that can help us address just about any conservation goal that we might have. So why wait? Anytime is a good time for land stewardship. Contact any of the agencies and organizations discussed in this article to see what they can help you do for your land!

Iowa Department of Agriculture and Land Stewardship

<http://www.agriculture.state.ia.us>

IDALS, Wallace State Office Building, 502 E. 9th Street, Des Moines, IA 50319

Phone: 515-281-5321

Conservation Districts of Iowa

<http://www.cdiowa.org>

CDI, PO Box 801, Chariton, IA 50049

Phone: 641-774-4461 Fax: 641-774-5319

Iowa Department of Natural Resources

<http://www.iowadnr.gov/>

IDNR, 502 E. 9th Street, Des Moines, IA 50319-0034

Phone: 515-281-5918

USDA Natural Resources Conservation Service – Iowa

<http://www.ia.nrcs.usda.gov/>

State Conservationist, 210 Walnut Street, Room 693, Des Moines, Iowa 50309

Phone: 515-284-6655 Fax: 515-284-4394

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