Herbicide options for Palmer amaranth in CRP

Photo credit: Bob Hartzler

The following herbicides are registered for use in Conservation Reserve Program (CRP) land and in other conservation plantings with documented infestations of Palmer amaranth. Refer to Natural Resources Conservation Service (NRCS) Agronomy Technical Note 40 for specific information regarding Palmer amaranth management in these fields. The Farm Service Agency (FSA) county committee must approve broadcast herbicide applications since they may alter the contracted cover type. Spot treatments with herbicides are allowed in years one through three of the CRP contract; after year three approval is required for all herbicide applications made during the area's primary nesting season (PNS).

The goal for managing Palmer amaranth in CRP fields should be eradication. It is unlikely a single herbicide application will provide complete control of Palmer amaranth, thus follow-up measures will be essential to eliminating surviving plants and preventing seed production. Spot treatments with an appropriate postemergence herbicide or hand rogueing are the preferred options for eliminating plants surviving initial herbicide treatments.

Preemergence herbicides

Two Special Local Need labels, also known as 24(c), have been granted for use in Palmer amaranth infested CRP fields in Iowa. Although these products are unlikely to provide complete control of Palmer amaranth, they can be an important component of an integrated management program. They may reduce the need for broadcast postemergence applications that can remove many desirable forbs in the plantings.

These products are only effective on germinating seeds, thus they will not control emerged Palmer amaranth. They should be applied in early to mid-May before Palmer amaranth begins to emerge. Tolerance of many of the native grasses and forbs included in CRP plantings has not been evaluated. Injury to these plants may occur, but plants that established during 2016 are expected to recover.

Do not apply during the seeding year. Do not graze or feed forage from treated areas. Applicators must have a copy of the 24(c) label.

Dual II Magnum (*S*-metolachlor) – Apply at 1.7-2.0 pt/A. Only one application can be made per growing season.

Zidua (pyroxasulfone) – Apply at 1.5-4.0 oz/A, and adjust rate to soil type. Zidua may be applied as a single or sequential application. Do not exceed 4 oz/A in a single application; a maximum of 5 oz is allowed for the growing season.

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Postemergence herbicides

Products approved for controlling Palmer amaranth in CRP fields are growth regulator herbicides (Herbicide Group 4). They are active on many broadleaf weeds while safe on established grasses. Growth regulator herbicides are most effective when applied to small (< 6" tall), actively growing plants. Use the high end of recommended rates when treating larger plants. Application to large plants or plants under stress is likely to reduce effectiveness. If using postemergence herbicide products after mowing, delay application for at least two weeks to allow regrowth on Palmer amaranth.

These growth regulator herbicides will injure or kill many of the native forbs present in conservation plantings. Use spot applications when possible to preserve native forbs. Caution must be taken to minimize off-target (drift) movement of herbicides. Read labels to determine appropriate drift reduction procedures. Determine the presence of sensitive vegetation adjacent to the area to be treated.

Read label to determine specific application requirements (spray volume, spray additives, etc.).

2,4-D Low Volatile Ester – Apply at 0.9-1.9 lb ae/A (1.3-2.7 pt 2,4-D LV6/A). Two applications may be made per year, with a maximum of 4 lb 2,4-D ae/A. For spot treatment, add 1 oz of 2,4-D LV6 per gallon of water.

Dicamba – Apply at 0.5-1.0 lb ae/A. Multiple applications can be made per year, but do not exceed 2 lb ae/A in a growing season. Dicamba formulations vary in their potential for vapor drift. Use of dimethylamine formulations (Banvel, etc.) is not recommended when temperatures exceed 80°F and sensitive plants are in the vicinity of the treated field.

Milestone (aminopyralid) – Apply at 5-7 oz/A. Do not exceed 7 oz/A per year. Milestone is more selective than other growth regulator herbicides, and may preserve more plant diversity in the conservation planting than 2,4-D or dicamba.

Photo credit: Bob Hartzler

Spot treatment only

Glyphosate – Glyphosate can be used as a spot treatment to control Palmer amaranth. Glyphosate will kill or injury any plants it contacts, thus creating open areas that other weeds will invade. Some Palmer amaranth biotypes may be resistant to glyphosate.

No endorsement is intended by Iowa State University Extension and Outreach of companies or their products mentioned nor is criticism implied of similar companies or their products not mentioned. Since Palmer amaranth is a new introduction to Iowa, the herbicides described in this publication have not been evaluated for Palmer amaranth control under Iowa conditions.

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