

Palmer Amaranth a Weed We Can't Ignore

As we enter into June and our crop scouting season intensifies, we need to be aware of a weed new to the area that could be the most invasive weed species that we've faced to date; Palmer Amaranth. For the past decade, glyphosate resistant populations of this super pigweed have plagued southern cotton and soybean crops, many to the point of total loss. Now, Palmer amaranth is on the move and headed north.

A key management tool to combat Palmer is to always apply a residual preplant herbicide in both corn and soybeans. [Purdue Time Lapse of Residual Herbicide Effectiveness on Palmer Amaranth](#)

There are several factors that make Palmer such an enormous problem for producers, with the first being that after the weed reaches 4 inches high or so, even if it isn't a herbicide resistant biotype, post emergence herbicides are not likely to provide acceptable control of this weed. Also, a single plant can yield more than 500,000 seeds, and under optimal conditions with little plant competition, close to one million. Because of their small size, the seeds are easily transported from field to field, carried along by wind and wildlife. The seeds also readily hitch rides on farm machinery, especially combines.

Palmer amaranth, much like waterhemp, is also difficult to control because it readily germinates throughout the growing season from May to as late as October. It is the fastest growing, most competitive and aggressive of the various pigweed species with growth rates **approaching 3" per day.** (*remember, after they reach 4" tall acceptable control is difficult at best.*) Yield losses of 78% (soybean) and 91% (corn) have been attributed to Palmer amaranth interference. Further complicating the issue of Palmer amaranth is the herbicide-resistance factor. Some populations have confirmed resistance to multiple herbicide modes of action including ALS inhibitors, Triazines, HPPD inhibitors, Dinitroanilines, and Glyphosate.

[Palmer Amaranth ID video from Purdue University](#)

As for scouting of Palmer amaranth, as the growth rate per day mentioned above is rapid, early identification is extremely crucial, however it can be tricky. It is easy to misidentify Palmer amaranth because it looks similar to three other common amaranth species: redroot pigweed, smooth pigweed, and common waterhemp. Here are a few different characteristics to help distinguish Palmer amaranth when scouting in the early season:

- **Presence of hair:**
Palmer amaranth does not have any hair on its surface (neither does waterhemp.)
- **Leaf Shape:**
Common waterhemp leaves are generally long, linear, and lanceolate. Palmer amaranth leaves are wider and ovate to diamond-shaped.
- **Petiole Length:**
The petiole is the stem like structure that connects the leaf blade to the main stem. In Palmer, the petioles will be as long (or longer) than the leaf blade itself while waterhemp petioles will be shorter than their long lance, shaped leaves.

- **Leaf Blade Watermark:**
The leaves of some, but not all, Palmer amaranth plants have a white watermark shaped like a chevron or V.
- **Leaf Tip Hair:**
Some Palmer amaranth plants have a single hair in the leaf tip notch. It is important to note that the single hair does not appear on all Palmer plants of plant leaves, but can typically be found on the first two or three true leaves.

The best route of action for this weed is to be aggressive in addressing the potential problems it can create. If Palmer amaranth is allowed to grow for two or three years, your seed bank will be so well-established that it will be extremely hard to get rid of and will have to be part of your weed-management plan for the foreseeable future. Right now we still have time to slow its progression in our area. If you come across suspected Palmer amaranth in your scouting this summer, please contact your Northern Partners account manager for help in confirming its presence and management guidelines going forward.

Follow the following link to read more about this weed: [Aaron Hager article on Palmer Amaranth from University of Illinois Bulletin](#)