SCS-2006-10

Texas Cooperative EXTENSION
The Texas A&M University System

COMMON WATERHEMP - *NOT YOUR AVERAGE CARELESS WEED*

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Common waterhemp (*Amaranthus rudis*) is present sporadically in East Texas croplands from the gulf coast up through the Central Texas Blacklands area and on to northeast Texas. Common waterhemp became prevalent along Texas Gulf Coast cotton fields in the early 1980's where thorough incorporation of the DNA herbicides (Treflan, Prowl) was compromised by heavy, wet clay soils, resulting in weed escapes. In recent years, common waterhemp infestations have spread, largely due to the reduced use of the DNA herbicides and ineffective preemergence herbicides. In addition, farmers often mistake common waterhemp for Palmer amaranth (most common in Texas) or one of the other amaranthus species. What is important to understand is that common waterhemp is not as easily controlled as other amaranthus species, particularly by postemergence (foliar applied) herbicides. Few soil applied (preplant incorporated, preeemergence) herbicide labels will list waterhemp as a controlled weed, but will include several of the other amaranthus species. In addition, on postemergence herbicide labels, applications to waterhemp must often be made earlier than to other broadleaf weeds. Therefore, it is vitally important that crop producers learn to recognize common waterhemp and pay particular attention to the herbicide label on recommendations for control.

Common waterhemp characteristics:

- Typically, waterhemp plants have no hairs on stems or leaves.
- Leaves are glossy, narrowly oblong or lanceolate (lance shaped), and alternately arranged on the main stem.
- The petioles (distinctive stem between leaf blade and main stem) are usually shorter than the leaf blade.
- Seeds are dark red to black, lens-shaped (flattened).

Palmer amaranth Seedling

Common waterhemp Seedling

Distinctive features:

Common waterhemp seedling leaves are often visibly more slender and lance-like than other amaranth species. This shape continues to hold true through maturity. Overall, common waterhemp has a more open canopy with fewer leaves than other amaranths, particularly Palmer amaranth (*Amaranthus palmeri*). Seed heads are generally terminal but often have many branches.

Each plant is either male or female. Male plants shed pollen and female plants produce seed. Common waterhemp is a fast growing weed that can shed more than 300,000 seed at maturity. Therefore it is particularly important that this weed be controlled in field crop situations and it's spread be contained by sanitation (removal of plant seeds or plant parts) of equipment when moved from field to field. Waterhemp is capable of emerging any time during the growing season when adequate moisture is available.

Palmer amaranth **Common waterhemp**

Waterhemp management in Texas cotton

1. Start clean before planting with tillage or use of a burndown herbicide. Common waterhemp is a fast growing weed that can be uncontrollable if conditions preclude timely treatments.

2. Use a preplant incorporated or preemergence herbicide before or at planting. The closer to planting these applications are made, the longer the herbicide will last in the soil. Few herbicides (i.e. Prowl H20, Dual Magnum) will list waterhemp species as controlled, however, you can expect some suppression of this small seeded weed from most soil-applied cotton herbicides. Follow use rates suitable for the soil type. Use of these products will help you to make timely applications of postemergence herbicides if needed.

3. Scout fields for emerged common waterhemp seedlings and prepare to spray before weeds get any larger than 4 inches tall. Roundup WeatherMax applied at 22 oz./acre (in Roundup Ready Flex cotton), Ignite 280 at 22 oz./acre (in Liberty Link cotton) or Staple LX at 2.6 oz./acre should all provide effective control if applied to weeds 4 inches tall or less. Sequential applications will be required if repeated infestations of waterhemp occur.

Waterhemp management in Texas corn

1. Start clean with a burndown herbicide or tillage before planting.

2. Apply a preemergence, residual herbicide such as Dual II Magnum, Harness, Degree, Frontier, or any of these product combinations containing atrazine. Callisto, Lexar, and Lumax are also labeled for one or more waterhemp species. Application rates will depend on soil type.

3. To manage waterhemp with postemergence applications in conventional or herbicide tolerant corn varieties, Lumax, Lexar or Steadfast will be effective on small waterhemp (less than 2 inches tall). For larger waterhemp, refer to the Callisto or Distinct labels for treatment timings. In Roundup Ready Corn 2, apply Roundup WeatherMax before the waterhemp reaches 4 inches in height. Enhanced control can be expected by tank mixing Roundup WeatherMax with Clarity, Banvel, or Distinct.

Waterhemp management in Texas grain sorghum

1. Start clean with a burndown herbicide or tillage before planting.

2. Apply a preemergence, residual herbicide such as Dual II Magnum, Micro-Tech, Frontier or any of these product combinations containing atrazine (only when using ‘safened’ sorghum seed). Application rates will depend on soil type.

3. To manage waterhemp with postemergence applications, consider Peak (for 1 to 3 inch waterhemp) or consult the labels from Clarity and Banvel for recommendations to control waterhemp.

Herbicide resistant waterhemp management

Like other amaranthus species, common waterhemp populations resistant to several classes of herbicides have appeared at a number of locations in the U.S. In some cases, waterhemp has shown resistance to a single “site of action “(where the herbicide works in the plant) group of herbicides but in others, cross-resistance to herbicides that have different sites of action has been observed. Therefore, it is imperative that producers employ resistance management practices to avoid this occurrence on their fields. The easiest resistance management system to employ is the use of at least two different site of action herbicides in your weed management program. For example, if you are growing Roundup Ready Flex cotton, use residual herbicides such as Prowl H20, Treflan, Caparol or Cotoran at or prior to planting to get a jump on early season weeds. Then, the use of Roundup in the system would not be conducive to the development of Roundup resistant weeds in the field. The use of only one herbicide continuously in a weed management program encourages the development of weed resistance. This is because Prowl H2O and Treflan, Caparol and Cotoran, have different sites of action than Roundup. In addition, tillage at any time of the year can help to diffuse the possibility of herbicide resistant weed development.