ALABAMA COOPERATIVE Extension SYSTEM

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ANR-1073

ALABAMA A&M AND AUBURN UNIVERSITIES

Nutsedge Control
IN COMMERCIAL VEGETABLES

Nutsedge Species
AND LIFE HISTORY

Two species of nutsedge infest vegetable fields in Alabama. Purple nutsedge, *Cyperus rotundus* L. (Figure 1), and yellow nutsedge, *Cyperus esculentus* L. (Figures 2 and 3), are prevalent in most areas where vegetables or agronomic crops are grown. These weeds, although often mistaken for grasses, are not grasses and belong to the Cyperaceae (sedge) family. Sedges produce stems that are triangular in cross section, whereas most grasses produce stems that are round in cross section.

Of the two species, purple nutsedge is by far the most difficult to control. Both yellow and purple nutsedge are perennials that propagate mainly by the production of tubers. Yellow nutsedge tends to be a larger plant and light green in color, while purple nutsedge is smaller and dark green. Purple nutsedge forms tuber chains where several tubers are connected together by means of a slender rhizome-like thread of vascular tissue (tissue that conducts water and food) This enables one tuber to branch off and form another tuber. This process continues until a colony is formed. Tubers of yellow nutsedge also branch and form adjacent tubers, but a single tuber terminates each rhizome. Yellow nutsedge can be differentiated from purple nutsedge by the following characteristics:

Figure 1. Purple nutsedge.

Figure 2. Yellow nutsedge.

Figure 3. Yellow nutsedge.

Plant Part	Purple Nutsedge	Yellow Nutsedge
Tuber (or nutlet)	■ Oblong; scaly and coarse; reddish brown; sprouts from buds scattered along the tuber ■ Bitter flavor ■ Several tubers in a chain	■ Globe-shaped; smooth; brown; sprouts from the apical end ■ Pleasant almond flavor ■ One tuber only terminating rhizome
Flowering stem	■ Longer than the basal leaves	■ As long as or shorter than the basal leaves
Leaves at the base of the flowering head	■ Generally as long as or shorter than the inflorescence (flowering structure)	■ Generally as long as or longer than the inflorescence (flowering structure)
Seeds (achene)	■ Dark to blackish brown	■ Light brown

Because both nutsedge species are perennials, tubers of yellow and purple nutsedge may sprout shoots up to seven times before carbohydrate reserves of the tuber are depleted. As a result, primary tillage before planting does not destroy the plants but may actually spread the weed. Shoots can emerge from tubers buried 8 inches deep.

Cultural
CONTROL PRACTICES

With nutsedge, as well as most weeds, cultural control of weeds is often just as important as chemical control. Few herbicides are registered in vegetable crops to control nutsedge. Try these following cultural control practices:

- Because nutsedge is intolerant of shade, plant crops in the closest row spacing possible. A tight row spacing will allow the crop canopy to shade the ground quicker and thus reduce the amount of sunlight reaching any infesting weeds.
- Apply fertilizer in banded applications rather than broadcast. Banded applications will place the fertilizer where the crop can use it but keep it away from the weeds growing between the rows.
- Rotate crops so that you can rotate herbicides. Rotating to a fast-growing crop such as corn not only provides more competition against nutsedge, but allows you to use herbicides that have good activity against nutsedge.
- Post-harvest weed control is critical in reducing the growth and/or seed production of many weeds. Many weeds can germinate, reach maturity, and produce seed in the period between the last harvest of an early-planted vegetable crop and the first frost. Disking or mowing after the final harvest will prevent seed production of most annual weed species. Post-harvest control of nutsedge requires frequent disking or treatment with high rates of glyphosate (Roundup, etc).

Chemical
CONTROL PRACTICES

Before applying any herbicide, consult the label to be sure that the material is cleared for use on that crop and to determine the rate of material to be used.

- Sutan (butylate) or Eradicane (EPTC) *must* be incorporated before planting sweet corn. Both materials provide good control of yellow and purple nutsedge.
- Tillam (pebulate) *must* be incorporated before transplanting tomatoes. Tillam provides control of yellow and purple nutsedge.
- Eptam (EPTC) *must* be incorporated before planting snap beans and Irish potatoes for control of yellow and purple nutsedge.

