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# Know the pigweeds

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Pigweed and lambsquarters are two of the most widespread annual, broad-leaved weeds infesting the field crops and gardens of Missouri. Because there are six different species of pigweed found in the state, identification has been difficult. Redroot, Rough, Smooth, and Careless Weed are common names often assigned to the same species. Adding to the confusion, Water Hemp, the most widely distributed species, was formerly classified under the genus *Acnida*. Recently, though, it has been grouped in the genera *Amaranthus*.

During their early growth stages, certain pigweeds can be prepared as greens and used for human food. Livestock will also graze the succulent, young plants. However, under conditions of drought or if they are growing in highly fertile soil, dangerous levels of nitrate accumulate in the plants and then pigweed becomes quite toxic.

Upright, growing species generally attain a height of 3 to 6 feet. Once established, pigweeds grow rapidly and are vigorous competitors in garden and field crops. Seeds of all species appear highly polished, may be reddish-black to jet-black, are a flattened oval shape, are slightly notched on one side, and are slightly smaller than an alfalfa seed.

The pigweed species found in Missouri are listed in this guide according to prevalence and distribution.

### Water Hemp *(Amaranthus tamariscinua, formerly Acnida tamariscinus)*

This species is the most widely distributed of all the different pigweeds in Missouri. (See Figure 1.) It is a dioecious weed, which means that some plants have only male flowers, while other plants have female flowers and bear seed. This characteristic may account for some differences in appearance when they grow side by side in a soybean field. Besides being a vigorous competitor, pollen from Water Hemp contributes to the hay fever problem in late summer.

Figure 1. Water Hemp.

Figure 2. Smooth Pigweed.

### Smooth Pigweed *(Amaranthus hybridus)*

Also called Green amaranth or Slender pigweed, this species is second only to Water Hemp in state-wide distribution. (See Figure 2.) The young leaves and shoots can be substituted for spinach and taste good when properly prepared.

Smooth pigweed is one of the two species that pigs are fond of eating, and this fact has probably given it its common name. Unlike Water Hemp, male and female flowers appear on the same plant.

### Redroot or Rough Pigweed *(Amaranthus retroflexus)*

Often thought to be the most prevalent species in Missouri, its distribution is quite similar to that of Amaranthus hybridus. (See Figure 3.) Like Smooth pigweed, it is palatable to humans and livestock during early stages of growth. But under certain growing conditions, it may have a high percentage of stored nitrates. Both male and female flowers are borne on the same plant. Smooth pigweed (hybridus)

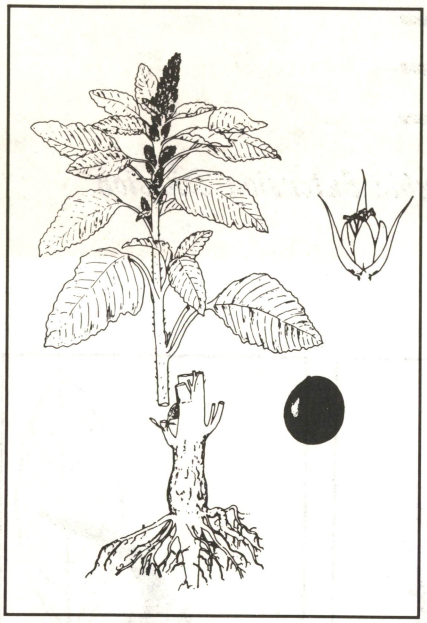

Figure 3. Redroot or Rough Pigweed.

Figure 4. Spiny Amaranth.

