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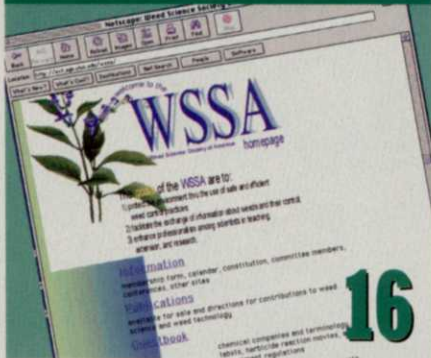


PRE-M[®]

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THE VOICE OF THE GREEN INDUSTRY

LANDSCAPE *management*



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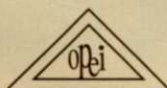
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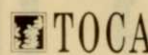
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Sue Gibson

SUE GIBSON
Executive Editor

I have the great fortune and pleasure to return to the green industry as executive editor of Advanstar Communications' four Landscape Group publications: *Landscape Management*, *TurfGrass Trends*, *Athletic Turf Maintenance & Technology*, and now, *Golfdom*. These four publications offer golf course, landscape, lawn and grounds managers complete coverage of the technical, managerial and business information you need to know.

I love the green industry, which is why I am glad to be back. I love the way it is so diverse and so dynamic. The green industry is the place where biology and business meet, but it's more than that. It's an industry full of terrific people who are savvy in business, skilled in growing plants, creative in marketing, innovative in applying research to technology and often, just plain fun. It's an industry of low-end, high-end and middle-of-the-road organizations, most who work to make our environment a more beautiful and enjoyable place to be.

One of the best things about being part of the Advanstar Landscape Group is the fact that things are happening here and they're happening at breakneck speed. We're busier than a mowing manager in May planning new products and additions to our publications for 1999.

We recognized the shared interests and differences of profession in this industry a while back. That's when we took *TurfGrass Trends* under our wing and introduced *Athletic Turf Maintenance & Technology* to that very important segment of the market. Now we're ready to make some more dramatic changes:

► One of the most exciting changes for us will happen with the January 1999 issue of *Landscape Management*, where we'll focus exclusively on the needs and interests of lawn, landscape and

grounds managers. *Landscape Management's* beautiful graphics and coverage won't go away; we're just adding more coverage of:

- In-depth, practical information on managing your business,
- Ideas for operating your organization efficiently, day by day,
- Articles that explain how to grow healthy plants and healthy businesses,
- Realistic industry data that give a true picture of how our markets work, not just shot-in-the-dark numbers.

Why are we doing this? Because our second big step is to reintroduce *Golfdom* magazine in February, a publication that was the Bible of the golf industry for years. This high-end guide to the business of golf will debut with Pat Jones as publisher/editor. Pat's years of experience in the golf industry, extensive network of contacts and business and editorial expertise make the reappearance of *Golfdom* an exciting prospect.

