April 2010

W072 Mature Pigweed Identification

The University of Tennessee Agricultural Extension Service

Follow this and additional works at: http://trace.tennessee.edu/utk_agexcrop

Part of the Plant Sciences Commons

Recommended Citation

"W072 Mature Pigweed Identification," The University of Tennessee Agricultural Extension Service, 05-0168 W072,
http://trace.tennessee.edu/utk_agexcrop/105

The publications in this collection represent the historical publishing record of the UT Agricultural Experiment Station and do not necessarily reflect current scientific knowledge or recommendations. Current information about UT Ag Research can be found at the UT Ag Research website. This Weeds and Herbicide Application is brought to you for free and open access by the UT Extension Publications at Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Field & Commercial Crops by an authorized administrator of Trace: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.
Mature Pigweed Identification

Larry Steckel, Assistant Professor, Plant Sciences

Pigweed species are most easily identified when they are nearing maturity. The flowering structures of pigweeds are relatively distinct for each individual species. The flowering structure (seedheads) of many pigweeds is a series of flowering branches with few to no leaves. They typically vary between species by their length, diameter, degree of branching and shape. At harvest time, it is helpful to correctly identify the pigweeds in your fields. This information can provide changes in next year’s weed management program to better control pigweeds.

The following are some guidelines to help with pigweed identification. It should be noted, however, that there is often physical variation within species and that crossing can occur within some species of pigweed, resulting in hybrid plants. Pigweeds will not always express specific traits of one parent species, but may express a combination of both.

**Smooth pigweed** (*Amaranthus hybridus*)
- Plants will have very small fine hairs throughout.
- Flowering structure is highly branched (Figure 1).
- Flowering stems are the shortest of the pigweeds (<1.5”) (Figure 1).
- Easily distinguished from redroot pigweed only in mature stages.

**Redroot pigweed** (*Amaranthus retroflexus*)
- Very fine hairs are often found throughout the plant, though stems below the cotyledons can be smooth.
- Flowering structure is branched, with many thick, flowering stems that range from 4 to 7 inches in length (Figures 1 and 2).
- Leaf and stem surfaces are rough.

**Figure 1. Seedheads of Smooth and Redroot pigweed.**

**Figure 2. Seedhead comparison of commonly found pigweeds in Tennessee.**

**Slender pigweed,** also known as **Green pigweed** (*Amaranthus gracilis*) or (*Amaranthus viridis*)
- Flowering stems are typically small, less than 3 inches long (Figure 2).
Developing flowering structures are distinct from other pigweeds. They resemble an unfertilized grape vine (Figure 3).

Leaves are egg-shaped and notched at the tip (Figure 3).

Leaves and stems are hairless.

The leaf surface has a rough texture and sometimes contains a v-shaped variegation (having marks or patches of varied colors or shades of one color), also called a watermark (Figure 4).

Figure 3. Seedhead of slender pigweed.

Figure 4. Illustration of slender pigweed growth habit.

Palmer pigweed (*Amaranthus palmeri*)
- Flowering stems are the longest (1 to 2 feet) of the pigweeds (Figures 2 and 5).
- The petioles (the stalk of the leaf blade) are typically longer than the leaf blades.
- Leaves of Palmer are wider than waterhemp leaves.
- Later leaves may occasionally have a white or red v-shaped variegation (watermark).
- The back of leaves is usually waxy.

Common waterhemp (*Amaranthus rudis*) and tall waterhemp (*A. tuberculatus*)
- Flowering stems are highly branched, narrow and typically 4 to 6 inches long (Figure 6).
- Leaves and stems are completely hairless, very smooth and waxy in appearance.
- Leaves are long and typically narrow (Figure 7).
- Plants are more slender than Palmer and have more branching (Figure 8).

Spiny amaranth (*Amaranthus spinosus*)
- Sharp spines, 2 to 4 in number, occur at nodes (points of leaf attachment to stems) (Figure 9).
- Leaves often have v-shaped variegation.
- Stems are hairless and smooth.
- Flowering structure is much less branched than other pigweeds (Figure 10).
- Flowering stems are 2 to 4 inches long (Figure 10).
Palmer amaranth

Common waterhemp

Figure 7. Leaf comparison of Palmer amaranth and common waterhemp.

Spines at Nodes

Figure 9. Illustration of nodal spines of spiny amaranth.

Palmer amaranth

Branching of Common waterhemp

Figure 8. Contrasting growth habits of Palmer amaranth and Common waterhemp.

Palmer amaranth

Branching of Common waterhemp

Figure 10. Mature spiny amaranth with seedheads.

References:

