Palmer Amaranth

By Ed Lentz, Hancock County Extension

Farmers and others in the rural community need to be on the look-out for a new troublesome weed – palmer amaranth. This weed is a member of the pigweed family but much more difficult to control than our local redroot pigweed.

Palmer amaranth adapts quickly to new environments and many populations are resistant to popular herbicides. Left unchecked palmer amaranth may cause yield losses as high as 80 – 90% in soybean fields.

There have been only a few locations in Ohio that the weed has become a problem, mostly in the southwestern part of the state. Populations had not been identified in northwestern Ohio until the past several weeks.

A population of palmer amaranth was confirmed in Putnam County. It is suspected that the source of this population was from manure applied six years ago. For at that time, a local livestock producer was using cottonseed meal in feed rations.

Cottonseed meal contaminated with palmer amaranth seed has been the most frequent source of this weed moving from the south into our region. Livestock producers switched to cottonseed products as a result of high corn and soybean prices during that time.

Palmer amaranth is native to the desert regions of southwestern United States and northern Mexico. It has established itself in the southeastern US and has moved into Indiana and Michigan and a few isolated areas of Ohio.

Palmer amaranth has drastically changed soybean production in the southern states and other areas of the country. It has been called a super pigweed or a pigweed on steroids.

Seeds germinate throughout the growing season making it difficult to manage with traditional herbicide programs. Plants grow rapidly, as much as 2 – 3 inches per day under ideal conditions. A mature plant can easily reach heights of 6 to 8 feet.

Palmer amaranth resembles other pigweeds, which are summer annuals that have oval to diamond shaped leaves that alternate on the stem. Plants tend to be tall and upright to bushy. Flowers are small and greenish occurring as dense clusters in leaf axils and stem terminals.

Pigweed plants are either male or female – almost guaranteeing the spread of new genes, which allows them to quickly adapt to new environments and spread herbicide resistant genes.

Palmer amaranth seeds are very small and easily move as contaminants in grain, seed, or feed and with farm machinery such as combines. Seeds need to be near the soil surface to germinate and establish plants; thus no-till or minimum tilled fields are ideal environments for the weed.

Female plants are prolific seed producers. One plant competing with soybeans can produce 100,000 seeds in a growing season and in non-competitive situations produce a half million seeds.

Two identifying features separate palmer amaranth from the six other pigweed species that may be found in Hancock County: 1) lack of hairs on the stems and 2) petioles (leaf stalks) that are as long as or longer than the leaf.

Farmers and individuals need to be vigilant not to inadvertently bring in palmer amaranth seeds in livestock feed, conservation program seed, and farm machinery purchased from areas with the weed.

Call the Hancock County Extension office (419/422-3851; lentz.38@osu.edu) if you suspect a plant is palmer amaranth. Pigweed identification keys and other resources on palmer amaranth may be found on the Ohio State University's Agronomic Crops Team website, http://agcrops.osu.edu/specialists/weeds/palmer-amaranth.

There is a correction to last week's wheat planting article. Planting depth for wheat should have read one and one half inch (1½) rather than one half inch. Sorry that the additional "one" was inadvertently left out.