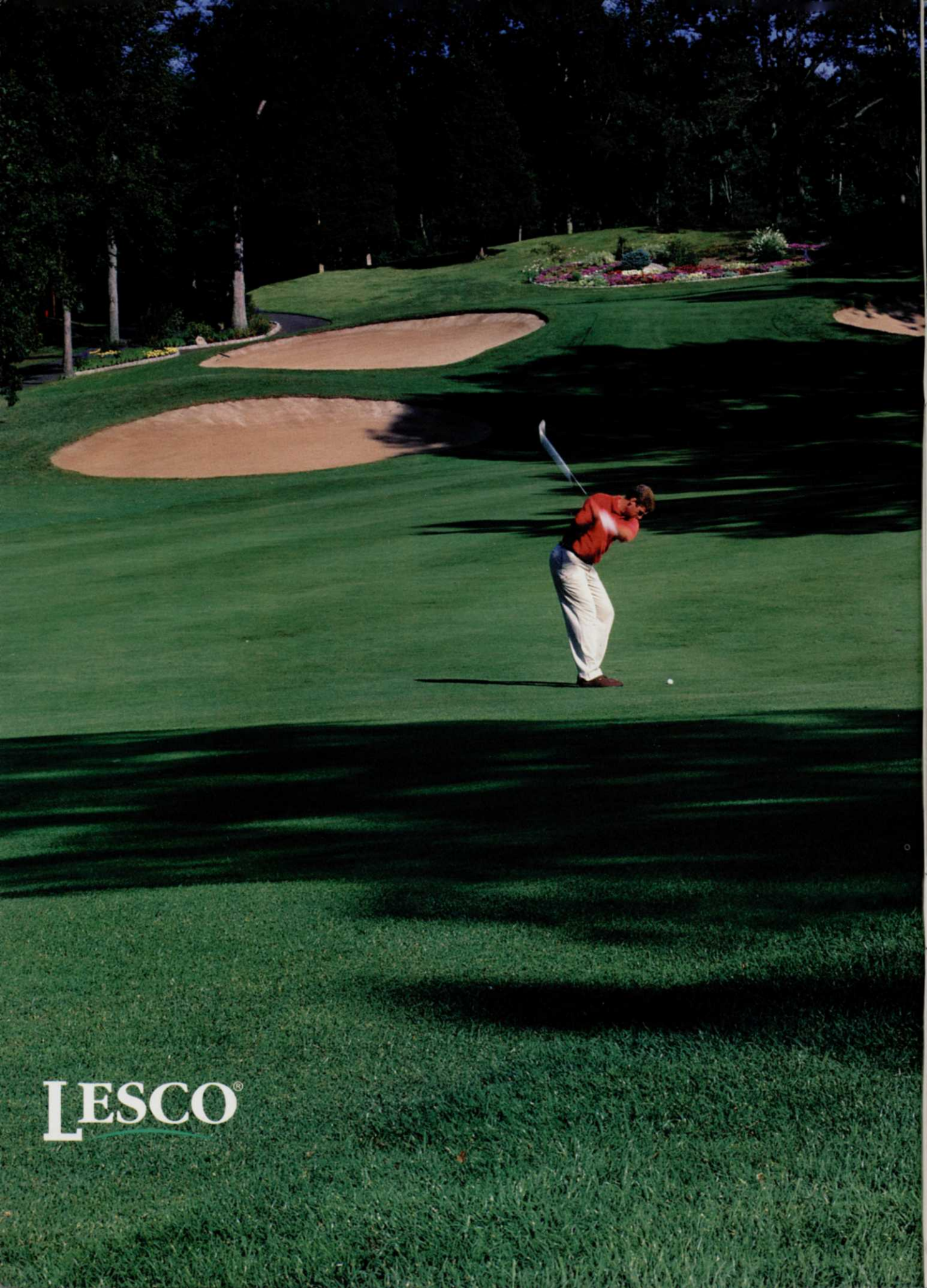
► We're publishing *Athletic Turf Maintenance & Technology* four times a year in 1999, and we're looking forward to covering truly innovative and practical athletic field management editorial under the knowledgeable guidance of Ron Hall, editor in chief.

► *TurfGrass Trends* will also undergo some tweaking as we expand our reach into the market and refine our focus on making the latest research useful to turf managers in all markets.

► Finally, we're already starting to beef-up our internet site (www.landscapegroup.com) to supplement our publications with useful coverage of products and management, article abstracts and archives, technical guides, news updates as they happen and much more.

In the midst of all our planning, we're also packing for those winter events that draw this industry together, like the GIE Show and others. We hope to see you there and find out what types of information you like best.

If you don't want to wait, please call us at 800/225-4569 or e-mail me at sgibson@advanstar.com. We want your input as we continue to expand our coverage to you, the best people in the green industry. **LM**



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The Leading Edge.

A piece of cardboard with the PRE-M logo resting on a pile of mulch. The logo is in a bold, green, sans-serif font with a registered trademark symbol. The cardboard is slightly curved and placed on a mound of dark brown mulch. The background shows a well-maintained golf course with green grass and trees in the distance.

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WEED IDENTIFICATION GUIDE

INTRODUCTION

Successful weed identification is a combination of timing and user-friendly data. Timing in relation to the maturity of the plant (the older, the easier) and user-friendly data, meaning an identification guide that is designed to facilitate the identification process. Both were considered in the design of this guide.

Timing: When identifying either monocot (grassy) weeds or dicot (broadleaf) weeds, studying a mature or flowering sample is very important. All of the most easily identifiable traits—flowers, seeds, leaves and roots—are present then, so take some time to find a mature specimen to examine.

User-friendly data: For ease of use, this guide concentrates on those plant characteristics that differentiate one species from another rather than those traits each has in common. These differences are represented visually with added text to refine the distinctions between similar plants.

