

Separated at birth

Sometimes it's hard to tell one weed from another. Five commonly misidentified weeds and the telltale signs to ID them right the first time. By Katie Tuttle

epending on your geographical location, your golf course may see a different number of turf weeds throughout the season. Some of them may be easy to identify, while others can easily be mistaken for something else. Before you go ahead and misdiagnose your turf, it's important to take the time to properly identify what you may be dealing with.

"If you're going to employ something to control a certain weed or pest, the proper ID is obviously fundamental," says Laurence Mudgem, of Bayer Green Solutions Team. "You've got to know what you're trying to control so you use the right product. A big reason is a lot of our herbicides that we use, both pre-emergents as well as post-emergents, a lot of these products now are very specific. They control a certain weed very well, but other weeds not at all. You may think you have a certain weed listed on the product's label, you spray it and it doesn't work."

According to Ramon Leon, assistant professor of weed science at the University of Florida, there's more to worry about than a product not working on a misidentified weed.

"If we don't identify the plant correctly, we might end up using weed management practices, or weed control tools; such as herbicides, mowing or mulching; that will not only have limited impact on the management or control of that species, but could make things even worse."

An example of this would be if a superintendent saw a perennial weed and mistook it for an annual. That superintendent goes and resoils the area, thinking he's doing the right treatment.

"By chopping up all the rhizomes and resoiling," Leon says, "you'll have a lot more weed problems in that newly established sod. You might even end up with a more difficult situation."

Mudgem also says a big problem with weed identification isn't just that people misidentify the weed, it's that they don't know what it is at all.

"I get emails and pictures sent to me all the time saying 'hey what is this weed?' he says. "Sometimes weed ID can get a little tricky."

Before you hit the send button on your confused email, take a look at this article, which highlights five of the most commonly misidentified weeds, what they are often misidentified as, and how you can go about identifying them correctly to get the most out of your turf.

ORCHARDGRASS. This turf weed is a large problem in cool season turf, however it is an annual plant that can be found anywhere in the country because of its ability to adapt to a wide range of locations. Seeds for Orchardgrass are often mixed in with grass seed, so if your course plants tall fescue, you may be sprinkling seeds for this weed in with your grass and not even know it.

When the weed grows, it has distinctly folded leaves, and the base of the leaf is similar to a V-shape, something relatively unique to this plant. It also has a flat stem and a very distinct, long memberless ligule, which Leon says might be the best way to identify it.

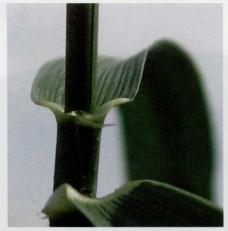
David Gardner, associate professor, turfgrass science at The Ohio State University, agrees.

"Most of the time when you pull the leaf sheath away, you can see it's overlapping on the two sides," he says. "[It's] closed to form a hollow tube. When you pull it apart, you physically pull tissue."

Depending on where your course is in

the country plays a large role on what weeds orchardgrass may be confused as. Leon suggests that some superintendents may confuse orchardgrass for reed canarygrass. The difference between the two is that reed canarygrass has wider leaf blades.

Because of the leaf blades and light color of the plant, orchardgrass can also be misidentified as quack grass or tall fescue. Because it's



The oracle around the stem of a quack grass

an annual, it won't have the rhizomes similar to the other two.

QUACK GRASS. Quack grass is a perennial weed which is found more in the northern part of the U.S., although it can be found all over the country. The main problem with quack grass is that even though it's propagated by seeds, it also produces an extensive rhizome system underground. This is also the easiest way to identify quack grass.

"When you dig out the plant, you can see that where the stems and leaves are coming out, you're going to have a wide stem that basically grows horizontally under the whole surface," says Leon.

However, that wide stem is also the reason why quack grass can spread and become such a problem.

"It forms a network of underground stems and if you break that stem, basically you're propagating the stem. Each one is going to produce a new plant," Leon says. "The problem with quack grass is that even if you mow it, or even if you spray it with herbicides, there is a whole network underground. Once you kill some of those parts, the rhizomes will produce new plants."

Most often, quack grass is mistaken for orchardgrass, brown grass, or perennial ryegrass. There are other ways to distinguish the quack grass, such as the oracle around the stem at the collar, but the quickest way to identify it is by pulling up a clump and examining the rhizomes beneath.

NIMBLEWILL. Nimblewill is a grass weed that people seem to be noticing more and more in their turf, mostly because they're just starting to take note of it.

