

# Palmer amaranth

## New competition for Ontario crops



### THREAT

Palmer amaranth, part of the pigweed family, can become a challenging crop production problem.

Concerning characteristics include:

- adapts quickly (quickly spreads resistance genes due to outcrossing and genetic diversity)
- produces lots of seed (at least 100,000 seeds per plant)
- small seeded, easily dispersed
- grows quickly and outcompetes the crop, with yield reductions up to 70 per cent reported
- known herbicide resistance to nine different groups (WSSA groups 2, 3, 4, 5, 6, 9, 10, 14 and 27). Weed populations may be specific to some or all groups. •

### IDENTIFICATION

#### WHEN AND WHERE

Palmer amaranth has been confirmed in Wellington County, 2023.

#### SEEDLING

Similar to other pigweeds, Palmer amaranth seedlings have hairless, broad ovate leaves with a notched tip and no waxy sheen. Emergence extends from May to September.

#### MATURE PLANTS

There are four ways to identify a mature plant:

1. **Leaf petioles are longer than the leaf blade, when folded over.**
2. **Hairless stems.** Stems also have red lines that may feel rough. Spiky "bracts/whiskers" may also be seen at leaf axil area.
3. **Thick and tall stems.** Much thicker stem than redroot or green pigweed. Can be up to 1.5 to 2.5 m in height.
4. **Leaves.** Diamond shaped outline. As plants become older they almost have a poinsettia like appearance. Sometimes have a white or purple "V" on the leaves.

#### FAVOURABLE CONDITIONS

Palmer amaranth grows well in high heat and low moisture environments. It is an aggressive plant that grows rapidly with high seed production. ●

### CONTROL

- Scout fields and field edges
- Pull any plants that are identified
- For corn and soybeans, use an effective pre-emergent herbicide, followed by a post-emergent herbicide
- Cover crops, alfalfa, winter cereals, and winter canola lower the opportunity of germination

#### WHAT TO DO TODAY

Early detection is key. Should there be a suspected Palmer amaranth plant report it to the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

Plants should be pulled or dug and removed from the field to prevent seed from being produced. If the plants have viable seed, use a bag when removing it from the field to prevent seed spread.

Note: Plant must be destroyed as plant can re-root to produce seed. ●



More information:

List of herbicides labelled for the control of Palmer amaranth:

<https://cropprotectionhub.omafra.gov.on.ca/products/herbicides?wids=0b3d010b-3664-4e1e-a773-6494b60b4ada>

OMAFRA:

<https://www.ontario.ca/document/weed-identification-guide-ontario-crops/palmer-amaranth>

Photos are courtesy of Christy Shropshire, University of Guelph Ridgetown.

Visit [www.gfo.ca/agronomy](http://www.gfo.ca/agronomy) to download.

Version: 09-26-2023.