2 pigweed species are a concern

Weeds are a major problem in fields this year. The wet spring prevented planting of crops, but did not slow down the germination and growth of weeds. Weeds are more difficult to control once they get big since many herbicide programs are only effective on small plants.

Another unique situation this year is the large number of fields that were not planted to a crop, which allowed weeds to take over. Farmers will eventually address these weedy fields by mowing, tillage, herbicides, or a combination of these methods. The weed species in the field will determine the method used.

The potential long-term impact of weeds depends on the species. Farmers need to be concerned about two pigweed species: waterhemp and Palmer amaranth. These two weeds have been moving into our area the past few years.

Palmer amaranth has been found in a few fields the past several years, but farmers removed the plants before going to seed. At this time, no fields have an established Palmer amaranth population.

A different story is for waterhemp. Waterhemp plants were first found in a few fields in 2016, but farmers were able to remove them before going to seed. However, in 2017, different fields were found to have dense populations of glyphosate resistant waterhemp, evidence that a few plants in earlier years were allowed to go to seed.

Each year since, established populations have been found in more fields.

Unlike the common redroot pigweed, waterhemp and Palmer amaranth are difficult to control with standard herbicide programs and may reduce soybean yields by 40% if not controlled. They can take over a field faster than the typical weeds farmers see in our area.

These tough pigweed species can grow 2 to 3 inches per day under ideal conditions.

They are also prolific seed producers. One female plant competing with soybeans can produce 100,000 seeds in a growing season and in non-competitive situations, produce a half-million seeds. Seeds are very small and can easily move in crop seed, feed, and machinery.

Once in an area, flooding can easily move seeds to new crop fields, conservation areas, roadsides and ditch banks. Flooding and contaminated combines have been the primary ways the seed has been introduced into new fields in our area.

Now is the time that farm operators need to scout fields, field borders, roadsides, along ditches and conservation/wildlife areas. Waterhemp and Palmer amaranth plants will be taller than the soybean canopy as stems elongate and produce flowers. Tall weeds in a soybean field are an indicator that pigweeds may be present.

The only other tall broadleaf weeds that may be present will be giant ragweed and marestail. These weeds have a considerably different appearance than pigweeds.

Examining the upper stems for hairs will determine whether the pigweed is redroot, waterhemp, or Palmer amaranth. Palmer amaranth and waterhemp will have no hairs on the main stem. The common redroot pigweed will have fine hairs on the main stem.

Palmer amaranth will have a long seed head, and on female seed-bearing plants the seed head will be rough to touch and feel like sandpaper. Waterhemp will have narrower leaves than Palmer amaranth.

Detailed identification features may be found on the Ohio State University Extension weed science website: u.osu.edu/ou-weeds. Select the “weed” tab and then the “pigweed” option.

An excellent video on identification and a management fact sheet can be found at this site. The Hancock County Extension office will also assist with identification.

Once a waterhemp or Palmer amaranth plant has been identified, it imperative that the farmer prevent the plant(s) from going to seed to limit the spread of these weeds. Methods used to prevent seed production will depend on the population level.

Where the presence of Palmer amaranth or waterhemp is confirmed, check to see whether plants have mature seed by shaking/crushing parts of the seed head into your hand or other surface that will provide contrast. Mature seeds will be small and very dark.

Plants with mature seeds should be cut off and bagged (at least the seed heads) and removed from the field, or removed via any other method that prevents seed dispersal through the field.

Waterhemp and Palmer amaranth plants should be removed unless the population is too dense for herbicide removal, then the farmer will have to consider two options:

1. Do not harvest, but mow areas infested with waterhemp or Palmer amaranth several times to prevent seed production.

2. Harvest infested field(s) after all other fields have been harvested and clean the combine thoroughly before further use.

Harvesting through patches of infested fields first may further spread weed seed throughout the field and also contaminate the combine, which can then disperse weed seeds to other fields.

For prevented planting fields, tillage is an option.

Farmers should not ignore waterhemp and Palmer amaranth since they are listed on the Ohio noxious weed list and may face enforcement procedures by township trustees: Ohio Noxious Weed Laws, https://farmoffice. osu.edu/sites/aglaw/files/site-library/Noxious%20Weed%20Law%20Bulletin_0.pdf

It has been a difficult crop year for area farmers. However, they still have to be vigilant to prevent the establishment of waterhemp or Palmer amaranth in their fields to avoid future yield losses in soybean production.

At this time, there is no established Palmer amaranth in fields and less than 3% of the fields in Hancock County have waterhemp. Farmers have the next several weeks to remove individual plants in new fields before they go to seed. Removal efforts will continue to minimize the impact these weeds have on soybean production in our area.

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