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8 critical questions to ID weeds

There are plenty of diseases that can be misidentified on your course; this article only highlights five of them. Before you accidentally misidentify and make a possibly damaging mistake, it might be smart to get in touch with a weed specialist to professionally diagnose what you have growing. When you contact a specialist, they will most likely ask the following questions, so make sure you have the answers at the ready.

- Is it a woody plant or an herbaceous plant?
- Is it a broad leaf, or more like a grass?
- If it's broad leaf, how are the leaves attached to the stem? Are they by themselves or in groups?
- What is the shape of the leaf? Is it round/elongated? One leaf at a time?
- Is it a plant that grows vertically, or one that spreads from the base and then opens up? Or is it more like a vine that grows around objects?
- How are the leaves attached to the plant?
- Are the flowers at the top of the plant?
- What are the dimensions of theplant?

Using the answers to these questions, it should be relatively easy to narrow down what weed it is that's left you confused.

There are a few ways to identify this weed. One is to look at the seed head, which Christians says is unique because it has an awn at the tip of each seed.

"It's a spike-like seed head but it has a hair-like structure at the tip of each one," he says.

Most often, nimblewill is confused with Bermuda grass, so a lot of times people end up ignoring it because they think it is part of their Bermuda grass turf. However, even though it looks similar to Bermuda grass, its spreading growth habit can cause the area to look like the Bermuda grass is contaminated. That's why superintendents should still try to control it instead of just letting it grow.

A characteristic important to look at when identifying nimblewill from Bermuda grass is the ligule. A nimblewill ligule looks more like a membrane, whereas a Bermuda grass ligule looks hairy.

"If you're confused [between the two]," says Leon, "look and if you see that hairy area at the base of the leaf, it's Bermuda grass. Nimblewill has a more membranous ligule."

Nimblewill leaves are also wider and more spaced between leaves than Bermuda grass leaves.

Another important identifier is the flower.

"If you let it flower, Bermuda grass is going to produce a flower that has five spikes, or little branches, that form a star," says Leon. "Nimblewill will have just one branch, vertical, and it's very finely covered with little flowers."

Gardner says you can also tell a Nimblewill by looking at a cross section of its leaves.

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- Ramon Leon, University of Florida

"What I tell people to look at is to rip a piece of a leaf and look at it in cross section because most of the time grass leaves either have rolled or folded vernation," he says. "Nimblewill is folded, but when the leaf is completely unfurled it almost looks like a w with rounded corners in cross section."

SMOOTH BROME. Smooth brome is a weed common to the Midwest states. It grows rapidly in the spring and fall, but blends in with the turf grass during the summer. Like the quack grass, smooth brome also produces rhizomes, but not to the extent of quack grass. It will also grow to be taller than quack grass, and its leaves will be wider.

Another distinct characteristic of smooth brome's leaves is that there is usually a watermark at the tip of the blue-green leaf; a bleached out area that looks like a "V."

The way to tell smooth brome apart from other wide-plated weedy grasses, such as orchardgrass, quack grass, and tall fescue, is to look at the leaf sheath.

"The best way to identify it is the closed sheath," says Christians. "[It] is one of those course textured perennial grasses that sticks out of the turf, particularly in spring and fall."

Once again, flowers are also a good way to identify smooth brome correctly.

"If you let it flower, basically you're going to see a pinnacle that opens up and branches out many times," says Leon. "If you have different layers of branches, and when you let it grow completely, it's going to look more like a feather, which is very different from quack grass."

ANNUAL BLUE-EYED GRASS. This particular weed is relatively new to the golf course scene, and is very similar to annual bluegrass. Mudgem says people may be misidentifying this weed a lot because it's so new, and therefore unfamiliar. Because of this, a lot of superintendents think what they're treating is annual bluegrass.

"They're both winter annuals," says Mudgem. "You find them commonly on golf courses and



lawns, but the annual blue-eyed grass has a little flower, whereas *Poa annua* has a whitish looking seed head. But if you have a small *Poa* plant and a small annual blue-eyed grass plant, they do look similar. When they get established later in the spring, you can tell them apart."