Understanding the terms used in this guide

Understanding the parts of a grass plant are essential to accurately identify monocot weeds. In the example shown, pay particular attention to the seedhead, the ligule and the collar. They are the plant parts which have the most differentiating traits.

Abbreviations

aka = "also known as" (different common names are popular in different parts of the U.S.)

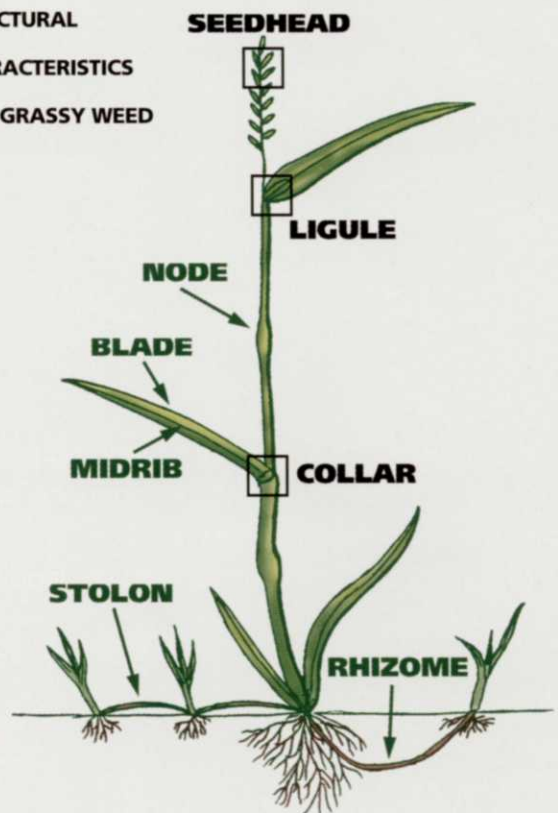
Further help

The use of this guide was designed to help managers substantially reduce the number of possible weed species identifications. However, variations in a plant's vegetative characteristics or distribution may require that managers forward samples to their local extension service for confirmation. American Cyanamid's local technical representatives can also be contacted for further help.

Sources

Information was compiled from the Scotts "Guide to the Identification of Grasses," the Southern Weed Science Society's "Weed Identification Guide," A.S. Hitchcock's "Manual of the Grasses of the United States" and the extension department at Cornell University.

STRUCTURAL CHARACTERISTICS OF A GRASSY WEED



Leaf in bud:



folded

rolled

Collar:



broad

medium

narrow

Ligule:



tall

medium

short

absent

hairy

Monocot weeds

Because of natural variations within grasses and differences that occur under varying environments, the illustrations included herein are meant to be representative but not definitive. Users need to consider all of the information—seedhead, in-bud, ligule, collar, descriptive text, tips and distribution—to accurately identify a weed.

As you proceed, keep in mind that you should not rely on an individual characteristic to be conclusive, rather total the number of similar characteristics between the sample and the guide to help narrow the number of possibilities.

The monocot weed species illustrated herein were selected for their likelihood of appearing in turf and their latest reported distribution.

Identifying a monocot weed

Once a mature sample has been selected, check each of the listed plant parts as follows:

- seedhead—size, shape, openness and number, size and shape of branches and seeds
- in-bud—cut through a leaf stem and determine if it is folded or rolled
- ligule—remove a leaf from its stem and with a hand lens check the size, shape and texture
- collar—lay the leaf flat, underside up and check the size, shape and top and bottom edges
- tips—check for additional vegetative plant characteristics
- distribution—confirm that this weed species has been identified in your state

ANNUAL BLUEGRASS aka *Poa annua*, *poa*

DIAGNOSTIC TIPS:

Very persistent self-seeding winter annual or biennial

Short, narrow leaf blades with parallel edges and boat-shaped tip

Some leaf blades wavy

Germinates in late summer/early fall

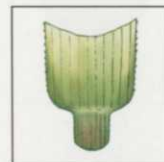
Shallow-rooted, dying under heat or moisture stress



STRUCTURAL CHARACTERISTICS:



Leaf in bud:
folded



Collar:
narrow
top pinched



Ligule:
medium
pointed

DISTRIBUTION:



Indigenous states

MONOCOTS *Annual*

SANDBUR

DIAGNOSTIC TIPS:

