

July 29, 2016

PALMAR AMARANTH ZERO TOLERANCE

Palmer Amaranth (*Amaranthus palmeri*) is at the top of the nationwide list of the most troublesome weeds in our row crops. We now have a few fields infested with this weed in Jefferson County and in southern Saline County for the first time in our history of farming. A local crop scout indicated he is seeing some Palmer Amaranth plants in 80-90% of his fields he scouts.

It is a real problem because this weed can quickly become resistant to two or three herbicides at the same time. It can become resistant to ALS (acetolactate synthase) and HPPD inhibitors, atrazine, bromoxynil (Buctril), and glyphosate (Roundup, Touchdown and other brands) herbicides. Palmer Amaranth can be found in 30 states with roundup resistant populations. The weed seed can spread by combines and from beef and dairy manure applications where cotton seed hulls were used as feed. A farmer in Saline County reported to me he first saw the weed last year (not knowing what it was) in a pasture that was flooded, indicating how water movement can spread the weed seeds.

In Nebraska, Palmer Amaranth (I call it a pigweed on steroids) was found resistant to both atrazine and HPPD herbicides confirmed in a seed corn production field near Shickley in Fillmore County in 2013. That was the site of a UNL field day on July 12th this year. Palmer Amaranth has been identified in most eastern counties in the past few years and is spreading west.

Jason Norsworthy, an Arkansas weed scientist, spoke at the field day. He has seen fields that would yield 50 to 60 bu/acre soybeans but with heavy Palmer Amaranth infestations, yields were 10 to 15 bu/acre. The reason why is the farmer lost all control options and the weed overpowered. It's a numbers game.

Once the plant gets to 4 to 5 inches tall, it really takes off and can grow up to 2 to 2.5 inches per day and post emerge herbicides are no longer effective. To the untrained eye when small, Palmer Amaranth looks similar to common waterhemp but there are differences. You need to look close. The main difference is the petiole (stem connected to the leaf blade) will be as long or longer than the leaf blade itself. You can actually fold it over the leaf. You can't do that with common waterhemp. Also, some Palmer Amaranth leaves have white chevrons or V-shaped watermarks on the top leaves. With escapes, Palmer Amaranth female seed heads have stiff, sharp bracts that give the seed heads a prickly feeling when touched. Common waterhemp has seed heads similar in length but lack the prickly bracts.

To extend glyphosate effectiveness, best management practices have been implemented in the field trials at Shickley. They are applying herbicides while weeds are less than 4 inches tall, using recommended pre-emergent herbicides and utilizing at least two modes of herbicide action for controlling resistant weeds that still work. Use crop rotation instead of continuous corn. We will need to think of ways in the future to be more timely with spraying and more utilization of cover crops. One way to help with spraying timeliness is increasing water supply capacities to the sprayer. Plan your combining strategies and cleanout procedures.



Norsworthy said: “There is nothing easy about managing Palmer Amaranth. As an invasive weed native to desert regions of the southwest United States and northern Mexico, these C4 plant species thrive under hot temperatures (98- to 120-degree air temperatures).” You need to view the entire interview at UNL Market Journal <http://tinyurl.com/zbk3pzk> He advises Nebraska crop producers to be vigilant and adopt a zero-tolerance strategy to keep Palmer Amaranth out of their fields and/or reduce the spread of these aggressive weeds.

When growing up in the 60’s and 70’s on a farm near Nemaha, NE, I used to make money by hand roguing soybeans every summer, sometimes with my cousins from Moline, IL. We used corn knives. It was hard work, a lot of exercise, wet in the mornings and tall soybeans and multiple species of weeds made it harder. There were some very ugly fields including sunflowers, cockleburs, velvetleaf, shattercane, and nightshade. With fields today, there is no comparison. We can do zero tolerance. It will pay us in the end. It is with no question, worth a farmer’s time to hand rogue out Palmer Amaranth or hire a crew to rogue it out. We don’t have many acres in Nebraska infested right now so let’s keep it that way!

A Purdue University Extension publication, “Palmer Amaranth Biology, Identification, and Management” is an excellent color guide to view at: <http://tinyurl.com/z4hehgt>

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