Sutan, Eradicane, Tillam, and Eptam all belong to the same chemical family (thiocarbamates) and all are volatile. Thus, these materials *must be incorporated* into the soil immediately after application or much of their activity will be lost.

- Sandea (halosulfuron) may be used on cucumbers (slicers and pickles), cantaloupes, honeydews, and crenshaw melons (pre- and postemergent). Sandea can also be used on winter squash, pumpkins, summer squash, gourd, watermelon, eggplant, tomatillos, and peppers (row middles only). Sandea is effective against both yellow and purple nutsedge as well as some other broadleaf weeds. It can be applied preemergence and/or postemergence to direct-seeded and transplanted crops as well as to bare ground or to plastic mulch-covered beds, depending on the crop. Consult the label for specifics.

For preemergence applications of Sandea:

- If susceptible weeds are present before crop emergence, use a surfactant as directed on label.
- Adequate soil moisture is required for optimum preemergent weed control.
- Improve preemergent weed control by incorporating Sandea with irrigation water (¼ to ½ inch).

For postemergence applications of Sandea:

- Treat actively growing broadleaf weeds 3 to 4 inches in height.
- Treat actively growing nutsedge plants at the 3- to 5-leaf stage.
- Avoid rainfall or irrigation within 4 hours of application.
- Delay overhead sprinkler irrigation for 2 to 3 days after postemergence application.
- Avoid applications when weeds are under drought stress, disease, or insect stress.

• Dual (metolachlor) may be used in sweet corn, southernpeas, Irish potatoes, and snap, pole, and lima beans. Dual can be mechanically incorporated or applied to the soil surface immediately after planting. If applied to the soil surface, Dual must be activated (watered into the soil) by rainfall or irrigation before it will be effective. Dual will *only* provide control of yellow nutsedge. It is *not* effective against purple nutsedge.

• Basagran (bentazon) may be used on sweet corn at all growth stages and on lima beans, snap beans, and southernpeas when the third true leaf has fully formed. It has activity on yellow nutsedge when applied as an over-the-top or directed spray if applied with crop oil concentrate. Basagran will *not* control purple nutsedge. Basagran can also be used on peppermint and spearmint.

• Glyphosate (Roundup, etc.) can be used as a preplant foliar application for the control of yellow and purple nutsedge. Applications should be made to exposed nutsedge shoots that are actively growing.

• Methyl bromide and Vapam HR (sodium methlydithiocarbamate) are chemical fumigants that are injected into the soil using specialized equipment. Polyethylene mulch is used to trap these fumigants in the soil. These fumigants are effective against the tubers that are treated, but tubers below the treated zone will escape to germinate later. Consult the product label for the latest information on application of these materials. These materials must be applied before any seeding or transplanting. These materials are RESTRICTED USE pesticides.

In cases where you must control extremely heavy nutsedge infestations, use a sequence of herbicide applications. For example, incorporate Sutan before planting sweet corn, spray Basagran between the rows in mid-season, and apply Roundup after the corn is harvested.

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J. M. Kemble, *Extension Horticulturist,* Associate Professor, Horticulture, **M. G. Patterson,** *Extension Weed Scientist,* Professor, Agronomy and Soils, and **J. W. Everest,** former *Extension Weed Scientist,* Professor Emeritus, Agronomy and Soils, all at Auburn University

For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number. View more information on specific chemicals (product labels, MSDSs) at http://www.cdms.net.

Use pesticides only according to the directions on the label. Follow all directions, precautions, and restrictions that are listed. Do not use pesticides on plants that are not listed on the label.

The pesticide rates in this publication are recommended only if they are registered with the Environmental Protection Agency or the Alabama Department of Agriculture and Industries. If a registration is changed or canceled, the rate listed here is no longer recommended. Before you apply any pesticide, check with your county Extension agent for the latest information.

Trade names are used only to give specific information. The Alabama Cooperative Extension System does not endorse or guarantee any product and does not recommend one product instead of another that might be similar.

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