Update on Palmer Amaranth in Conservation Plantings

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Abstract
The 2016 growing season will be remembered by many for the widespread detections of Palmer amaranth across Iowa. While native seed mixes contaminated with Palmer amaranth seed used in Conservation Reserve Program (CRP) fields were the largest source of introduction, it is important to recognize that the weed was also found in at least 7 counties in areas other than CRP fields. Palmer amaranth seed can be transported by machinery, in feed or bedding and by wildlife, thus all fields in Iowa are at risk of being invaded by Palmer amaranth.

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Update on Palmer Amaranth in Conservation Plantings

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The 2016 growing season will be remembered by many for the widespread detections of Palmer amaranth across Iowa. While native seed mixes contaminated with Palmer amaranth seed used in Conservation Reserve Program (CRP) fields were the largest source of introduction, it is important to recognize that the weed was also found in at least 7 counties in areas other than CRP fields. Palmer amaranth seed can be transported by machinery, in feed or bedding and by wildlife, thus all fields in Iowa are at risk of being invaded by Palmer amaranth.

The slow response to Palmer amaranth in CRP has been frustrating to many, but in the past few weeks, there have been several important developments. Below is a brief summary of decisions impacting how Iowa moves forward in minimizing the impact of Palmer amaranth.

- **HF 410**, a bill adding Palmer amaranth to Iowa’s noxious weed law, was signed by Gov. Branstad on April 21. The law goes into effect on July 1, 2017. The bill requires that landowners get approval of the Farm Service Agency (FSA) before implementing control strategies in CRP.
- The Natural Resources and Conservation Service (NRCS) has developed a webpage providing information regarding Palmer amaranth in CRP. Since control tactics may alter the contracted cover, it is essential to communicate with the USDA Service Center regarding Palmer amaranth management in conservation plantings. Iowa Technical Note 40 describes options for Palmer amaranth in these areas. While mowing, hand rogueing and spot treatments are the preferred practices, landowners with documented Palmer amaranth infestations will be provided the option of applying broadcast herbicide treatments. Before making broadcast herbicide applications, a landowner must certify that the contracted area has at least 100 Palmer
amaranth present. Cost share dollars may be available to assist in the expense of herbicide treatments. In certain situations landowners may be allowed to terminate their contract. It is critical to communicate with the USDA Service Center before taking any action that may alter the contracted cover type.

- Landowners that enrolled land during 2016 in programs that may have used Palmer amaranth contaminated seed mixes will receive a letter informing them of the problem and where to get additional information regarding Palmer amaranth management. This letter was mailed on April 21.
- Iowa Department of Agriculture and Land Stewardship has approved Special Local Need labels for use of Dual II Magnum and Zidua in CRP infested with Palmer amaranth. While these preemergence herbicides are unlikely to provide complete control of Palmer amaranth, they can reduce the need for broadcast applications of herbicides that reduce the diversity of the CRP plantings. Approval must be granted from the FSA prior to broadcast applications of Dual II Magnum or Zidua.
- CROP 3137 is a new publication that describes herbicide options for Palmer amaranth in CRP. It is available in the Iowa State University Extension Store. Based on experiences of other states in managing Palmer amaranth, we recognize that these products are unlikely to provide complete control of Palmer amaranth by themselves. Scouting fields following application and implementing appropriate follow-up activities will be essential in eradicating Palmer amaranth.

Palmer amaranth poses a significant threat to crop production in Iowa. Like waterhemp, it has a prolonged emergence pattern, is a prolific seed producer and rapidly evolves resistance to herbicides. Palmer amaranth differs from waterhemp in its competiveness, giving it potential to cause much larger yield losses than waterhemp. Once Palmer amaranth becomes established in a field, more intensive control programs will be needed to protect crop yields. This will require more herbicide and tillage, significantly increasing the cost of weed management.

Although Palmer amaranth has been introduced to too many fields in Iowa to expect statewide eradication, it is not unrealistic to eliminate it from individual fields. This will require dedication and persistent efforts from landowners. The seed bank in most fields is relatively small, but it will still require several years of monitoring and follow-up treatments to prevent further additions to the seed bank. Promoting practices that enhance the perennial cover in CRP is essential to eradicating Palmer amaranth from these fields. Areas where broadcast herbicide applications are made in CRP will require overseeding with appropriate grasses to increase competition.

While implementing effective management strategies in fields with known Palmer amaranth infestations is important, success in limiting the spread of the weed across Iowa requires enhanced vigilance by everyone involved in crop production. The widespread
introduction of Palmer amaranth across Iowa in 2016 provides abundant sources for seed to spread into new, uninfested areas. No field in Iowa is safe.

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