

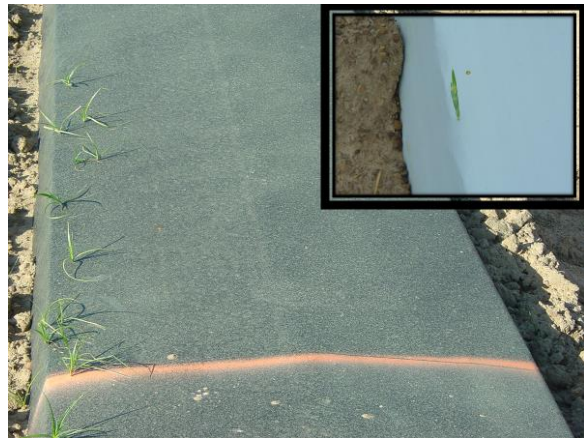
Nutsedge or You: Who's Winning the Fight
(Stanley Culpepper and Jenna Vance; University of Georgia Extension)

Yellow and purple nutsedge continue their pest dominance as being among the most troublesome weeds infesting specialty crops throughout the world, especially in plasticulture production as the weed has the ability to penetrate through the mulch (photo credit: Dr. Ted Webster and Stanley Culpepper).



As nutsedge continues to evolve becoming more troublesome over time, especially with the loss of methyl bromide, our goal is to continuously provide the latest science in the battle against this weed. Earlier this spring an in-depth overview for controlling nutsedge was shared

(<https://specialtycropindustry.com/nutsedge-requires-year-round-management/>). One of



the take home messages from that information was the need for year around management with an aggressive diversified management approach when a heavily infested field is out of production, even for a short period of time. During this fallow period, the use of glyphosate and a disk can be a game changer.

We already know that after reading that last sentence many growers are thinking why in the world would I apply glyphosate, it doesn't do hardly anything to nutsedge. Well, the way to win the battle with any weed is to begin at the weed seedbank ... hang with us and we will get back to the glyphosate that you do not think helps with nutsedge.

The weed seedbank consists of the number of viable weed seeds or tubers that are present on the soil surface and scattered throughout the soil profile. The two factors that play into managing the weed seedbank include 1) maximizing withdrawals and 2) minimizing deposits. Maximizing withdrawals focuses on exhausting the weed seedbank using various methods of chemical, cultural, and mechanical control. Minimizing deposits is, of course, not letting weeds produce seeds and for nutsedge, not letting it produce tubers.

Tilling when used properly can both stimulate nutsedge (most other weeds as well) emergence, maximizing withdrawals while tillage can also be used to control plants prior to tuber or seed production thereby minimizing deposits. Now, back to the glyphosate. One of our great weed scientists, Dr. Ted Webster, determined glyphosate at a rate of 32 oz/A of Roundup PMAX II

reduced tuber production 84%, so even though things are not what you would like to see visually, the ultimate goal of reducing tuber production is impactful. With that said, that rate of Roundup is certainly too low when going after nutsedge even according to the label; doubling the rate further reduced tuber production to 90%. Although 64 oz/A of Roundup PMAX II may only provide 50 to 70 percent visual control in most instances, it is in fact working more effectively by reducing tuber production.

Will a single application of glyphosate be effective or sustainable? Of course the answer is NO, not even close. However, this application is very important in a management approach because it targets the tubers, thereby depleting the seed bank.

Thus comes the systems approach focused on implementing diversified weed management tactics to drive down the nutsedge population when a field is out of production for a few months. During the fall of 2022, a study was initiated with an application of Roundup PMAX II at 64 oz/A on emerged nutsedge followed by disking 2-3 weeks later. Once new nutsedge plants emerged after the disking, but prior to any plants being up for 3 weeks (interval very important), a second glyphosate application was made and followed once again a few weeks later with a disk.

Move forward to May 27, 2023 and there are 17,255 less plants per acre infesting the area where the management program was employed. Of course, this is just the first battle as nutsedge will quickly replenish the seed bank with tubers if management does not continue during each succeeding crop and between crops but it is a great way to take the fight to those heavy nutsedge infested fields. As always, follow all pesticide label use restrictions.

