



Nutsedge and Kyllinga Control for Homeowners

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Nutsedge and kyllinga can be difficult to control in lawns because they are perennials that grow from underground rhizomes and/or tubers. Like many other warm-season perennial weeds, they emerge in late spring/early summer when soil temperatures increase, grow throughout the summer months, and disappear at first frost in the fall/winter. One exception is annual sedge, which is a true annual and does not develop rhizomes and tubers—it emerges from seed and persists throughout the warm-season months.

Sedges (*Cyperus* spp.) and kyllingas (*Kyllinga* spp.) belong to the sedge family (Cyperaceae) and at first glance can look like grasses, especially in mowed turf. However, closer inspection reveals that their stem, floral, and vegetative characteristics are quite different from grasses. Unlike grasses, they have pith-filled triangular stems and three-ranked leaves (Fig. 1). They also lack other grass features such as collars, hairs, ligules, and auricles. The leaf blades of sedges appear waxy and have a v-shaped groove (Fig. 2).

The sedge family (Cyperaceae) is one of the largest families of monocots in Texas and contains hundreds of different species. However, the most common species found in turfgrasses include yellow nutsedge (*Cyperus esculentus* L.), purple nutsedge (*Cyperus rotundus* L.), annual

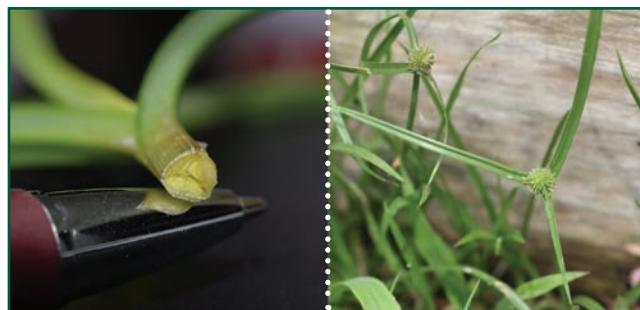


Figure 1. Cross-section of triangular stem (left) and three-ranked leaf arrangement (right) of sedge and kyllinga species.



Figure 2. Sedge and kyllinga leaves often have a waxy appearance and v-shaped groove.

sedge (*Cyperus compressus* L.), green kyllinga (*Kyllinga brevifolia* Rottb.) and false green kyllinga (*Kyllinga gracillima* Miq.). Nutsedge plants are typically larger and more interspersed in turfgrass than kyllinga plants and are commonly found in plant beds, ditch banks, and low-lying wet areas.



Figure 3. Purple (left) and yellow nutgrass (right) are named for the distinct color of their inflorescence.

Yellow and purple nutgrass are perennial sedges whose names reflect the color of their seedhead, or inflorescence. While their seedheads (Fig. 3) rarely appear in frequently mowed turfgrass, you can see them easily in adult plants in unmowed areas such as plant beds or ditch banks. In addition to the seedhead color, yellow and purple nutgrass also have distinctly different leaf tips (Fig. 4) and tubers (Fig. 5). Purple nutgrass leaves have a blunt-shaped tip and dark, charcoal-colored tubers connected by rhizomes. Purple nutgrass is also much more likely to have hairs interspersed over the tuber surface. In contrast, yellow nutgrass has leaves that taper to a tip more gradually and rhizomes that have no hairs and are not connected by chains.

Annual sedge (Fig. 6) has spikelets on the seedheads that are much more flattened than pur-



Figure 5. Purple nutgrass tubers (left) often have dense hairs on them and are connected by rhizomes while yellow nutgrass tubers (right) lack hairs (glabrous) and are not connected by chains.

ple or yellow nutgrass. It also grows in bunches, lacks rhizomes, and is more likely to produce a seedhead than yellow or purple nutgrass in turf that is mowed at moderately low heights.

Unlike sedge species, kyllingas (Fig. 7) are typically much smaller and more able to persist in turf mowed to 1 inch or less. It can be a mat-forming perennial that crowds out desirable turf in mowed settings. Kyllingas can also be distinguished from yellow or purple nutgrass by their roundish, congested seedheads.