A mostly prostrate, narrow-leaved summer annual that likes sandy soils

Distinctive yellow seedhead contains 6-20 large, sharply-burred seeds

Burred seeds can cause painful injury to unprotected feet or ankles



STRUCTURAL CHARACTERISTICS:



Leaf in bud:
folded



Collar:
broad
bottom pinched



Ligule:
hairy

DISTRIBUTION:



■ *Indigenous states*

FOXTAIL BARLEY

aka *squirreltail barley*

DIAGNOSTIC TIPS:

A narrow-leaved prostrate summer annual

Leaf blades coarse to touch, often with sparse, stiff hairs

Seedhead is a single tufted spike

Seed has a 2-3-inch-long hair at pointed end



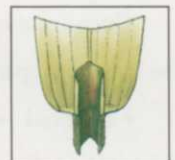
STRUCTURAL CHARACTERISTICS:



Leaf in bud:
folded



Collar:
broad
bottom pinched



Ligule:
tall
toothed

DISTRIBUTION:



■ *Indigenous states*

GOOSEGRASS aka *silver crabgrass*

A narrow-leaved
dense prostrate
summer annual

Leaf color is
darker green
than most annu-
al monocots

Collar area has
sparse long hairs

Seedhead has 2-13
branches which are white
to silver in color



STRUCTURAL CHARACTERISTICS:



Leaf in bud:
folded



Collar:
broad
continuous



Ligule:
short
toothed & divided

DISTRIBUTION:



■ *Indigenous states*

BARNYARDGRASS aka *billion dollargrass,* *watergrass*

A very wide-bladed
semi-prostrate
summer annual

Stems may be
branched at nodes and
frequently bent upright

Seedhead has multiple
short perpendicular
branches

Seeds are coarse with short
burrs



STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar width:
broad



Ligule height:
absent

DISTRIBUTION:



■ *Indigenous states*

LARGE CRABGRASS aka *hairy fingergrass*

A wide-bladed prostrate summer annual

Leaves are hairy on both surfaces with a prominent midrib

Older nodes are often branched and rooted where contacting soil

Seedhead open with 4-6 slender branches



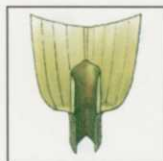
STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
broad
top pinched



Ligule:
tall
toothed & pointed

DISTRIBUTION:



Indigenous states

RESCUEGRASS aka *prairiegrass*, *rescue brome*

A wide-leaved winter annual or biennial

Leaves are hairy at edges and on upper surface

Seedhead is open with bending slender side branches

Seed clusters look like cultivated wheat or rye



STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
broad
bottom pinched



Ligule:
tall
toothed & pointed

DISTRIBUTION:



Indigenous states

MONOCOTS *Annual*

SMOOTH CRABGRASS *aka fingergrass*

A narrow-leaved prostrate
summer annual

Leaves are not hairy
except sparsely haired in
collar area

Stems branch at nodes,
but do not root

Seedhead has 2-6 slender
upright branches



STINKGRASS

A narrow-leaved annual

Leaves are dull on upper sur-
face and glossy on underside

Collar area has sparse long
hairs

Plant has a very disagreeable
odor when cut or damaged



STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
broad
bottom pinched



Ligule:
tall
rounded

STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
narrow
continuous



Ligule:
hairy

DISTRIBUTION:



Indigenous states

DISTRIBUTION:



Indigenous states

WITCHGRASS

An erect wide-bladed summer annual

Leaves are densely haired on both surfaces

Emerging seed-head is fountain-like

Mature seedhead is large and very open with slender branches carrying single seeds



YELLOW FOXTAIL

An erect wide-bladed summer annual

Upper leaf surface has long hairs in collar area

Leaves are often slightly twisted in an open spiral



STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
broad
continuous



Ligule:
hairy

STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
narrow
top pinched



Ligule:
hairy

DISTRIBUTION:



Indigenous states

DISTRIBUTION:



