NORTHERN WEED CONTROL combines cultural/chemical tools

Once you understand your most serious weed problems you can develop a multi-pronged program, using your experience, to control them.

by TOM FERMANIAN, Ph. D./University of Illinois

White clover can be controlled by most broadleaf herbicides

Most weeds with similar growth habits can be managed with a single strategy.

Integrated Pest Management (IPM) combines sound cultural practices with occasional application of herbicides to manage weeds. Cultural practices include mowing, irrigation, fertilization, cultivation, mechanical control, and sanitation.

Mowing
Depending on the weed species, mowing can affect the development of its population. A limited number of species are generally found in turfs, particularly well established turfs, because mowing pressures reduce weeds' recuperative potential. Some weeds, such as annual grasses, adapt to low mowing heights and frequent mowing. They can often be managed by raising the cutting when possible. Timely mowing can reduce the production of weed seeds. This can also be accomplished using plant growth regulators or collecting clippings when seedheads are present.

Irrigation
High soil moisture favors nutseedes, annual bluegrass, crabgrass, goosegrass and many other weeds. Drying out the turf or irrigating less frequently will give the turf a competitive edge over these water-loving weeds. Carpetweed and sand-burr compete well in dry open soils. If these weeds are a problem, increase irrigation.

Fertilization
Accurate, timely fertilizations make turf a good competitor. Excess fertilization can promote weed growth. High levels of nitrogen cause annual bluegrass, crabgrass, and many other species to grow rapidly. Excessive fertilizations, particularly with soluble sources, can potentially injure turf foliage allowing weed invasion.

Cultivation/sanitation
Core aerification, vertical mowing, spiking, or slicing—is generally beneficial for turf growth. But the practices can also move buried weed seeds to the surface allowing them to germinate. Topdressing might bring in foreign seed.

Herbicides
Herbicides, particularly postemergent herbicides, is one tool any turf manager needs. Most postemergent herbicides have been developed to target either of these two large groups.

Broadleaf weeds
Most broadleaf weeds can be controlled with one of a large group of broad spectrum postemergent herbicides. Some narrowly focused or single species postemergent herbicides are available for difficult to control or unusual weed species. Spot control is available with a non-selective herbicide. Check the turf tolerance of any selective herbicide. Some of the postemergent herbicides have a narrow range of tolerant turf species.

2,4-D, similar compounds
One of the original selective postemergent herbicides was 2,4-D. This and other similar compounds such as mecoprop, dichlorprop, and dicamba all control a wide spectrum of broadleaf weeds. Each material has particular strengths in controlling a select group of species. Often times they are used in combination allowing...
for the reduction of their individual single use rates through a synergistic action. Double and triple combinations of these materials provide effective control for almost any broadleaf species in turf. They are formulated as ester- or amine-based compounds to provide greater control or more turf safety, respectively.

**Non-phenoxy broad spectrum herbicides**

Triclopyr and Clopyralid, are broad spectrum postemergent herbicides that can be targeted towards a wide range of weeds in many turfs. Triclopyr is often found in formulations by itself or in combinations with 2,4-D to broaden its effectiveness across a wider group of weeds. Confront is a combination of both Triclopyr and Clopyralid which is effective with many tough broadleaf weeds such as wild violets and creeping charlie.

**Other postemergent broadleaf herbicides**

Several materials are available for a smaller group of weeds or for special uses. Bromoxynil will not injure seeding turfgrasses and is often used as the initial material for cleaning up newly seeded turfs. Several materials such as Basagran, Vantage, and DCPA are targeted towards a small group of species. Manage and Basagran can be used for controlling yellow and purple nutsedge.

—Tom Fermanian is Associate Professor of Turfgrass Science, Dept. of Natural Resources and Environmental Sciences, University of Illinois.

### TABLE 1 HERBICIDES FOR BROADLEAF WEED CONTROL IN TURF

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>TRADE NAMES (PRODUCERS)</th>
<th>USES</th>
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<tbody>
<tr>
<td>2,4-D</td>
<td>AM-40, 2,4-D Granules, 2,4-D L. V. Ester, Solution (Rivendale)</td>
<td>Selective, post-emergence control of broadleaf weeds. See label for tolerant turfgrasses and species controlled.</td>
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<tr>
<td></td>
<td>2,4-D Amine 4, 2,4-D LV4, SEE 2, 4-D LV4 (Riverside/Terra International) Weedone LV4 (Rhone Poulenc)</td>
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<tr>
<td>2,4-D + dicamba</td>
<td>81 Selective Weedkiller (Rivendale) Four Power Plus (Turfgo/United Horticultural Supply) Lawn Weed Killer (Bonide) Triple D Lawn Weed Killer (Rockland)</td>
<td>Selective, post-emergence control of broadleaf weeds. See label for tolerant turfgrasses and species controlled.</td>
</tr>
<tr>
<td>2,4-D + dichlorprop</td>
<td>2D + 2DP Amine, Turf D + DP (Rivendale) Fluid Broadleaf Weed Control (The Scotts Co.) Weedone DPC Ester, Weedone Amine (Rhone Poulenc)</td>
<td>Selective, post-emergence control of broadleaf weeds. See label for tolerant turfgrasses and species controlled.</td>
</tr>
<tr>
<td>2,4-D + dichlorprop + dicamba</td>
<td>Strike 3 (Riverside/Terra International) Super Trimec (PBI/Gordon)</td>
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