Control

Sedges often indicate chronically excessive soil moisture, which should always be addressed as part of an overall treatment program. Yellow nutgrass is generally easier to control than purple



Figure 4. Yellow nutgrass leaf tips (left) gradually taper to a fine point, while purple nutgrass leaf tips (right) end more abruptly in a blunt tip.



Figure 6. Annual sedge can be identified by its flat seedhead and lack of rhizomes or tubers.



Figure 7. Green kyllinga is a perennial weed with a compact, head-like inflorescence, grows from rhizomes, and tolerates low mowing heights.

nutsedge—kyllinga species are generally the most difficult.

Removing sedges by hand is effective if you take care to remove all underground tubers and rhizomes. Adequate soil moisture will make tuber removal easier, especially in heavy clay soils. However, purple nutsedge usually develops a more extensive network of tubers and rhizomes than yellow nutsedge, making them more difficult to remove. Also, pulling mature purple nutsedge rhizomes can stimulate germination of dormant tubers and intensify the problem.

Selective herbicide options

There are several herbicides available that can control nutsedge and kyllinga effectively. For herbicides to control weeds adequately and not injure the desirable turfgrass they must be applied to healthy, actively growing turfgrass at the rate indicated on the label. Always read the product label for application requirements and conditions:

Halosulfuron-methyl (Manage, Sedgehammer)

Manage/Sedgehammer can be safely applied to most cool- and warm-season turfgrass species. You may not see results for up to 2 weeks after application. While this product has systemic properties, multiple applications are often required for long-term control, especially for purple nutsedge and kyllinga

species. Adding a suitable nonionic surfactant will often improve control by allowing water droplets to spread more easily on the leaf surface. In addition, the solvent characteristics of nonionic surfactants can increase the amount of herbicide absorbed by the plant. Certain formulations of Sedgehammer include the appropriate surfactant and are packaged in quantities designed to treat 1,000 square feet. This packaging can be a cost-effective option for small lawns.

Imazaquin (Image)

Image can be applied to many warm-season turfgrasses including buffalograss, centipedegrass and St. Augustinegrass. Optimal control occurs when it is absorbed through the weed's roots and shoots. You may not see results for up to 2 weeks after application, and adding a nonionic surfactant may improve control by maximizing absorption by the leaves. After 24 hours, the leaves will have absorbed enough of this herbicide and $\frac{1}{4}$ to $\frac{1}{2}$ inches of irrigation or rainfall 1 to 7 days after application will allow for root absorption.

Note: Image is also the trade name for a product that contains atrazine and not imazaquin; check the label to ensure you are using the proper product.

Sulfosulfuron (Certainty)

You may apply Certainty to most warm-season turfgrasses. It is similar to halosulfuron-methyl in that it has systemic properties. Results may not be visible for up to 2 weeks and, as with other systemic products, Certainty should be applied with a suitable nonionic surfactant to maximize leaf uptake. Multiple applications may be required to control purple nutsedge and kyllingas. Use Certainty with caution to ensure you are applying it at the proper rate on St. Augustine. St. Augustine is more susceptible to this herbicide than others listed. Certainty is not usually found in retail stores, but it is a very effective product and other warm-season grasses are very tolerant.

Sulfentrazone

Products that contain only sulfentrazone (Ortho Nutsedge Killer for Lawns) can be applied to most turfgrass species including St. Augustinegrass. Products that combine sulfentrazone with other herbicides will increase control of other weed species such as crabgrass or broadleaf weeds (Spectrum Weed Stop for Lawns) but may not be labeled for use in St. Augustinegrass and centipede grass. You will likely see results within 48 hours, and it will suppress sedges for at least 2 to 4 weeks. However, you may need to make repeated applications for long-term control. Additional herbicides are available to professional applicators. For more information visit aggieturf.tamu.edu

Summary

Long-term control of these weeds is possible only if the underlying cause of their competitive advantage is resolved. In the case of sedges and

kyllingas, this is usually prolonged periods of excessive soil moisture that reduce competition from desirable turfgrass. In cases of severe infestation, you should consider modifying the irrigation regimen and/or drainage along with any planned herbicide programs.

Note: Mention of herbicide trade names is for informational purposes only and does not imply recommendation or endorsement. It is always the applicator's responsibility, by law, to read and follow all current label directions for the specific herbicide being used. The label always takes precedence over the recommendations found in this publication.

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