Indigenous states



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MONOCOTS *Annual*

DOWNY BROME aka *drooping brome*

An erect narrow-bladed winter annual

Leaves have dense soft hairs on both surfaces

Seedhead is open with drooping branches

Seed clusters are tufted and look like cultivated wheat or rye



FALL PANICUM aka *smooth witchgrass*

A very wide-bladed mostly prostrate summer annual

Leaves may be hairy on upper surface, are glossy beneath and sharply pointed

Stems branched at nodes and bent upright

Seedhead is open with multiple very slender branches



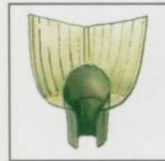
STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
narrow
bottom pinched



Ligule:
medium
toothed & pointed

STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
broad
continuous



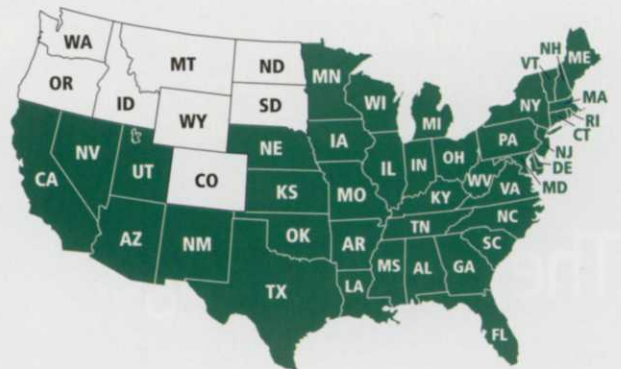
Ligule height:
hairy

DISTRIBUTION:



Indigenous states

DISTRIBUTION:



Indigenous states

WILD OAT aka *wild oats*

An erect wide-bladed annual

Plant often turns brown in summer as seed matures

Collar area has sparse short hairs

Stems are stiff

Seedhead is open with multiple branches carrying many single drooping seeds



SOUTHERN CRABGRASS aka *summergrass*

A wide-bladed prostrate summer annual

Leaves may be hairy on upper surface

Stems will root at nodes

Collar area has sparse long hairs

Seedhead has 2-9 slender branches



STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
narrow
bottom pinched



Ligule:
tall
toothed

STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
broad



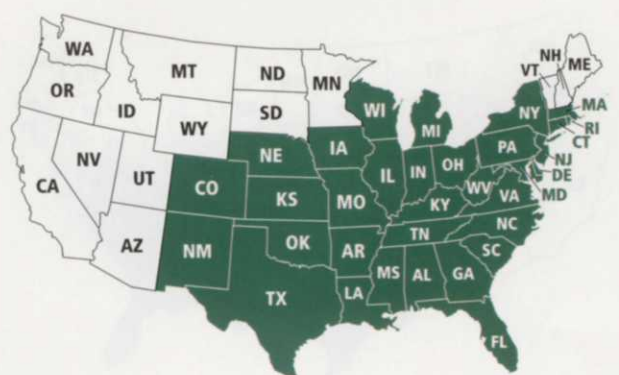
Ligule:
medium
toothed & pointed

DISTRIBUTION:



Indigenous states

DISTRIBUTION:



Indigenous states

MONOCOTS *Perennial*

QUACKGRASS

An erect narrow-leaved aggressive perennial

Leaf is rough on upper surface

Collar area has claw-like fleshy appendages (auricles) that clasp stem

Plant develops multiple rhizomes from base of plant

Seedhead is a single slender spike



JOHNSONGRASS

A very wide-bladed aggressively spreading prostrate perennial

Collar area has short hairs on upper surface near ligule

Spreads by multiple 1/4-inch-thick rhizomes



STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
broad
continuous



Ligule:
short

STRUCTURAL CHARACTERISTICS:



Leaf in bud:
rolled



Collar:
broad
bottom pinched



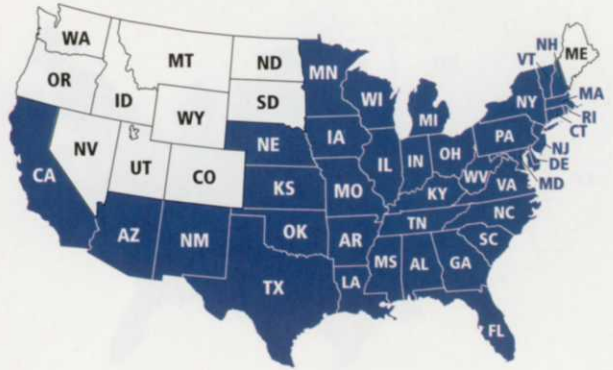
Ligule:
tall
with hairs

DISTRIBUTION:



