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Scout Now for Palmer Amaranth

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Abstract

This is the time of year to begin scouting for Palmer amaranth (*Amaranthus palmeri*) in Iowa crop fields. While Palmer amaranth has been identified in more than half of Iowa's counties, new identifications have waned since the widespread introductions in 2016. Palmer amaranth is still a species to watch out for in every Iowa crop field. Minnesota recently reported finding the weed in a county previously not known to have infestations – thus the weed is still on the move. A native of the American southwest, Palmer amaranth is more competitive than common waterhemp (*Amaranthus tuberculatus*), a pigweed native to Iowa. Both species are known for fast development of herbicide resistance, prolific seed production (>500,000 seeds possible), and prolonged emergence.

Disciplines

Agricultural Science | Agriculture

IOWA STATE UNIVERSITY
Extension and Outreach

Integrated Crop Management

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The addition of Palmer amaranth to Iowa's noxious weed law as of July 1, 2017 highlights the importance of this weed to Iowans and its potential impact on Iowa agriculture. Early identification is key to eradicating this weed from fields. Eradication cannot happen without vigilance, early detection, and appropriate response soon after it invades an area. Palmer amaranth is reaching the stage where distinguishing it from waterhemp is much easier due to the presence of flowers. In addition to fields where Palmer amaranth was found previously, other priority areas to scout include farms that utilize feed and bedding from southern states, fields receiving manure from those farms, and farms where out-of-state equipment has been used.

Palmer amaranth and waterhemp lack pubescence (hair) on stems and leaves, while other common amaranth (pigweed) species have hair on stems or leaves. Early in the growing season, Palmer amaranth is difficult to differentiate from waterhemp due to the high variability in both species. Leaves on Palmer amaranth often have a petiole longer than the leaf blade, this is the most reliable vegetative trait to differentiate the two species. Leaves on Palmer amaranth are often clustered tightly at the top of the plant. Palmer amaranth often has a denser canopy than waterhemp (Figure 2).

Figure 1. Palmer amaranth leaf with a petiole longer than the leaf blade. Folding the leaf over at the base is the fastest way to check for this trait.

Figure 2. Waterhemp's open canopy (left) compared to Palmer amaranth's denser, leafy canopy (right).

Palmer amaranth and waterhemp produce male and female flowers on separate plants. Identifying males from females should be relatively simple due to the small, black seed produced by female flowers and the presence of pollen on male plants. Female Palmer amaranth are easy to distinguish from waterhemp due to long, sharp bracts (Figure 3) surrounding the flowers (Figure 4). If you discover this weed, steps should be taken to remove all female plants to prevent seed production.

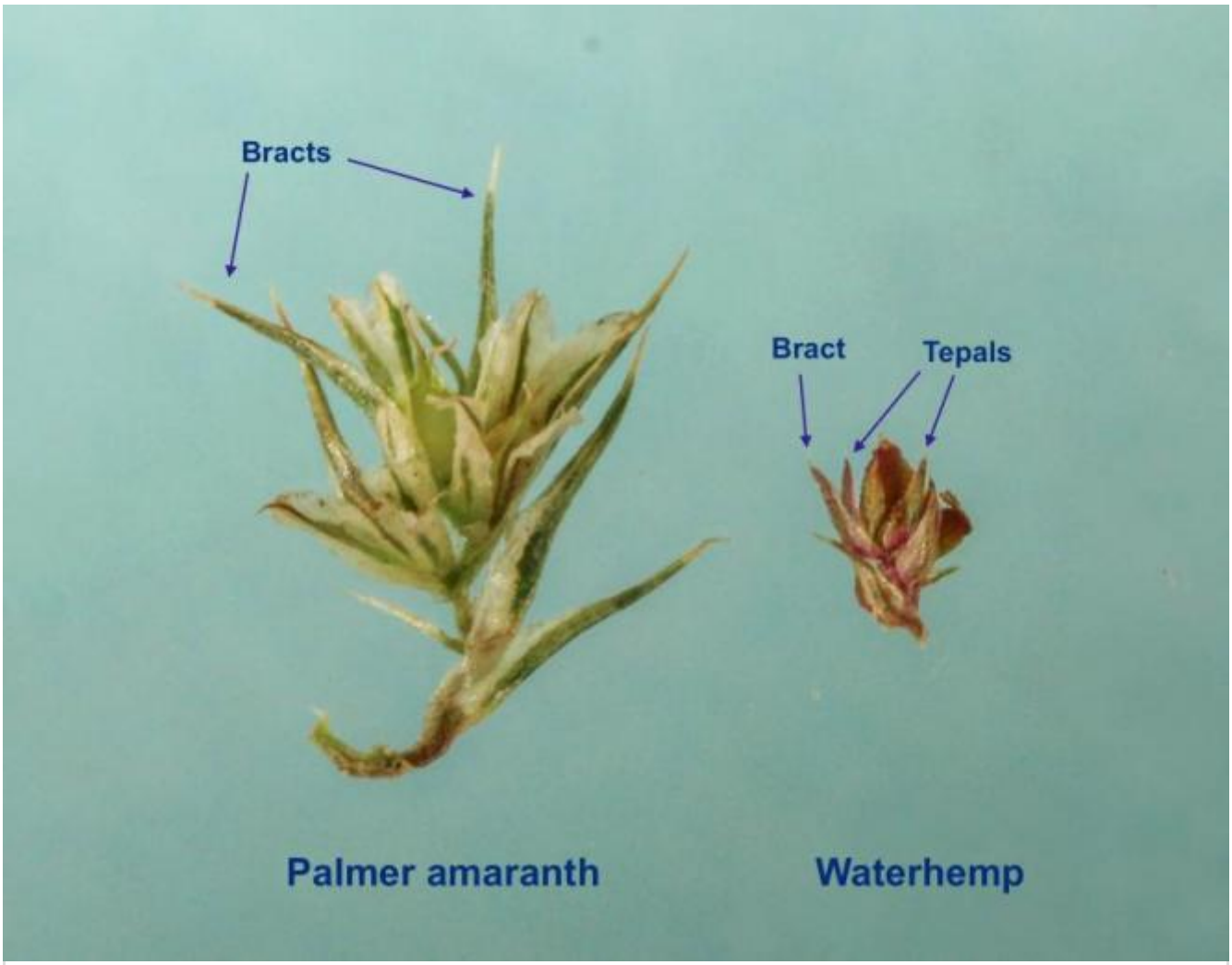

Figure 3. Comparison of a female Palmer amaranth flower and a female waterhemp flower.

Figure 4. Female Palmer amaranth with long terminal inflorescences.

Continued vigilance is imperative to slow the speed with which Palmer amaranth invades our state. If you observe a plant that you think may be Palmer amaranth, please don't hesitate to contact Bob Hartzler at 515-294-1164 or hartzler@iastate.edu or Meaghan Anderson at 319-331-0058 or mjanders@iastate.edu.

Category: Weeds

Tags: palmer amaranth Palmer amaranth identification scouting Weeds weed scouting

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