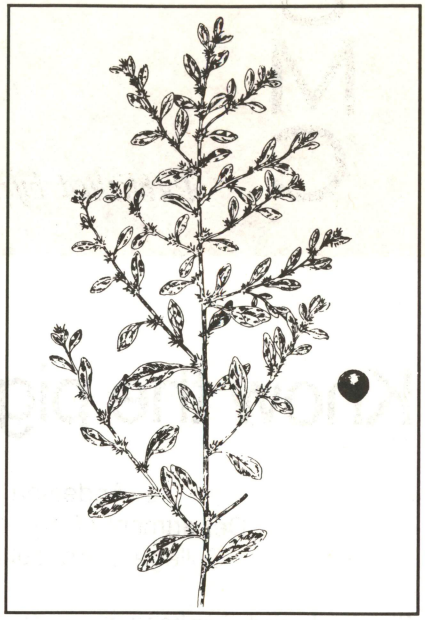

Figure 5. Tumbling Pigweed.

and Redroot or Rough pigweed (Retroflexus) are similar in some respects, but identification tips are:

- Retroflexus has finely pubescent (hairy) stems, while hybridus stems are smooth.
- The leaves of retroflexus are coarse with a rough surface and are ovate-shaped, while hybridus leaves are long and slender.
- Retroflexus has a tight, compact panicle (seed head), while hybridus has loose and long, slender spikes.

Both species can grow to be from 4 to 6 feet tall; seeds are very similar.

### Spiny Amaranth *(Amaranthus spinosus)*

Spines at the base of each leaf stalk make this species easy to identify. (See Figure 4.) The flowering characteristics resemble Water Hemp more than the compact characteristics of hybridus or retroflexus. Interestingly, the terminal spike contains a predominance of male flowers; female flowers are located on spikes that extend under the terminal. Spiny amaranth generally does not exceed 3 feet in height.

### Tumbling Pigweed *(Amaranthus albus)*

This species is characterized by a globular-shaped plant that may be from 1 to 3 feet in diameter. The leaves have short petrioles with a cluster of flowers in each axil. (See Figure 5.)

When mature, the tap root breaks off and the above-ground part rolls and tumbles in the wind, distributing seed along its path. In this respect, it resembles Russian thistle.

### Prostrate Pigweed *(Amaranthus blitoides)*

Prostrate pigweed is easily distinguished from other pigweeds because of its low-spreading growth pattern. (See Figure 6.) Although somewhat similar to Tumbling pigweed, it differs in that leaves have longer petioles and, unlike albus, they are broad at the tip and vary considerably in size.

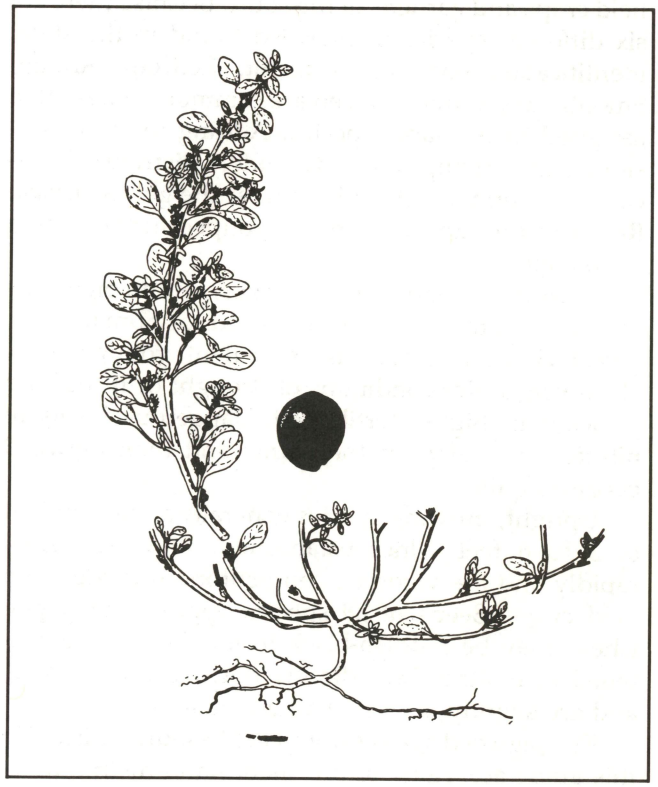

Figure 6. Prostrate Pigweed.

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