■ *Indigenous states*

DISTRIBUTION:



■ *Indigenous states*

MONOCOTS *Perennial*

YELLOW NUTSEDGE aka *yellow nutgrass*

A very rapidly growing erect perennial herb

Spreads by rhizomes with underground tubers

Leaves are v-shaped with a prominent midrib tapering to a sharp point

Stems are triangular

Seedhead is semi-open, carrying yellow seeds



PURPLE NUTSEDGE aka *purple nutgrass*

Rapidly growing erect perennial herb

Spreads by rhizomes with underground tubers

Stems are triangular

Leaves are v-shaped, tapering to a sharp point

Seedhead is open, carrying dark or purple seeds

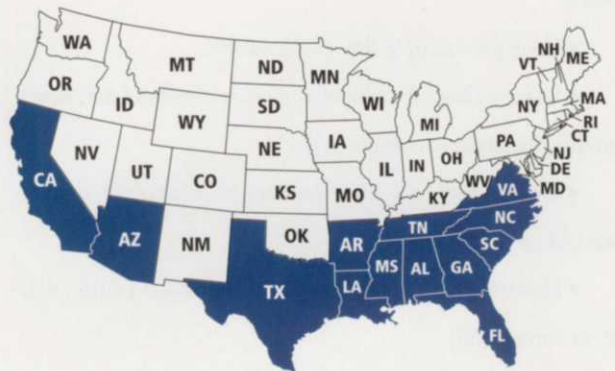


DISTRIBUTION:



Indigenous states

DISTRIBUTION:



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Dicot weeds

In a universe of hundreds of dicot weeds, a limited number can tolerate repeated mowing of managed turf sites. In order to provide a broader representation of turf weeds, we have included a select number of these dicot weeds. Those presented herein were chosen for their ability to survive in turf, often as a continuing pest. Several of the species can persist even at fairly short mowing heights; others are active in cool weather.

Identifying a dicot weed

Unlike the prototypical size and shape of monocot weeds, the shape and vegetative growth habits of many dicot weed groups are visually unique. Also, the distinctive traits of monocots—seedheads, ligules and collars—are not always present, making visual identification more important.

We suggest the following process for identifying dicot weeds:

- Look for a sample flower if available
- Leaves: check for identifying characteristics (size, shape, notches, venation or coloration)
- Stems: check how the leaves are held (opposite or alternate), shape and color
- Flowers: check color, size and composition (single, double or compound)
- Location: take note of the conditions in which the weed is growing (shade, compacted soil, etc.)
- Distribution: confirm that this weed species has been identified in your state

DANDELION

aka *common dandelion*

A large rosette-type perennial herb

Leaves growing from plant base are long, narrow and deeply notched

Points of leaf lobes point backward toward base of plant

Has large, slightly mounded yellow flowers on hollow stems

Mature seedhead is a round puffball with seeds that are easily dislodged



DISTRIBUTION:



■ *Indigenous states*

HENBIT

aka *dead-nettle*

A mostly erect winter annual or biennial

Leaves are similar to mint: rounded, toothed, heavily veined with soft hairs on top, held opposite on square stems

Single flowers are trumpet-shaped, pale purple and project from ends of stems

Seen primarily in spring, dying with heat



KNOTWEED

aka *prostrate knotweed*

• A persistent low-growing summer annual

• Prefers compacted soil of pathways and along drives

• Leaves are blue-green, up to 1 inch long and ¼-inch wide

• Small single white to pink flowers are found at the junction of the leaves and the stem



DISTRIBUTION:



■ *Indigenous states*

DISTRIBUTION:



■ *Indigenous states*

DICOTS

PURSLANE

aka *common purslane*

A prostrate, succulent summer annual

Leaves are shiny green, wedge-shaped, thick and up to 1 inch long

Stems are thick, fleshy and purple to brown in color

Plants are very drought-resistant

Small, single yellow flowers may appear in the leaf clusters at end of stems



COMMON CHICKWEED

aka *starwort, winterweed*

A low-growing winter annual

Plant prefers shaded moist sites

Opposite small leaves are carried on tender stems

Stems may root at leaf nodes

Small compound flower composed of 5 pairs of two pale purple petals

Plants die back with summer heat, but can survive year round at cool sites



DISTRIBUTION:



Indigenous states

DISTRIBUTION:



Indigenous states

SPOTTED SPURGE

A prostrate fleshy summer annual herb

Leaves are opposite, oblong, and up to 3/4-inch long

Upper leaf surface has a purple to brown blotch along center vein

Hairy stems produce a milky-white sap when broken



ACKNOWLEDGMENTS

This guide was written and compiled by Chris Sann of Turf Information Group, Inc., Wilmington, Delaware.


