ROTATIONAL CROPS

- of the best options for managing Palmer amaranth or waterhemp. These fall-planted grains will be already established before Palmer amaranth or waterhemp may emerge in late spring or early summer. Springplanted grains are also a good option for managing these weeds. In addition, grains offer numerous herbicide options for managing these weeds. Grains are typically harvested before these pigweeds go to seed. Please note that these pigweeds can still produce seed after grain harvest even if they emerge late. They must be controlled after grain harvest to prevent viable seed set.
- Alfalfa: Fall-planted alfalfa will be established before these pigweeds start to emerge the following spring. There are also various herbicides labeled for use in alfalfa that will provide good control of these pigweeds. Multiple alfalfa harvests during the summer also reduce/prevent seed production from these pigweeds.
- If possible, avoid planting corn, sugar beet, dry bean, or potato next year: If planting any of these crops, please note that any Palmer amaranth or waterhemp introduced into Idaho may be resistant to HRAC group 9 (ex. Roundup®) and possibly HRAC group 2 herbicides (ex. Harmony®, UpBeet®).
- Use soil-applied herbicides to provide preemergence control of these pigweeds.
 HRAC group 15 herbicides (ex. Dual*, Outlook*, Warrant*, Zidua*) are among the most effective. Please note that some populations of Palmer amaranth and waterhemp may be resistant to HRAC group 15 herbicides but this is not widespread.

 Any Palmer amaranth or waterhemp that survives preemergence control must be controlled using effective postemergence herbicides or hand weeding to prevent the escapes from going to seed.



Please report sightings to:

Idaho: Dr. Albert Adjesiwor, University of Idaho; 208.490.3623; aadjesiwor@uidaho.edu Oregon: Dr. Joel Felix, Oregon State University; 208.739.2675; joel.felix@oregonstate.edu ID/OR: Clarke Alder, Amalgamated Sugar; 208.989.7400; calder@amalsugar.com



University of Idaho







Early Detection and Rapid Response to Palmer amaranth or Waterhemp in Idaho and Oregon



Dr. Albert Adjesiwor, Assistant Professor and Extension Specialist, University of Idaho, Clarke Alder, Research Agronomist, Weed Science, Amalgamated Sugar Company, and Dr. Joel Felix, Weed Scientist, Oregon State University

TSAVRAH TA

to other fields. waterhemp last to reduce the spread of seeds fields with suspected Palmer amaranth or Harvest infested fields last. Harvest

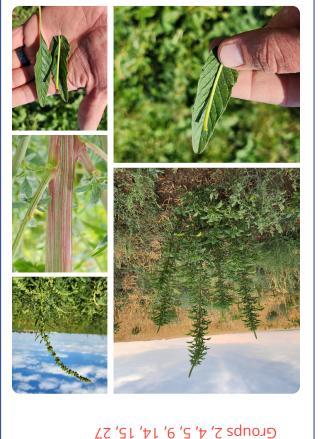
- If necessary, shred. Palmer amaranth or
- it to the receiving stations and into the pile. the beets to avoid whole plants from making waterhemp should be flailed before topping
- foliage, especially in the defoliator. are small and can easily be lodged in wet seeds to other fields/farms. Pigweed seeds or farms. This will reduce the spread of infested fields before moving to other fields Sanitation: Clean equipment after harvest
- of soil covering the weed seeds. This is most deep plowing. This results in a light amount Shallow fall tillage: If possible in your
- years. and induce dormancy which can last 3-5 Deep tillage will bury weed seeds deeper next year to help exhaust the soil seed bank. effective at stimulating seed germination operation, use shallow fall tillage instead of



Waterhemp

Amaranthus tuberculatus

Key Descriptors:



Documented resistance to HRAC

than Palmer amaranth

Shorter petioles with leaves close to

Tend to be more branched overall

Smooth stem - similar to Palmer

Upper leaves thinner and more

Elongated seed head - 6-8" long

Smooth, shiny oblong (oval-shaped)to

lanceolate than lower leaves

məjs

Groups 2, 3, 4, 5, 9, 10, 14, 15, 27

- Documented resistance to HRAC with less "droop"

- pigweeds almost reaching upward
 - Leaves more rigid than other
 - Poinsettia-like leaf whorl beewgiq
- Smooth stem thinner than Redroot
 - Petioles longer than leaf blades

- Non-wavy, diamond-shaped leaves

Elongated seed head - up to 24" long



Key Descriptors:

Amaranthus palmeri Palmer amaranth