CURING THE BERMUDAGRASS BLUES

Comparison of common bermudagrasses. Photo courtesy: Dr. David Minner, University of Missouri, Columbia, MO.

By Bob Milano

Bermudagrasses, particularly the hybrids, have proven valuable for turf managers in the sunbelt and even in some portions of the transition zone. But to many of us in the transition zone and farther north, bermudagrass is a troublesome weed in our cool-season turfs, such as Kentucky bluegrass, perennial ryegrass, and turf-type tall fescue.

Unwanted common bermuda can turn a smooth, uniform athletic field into an ugly, dot-to-dot matrix as it slowly turns brown and begins dormancy in the fall. In local parks, this may not be a major concern. But for high-use cool-season fields such as those for football, baseball, soccer and rugby, unsightly brown patches are not acceptable.

All the reasons that make bermudagrass the ideal turf for the sunbelt make it difficult to control when unwanted. It's an invasive perennial, tolerant of drought, and reproduces both vegetatively and by seed. Current control methods, which include mechanical removal, cultural practices, and non-selective herbicides have had limited success. Testing of a new selective herbicide is showing some promise.

Mechanical Control

The first control method, physical removal of invading bermudagrass plants, usually isn't the most practical choice. Physical removal can be extremely tedious, as ideally each stolon and rhizome needs to be identified and eliminated. In addition to complete removal of the above-ground portion of the bermudagrass, all below-ground segments need to be removed to keep the plant from generating new growth. This might require removing the soil to depths of 18 inches or more to ensure all below-ground bermudagrass parts are eliminated.

This approach is time-consuming, labor-intensive, and inefficient. Occasionally, it may be the preferred method for very small areas, such as patches in a baseball infield that will undergo renovation. Combined with immediate resodding, mechanical removal can be a quick and effective approach for certain highly-visible, key areas.

Non-Selective Herbicides

A second approach to post-emergence bermudagrass control is spot application of a non-selective herbicide such as glyphosate. This can be effective, particularly if a large block of time is available for eradication and subsequent repair activities.

If the facility schedule permits, non-selective herbicide applications should be made in late summer or early fall, while the bermuda is still actively growing. Once the bermudagrass has been killed, the areas can be either seeded or sodded immediately.

Eradicating the bermudagrass in early fall will not provide a long enough period of warm temperatures for it to reestablish into the repaired areas. The early fall window also offers an ideal time to reestablish cool-season turfs. By utilizing these two critical cultural facts, your success will be high.

Maintenance Practices

The third element to controlling bermudagrass, as well as other warm-season grasses, is the cultural...
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program you use to manage your cool-season turf. The decisions you make about
day-to-day maintenance activities will have a dramatic impact on the likelihood
of common bermudagrass invading your cool-season turf and the severity of
such invasion.

If your equipment — mowers, tractors,
and implements — receives widespread
use on bermuda-contaminated sites, it is crucial to clean the units before each
use on cool-season turf. Though this
may appear very simple, turf managers
often overlook the prevention of bermuda-grass contamination through the spread
of plant segments capable of generating
growth in new locations.

Additionally, the decisions you make
on mowing height, timing, and frequency
of aerification, topdressing, overseed-
ing, irrigating and fertilization all impact the
likelihood of an invasion by an
undesirable warm-season turf.

In essence, you need to evaluate the
impact of your proposed maintenance
operation, not only on the desirable
grasses, but also on the grasses (weeds)
that you would like to keep out. For
example, lower mowing heights favor bermudagrass, particularly during the
summer, while higher mowing heights
tend to give the cool-season grass a
competitive advantage.

Monitor the timing and frequency
of core aeration. Scheduling aerification of
cool-season grasses in the summer would
not be recommended. This practice
would open areas for potential invasion
by bermudagrass during its most active
growing season, and at the same time
stress the cool-season turf, compounding
the likelihood of invasion by heat-hardy
bermudagrass and other weeds.

If summer aeration is essential to
relieve compaction, use the least
disruptive methods and try to time the
practice with periods of cooler weather.
Ideally, core aeration combined with
overseeding and topdressing would be
timed to coincide with cooler fall
temperatures and the natural decline of
the bermudagrass.

Irrigation and fertilization programs
also can be used to stimulate cool-season
turf growth and discourage bermudagrass activity. Adjust watering intervals to
ease drought stress in cool-season turf.
Use frequent soil tests to monitor
nutrient levels. Cut back on summer
fertility and time applications to coincide
with the spring and fall growth cycles of
the desired turf.

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invasion by managing the use of
cool-season turf to avoid unnecessary
stress. On athletic fields, monitor turf
conditions and schedule field use to
provide recuperative periods when
needed. Whenever possible, work
with field users to rotate practices to
lesser-used fields or portions of the field
that receive less traffic.

Selective Herbicides

The final approach is the
application of selective herbicides that,
ideally, will eradicate the bermudagrass
and retain the cool-season grass. Selective
materials have long been the goal of
many herbicide developers. The ideal
product would kill off the tough
bermuda and leave the desirable cool-sea-
gron grasses unharmed.

So far, no selective herbicide has
been totally effective or reliable against
unwanted bermudagrass. However,
Turflon is showing some promise in
research and testing at the University of
California at Davis, under the
direction of Clyde Elmore, extension
weed scientist.

The work is exploring the potential
uses of the herbicide Turflon as a control
agent for bermudagrass in tall fescue,
perennial ryegrass, and Kentucky
bluegrass turf. Both informal and formal
trials have been conducted. These
included single applications as well as
sequential applications to areas
invaded with both common bermudagrass
and broadleaf weeds.

Initials results of the single foliar
application have shown the bermudagrass
was stressed and experienced some
foliage decline. The suppressed growth
has provided the cool-season grasses
with a competitive edge, and achieved
some level of bermudagrass control, but
not its eradication.

Sequential applications of Turflon
appear to be more promising. A second
and third application appeared to increase
the overall stress on bermuda plants
and resulted in the death of more
bermuda plants. The bermudagrass
plants that were not killed were
suppressed dramatically.

The most promising indication of
control has resulted from a combined
application of Turflon and Acclaim (a
an crabgrass post-emergence product). This
combination continues to undergo
testing to determine why it appears to
be more effective than other
applications initially tested. Although
this combination is strictly experimental
and should not be duplicated without
proper permission, it may provide some
hope for an extremely effective
bermudagrass control product in the near future.

Avoid the Blues

Overall, just as the doctor prescribes,
the best way to avoid the bermuda blues
is prevention. Though efforts to
provide a highly effective selective
bermudagrass control product continue,
turf managers need to do their best to
prevent the bermudagrass infiltration of
cool-season turf.

We can prevent bermudagrass
invasion by carefully managing the
entire cool-season turf system. This
includes:

- Sanitary practices;
- Cultural practices;
- Use patterns.

If your cool-season turf is invaded
by bermudagrass, consider the three
post-emergence applications:

- Mechanical control;
- Non-selective herbicides;
- Selective herbicides (if and when
  available).

Above all, remember that you are
managing a complex growing system
and that no one solution is a panacea.
Use all the tools at your disposal to avoid the
bermuda blues.

Editor’s Note: Bob Milano is grounds
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