Photos of weeds were taken by Arlyn Evans, a horticulturist from Memphis, Tenn.

Graphic design and execution and illustrations by LANDSCAPE MANAGEMENT graphic designer Lisa Bodnar and Dan Beedy.

The "LANDSCAPE MANAGEMENT Weed Identification Guide" presented as a service to the green industry by American Cyanamid of East Hanover, N.J. and LANDSCAPE MANAGEMENT magazine of Cleveland, Ohio.

DISTRIBUTION:



 *Indigenous states*

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Barricade ^a	■	●	●	●	▲	●	■	■
Dimension ^b	■	●	■	●	■	●	●	●
Team ^c	■	●	●	●	●	●	NR	NR
Ronstar ^d	●	■	NR	●	●	NR	NR	NR
Surflan ^c	■	■	■	●	▲	●	■	■

Level of control ● Medium ▲ Medium-High ■ High NR Not registered

^aNovartis ^bRohm and Haas Co. ^cDow AgroSciences ^dRhône-Poulenc



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Managing holly leaf miner

We have had a problem managing holly leaf miner. What is the best strategy for managing this pest? Do they have two generations like birch leaf miners?

—PENNSYLVANIA

Unlike the birch leaf miner, which has two generations, the holly leaf miner has only one generation per year. Holly leaf miner eggs are laid on the under-surface of leaves. The adult female makes "pin-prick" holes with her ovipositor and lays eggs around early May. Eggs hatch into larvae, which feed very slowly and remain inside the mines all summer. They do not feed to any extent until late winter and early spring. They then pupate in the leaves and the small black and gray flies emerge.

Ideally, applications of insecticides such as Orthene should be provided in early May against the egg-laying adults. The birch leaf miner is active earlier so don't try to treat both problems at the same time of year.

Consider using sticky pheromone traps to monitor the adult activity. This will help fine-tune your treatment timing. The use of phenology (blooming of indicator plants) may also help fine-tune your treatment timings. When red-buds produce flowers, the adult activity also can be found.

Depending on how extensive the feeding damage is, it may be a good idea to fertilize,

water and mulch to help improve plant health. If the feeding damage is extensive, it can weaken the plant considerably.

Read and follow label specifications, and treat as needed.

Fertilize in the fall

When is the best time to fertilize a lawn in the fall? How much nitrogen needs to be used to get a good result?

—OHIO

For your area, generally the best time to apply turf fertilizer is in early September at the rate of one pound of actual nitrogen per 1,000 square feet. And again treat in late October or early November at the rate of one to two pounds of nitrogen per 1,000 square feet. Some people may prefer to apply only once in the fall. In this situation apply one pound at the end of September or in early October. The first number on the fertilizer bag is nitrogen. This number represents the percentage of actual nitrogen (by weight) in the bag of fertilizer material you have. From this total actual fertilizer material, calculate the 1 to 2 lb. ai (active ingredient) nitrogen needed.

If the application is done correctly, the agronomic benefit will be great. This would include greater and deeper root system development, heat and drought tolerance in the summer and earlier green-up in the spring. Reports also indicate that insect, disease and weed activity may be less severe. In general, it's a good agronomic

practice to implement a fall fertilization program.

Mammal pests

What is the best way to manage skunks and raccoons? These animals are digging the lawns and causing extensive damage. The problem is severe close to the wooded areas.

—NEW YORK

Skunks and raccoon can cause extensive damage to lawns. They dig the lawns in search of underground food such as grubs, earthworms, periodical Cicada nymphs and other soil-inhabiting insects.

Where feasible, try to capture them using traps. Make sure that you have the proper traps designed for their use. Also check with your county or state regulatory agency to see whether it is all right to capture them. After catching, make sure the animals will be relocated or dealt with as per regulatory guidelines. Be careful when moving them from place to place. Some of them may carry contagious diseases.