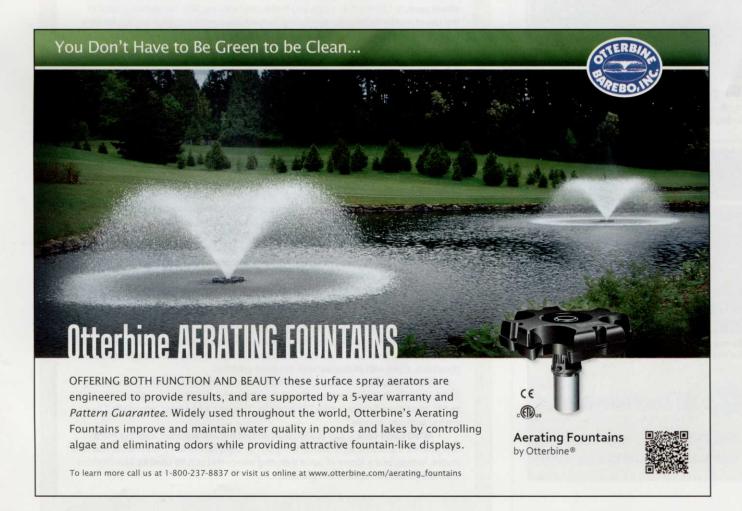
Another way to identify the blue-eyed grass is by the stem and leaves.

"[T]he base of the leaves and of the plant is very, very flat," says Leon. "The color of the leaves tends to be light green, even if you put a lot of nitrogen on your lawn."

Leon says the tip of the stem is also flat, and this is where the blue-eyed grass flower grows. The flower has six petals; often pink, purple or a dark blueish-purple; and looks like a tiny lily.



Annual blue-eyed grass is often mistaken for annual bluegrass.



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According to Mudgem, this year he's gotten more calls regarding annual blue-eyed grass than in the past 25 years combined.

"It just exploded out there in the market," he says. "It's kind of interesting how things happen like that."

This seems to be a common trend in weeds, especially with all the different herbicides on the market to target specific weeds.

"If you have a golf course and you're spray-

ing for certain weeds, you may not control other weeds that may become a problem," he says. "You could be going along fine and then all of a sudden come across a weed that causes a problem. When you have all these herbicides out there, you have shifts in weed populations." GCI

Katie Tuttle is GCI's assistant editor.

There's an app for that

So you've read the articles a dozen times, you've tried all the steps, and you still can't tell if the weed in front of you is nimblewill or Bermuda grass. Never fear! Today's technology makes it much easier to solve your weed ID problem at the touch of your cell phone.

Turf apps, such as TurfPath, allow users to easily identify the weed they're staring at, without requiring you to bring along a wheelbarrow filled with textbooks, brochures, and photographs.

"The concept for Turfpath was to provide real-time updates to turfgrass managers by crowdsourcing pest reports from its users," says John Kaminski, the creator of TurfPath. "Environmental predictive models are a good way to get an idea of what pests may be approaching, but are usually limited in accuracy. I figured actual reporting of active pests from the app's users would be a more accurate way to know what's happening in any region and the quantity of reports would help identify the potential severity and movement of the problem. Turfpath also has a wealth of other basic information that allows users to identify their pests and find control options. With the rapid increase in the use of mobile technology, developing Turfpath seemed like a great way to provide a powerful pest management tool for the turfgrass industry."

And TurfPath's not the only one. Similar apps are popping up all over the internet. giving superintendents books-worth of information at the tips of their fingers. GCI has compiled a list of the most popular and most resourceful weed identification apps. Head over to the app store and download the following immediately.

- Turfpath
- Turfgrass Management This app is a must have for all superintendents and turfgrass managers. Besides the wealth of information in the "living database", this app offers other resources in the form of Power Point presentations and article publications. These are perfect for when you have 5 or 10 minutes under a tree, pull out your iPhone and scroll through an article or slideshow.
- Evernote This is a great app for once you have identified your weeds/pests to build your own custom database on what you actually have on your property. You can take photos of the weeds and store them in Evernote. You can store the product labels of your treatments in Evernote for future reference and you can even attach a copy of your spray record with the weed identification for future reference.
- MWM (Mobile Weed Manual) This is a mobile weed management program created by the University of Tennessee. It has adatabase of descriptions, pictures and solutions to weeds you may encounter in turfgrass. One of the biggest pros of this app is the intuitiveness of the app. It really harnesses the power and functions of the iPad in terms of the multigestures to create a very easy way to navigate and search through the app. This is app is also free, which is always good.
- ID Weeds This app is from the University of Missouri Extension and allows you to search for weeds by their common or Latin name, view a list of weeds, or identify weeds based upon a number of different characteristics. Details about each weed are presented, along with photographs of the weed specified.
- WeedAlert.com This app, from PBI Gordon, is actually a website that works on mobile devices. Very easy and intuitive to use. The only con is that since it's an app built by PBI, all of the solutions involve PBI products. This isn't a bad thing, especially if those are the products you use.
- NCSU Lawn Care This is a great all around turf management app, but more designed for the homeowner, but certainly can be used for the turf professional. Has tips, photos, videos, and a library of pests including weeds that can be used for identification. It's mostly built around southern grasses.