Also consider using grub control measures to keep the possible food source under control. Make sure that proper insecticide is used at the proper timing. In spite of using insecticide for grub control, sometimes these animals may still visit the lawns in search of other food sources.

Again, in this situation the best option is to use traps. **LM**



BALAKRISHNA RAO

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for the Davey Tree Co.
Kent, Ohio

SEND YOUR QUESTIONS TO:

"Ask the Expert"
Landscape Management
7500 Old Oak Blvd.
Cleveland, OH 44130

Please allow two to three months for an answer to appear in the magazine.

A new tree pest is causing concern in the northeastern states. It's a borer called the Asian longhorned beetle (*Anoplophora glabripennis*). This rather dramatic looking beetle seems to attack just about any hardwood. There is potential for a lot of damage, both for tree survival and for tree strength. The main area of concern in the United States is the northeast and midwest.

The Asian longhorned beetle, native to Japan, China and North Korea, most likely traveled to this country burrowed in raw wood used in shipping and packing materials.

The beetle is quite distinctive in appearance with black and white striped antennae 1.5- to 4-in. long and a 1- to 1.5-in. bullet-shaped body, shining coal black with scattered white spots. Don't confuse this beetle with the white-spotted sawyer, which also has long antennae but is a dull

bronzy-black without the shininess, the distinct scattered white spots or striped antennae.

In China, this pest seems to prefer stressed trees. Some of the signs of an attack are heavy sap flow from wounds and large sawdust accumulation at tree bases or where

branches meet the main trunk. Exit holes that are 3/8 in. or larger in the bark are obvious and can be scattered anywhere on the trunk, branches and exposed roots. Yellowing leaves and leaf drop are other indicators that the pest is present.

The boring occurs not only under the bark but also into the sapwood and heartwood of the tree or branches. The young larvae bore into the inner bark, feed for awhile and bore into the tree's heartwood to pupate. The adult beetle then chews its way out, thus leaving the hole.

The best time to spot the adult beetles is from May to October. The beetles normally stay close to their host trees, although the adults can fly up to 3,000 feet. Humans provide the easiest modes of transportation for the beetles; they can hitch a ride on vehicles moving through infested areas or be

spread in infected firewood or tree litter.

There is no efficient biological or effective chemical control of the beetle at this time. The only proven method is to cut and burn all infested trees. When the temperatures drop below 60°F, the trees can be cut to the ground and destroyed. Cooler weather also reduces the possibility of the adults flying to other areas.

The beetle seems to prefer the softer hardwood trees that are easier to bore into. Some species of trees that have been attacked include: black locust, pear, boxelder, plum, Chinese elm, silver maple, corkscrew willow, sugar maple, horsechestnut, sycamore maple, hybrid poplar, weeping willow, Lombardy poplar, white mulberry and Norway maple.

Although the Asian longhorned beetle prefers the softer hardwood trees, it may attack others. And in China, where poplars are grown commercially in plantations, sugar maple is used as a trap tree. The maples appear to be a preferred host and attract the beetles.

We don't need to be filled with horror and fear about this borer but be aware of this pest and its significance. If you see something really unusual get a sample and have it identified.

Here are a couple of websites for those of you who want to see more: http://willow.ncfes.umn.edu/pa_ceram/ceramb.htm; <http://www.chicagobotanic.org/Asianbeetle.html>; <http://freedom.cce.cornell.edu/clinton/ag/forestry/alhb.html>; <http://everest.ento.vt.edu/Facilities/OnCampus/IDLab/NewPests/ALB/ALB.html>; <http://www.chicagotribune.com/news/metro/chicago/article/0,1051,ART-17157,00.html>

If you think you have found this beetle, call your Animal and Plant Health Inspection Service (APHIS) Plant Protection and Quarantine (PPQ) State plant health director at the number listed below: CT 203/269-4277; DE 302/677-4093; IL 708/299-0024; IN 317/654-7792; ME 207/945-0479; MD 410/224-3452; MI 313/942-9005; MN 612/334-4194; NH 603/666-7445; NJ 609/259-8649; NY 518/438-3896; OH 216/552-4869; PA 717/782-3419; RI 401/828-9025; VT 802/828-4490; VA 804/771-2042; WV 304/372-8590; WI 608/264-5096. **LM**

Keep your eyes peeled



Nancy Stairs

NANCY STAIRS
Technical Editor