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## Property at a glance

**Location:** Abbott Laboratories,  
Chicago, IL

**Staff:** North Chicago Grounds Maintenance

**Category:** Industrial or office park

**Total budget:** \$805,000

**Year site built:** 1925

**Acres of turf:** 42.7

**Acres of woody ornamentals:** 11.2

**Acres of display beds:** 1.5

**Total paved area:** 73.6 acres

**Total man-hours/week:** 515

## Maintenance challenges

- ▶ Congestion — air quality
- ▶ Company growth/expansion
- ▶ Regulatory compliance

## Project checklist

(Completed in last two years):

- ▶ Building R14
- ▶ Parking lot 5
- ▶ Gate 2 entrance

## On the job

- ▶ 10 full-time staff, 6 seasonal employees, 6 licensed pesticide operators

# Abbott Laboratories

## The 1999 Grand Award Winner of the Professional Grounds Management Society for Industrial or Office Park

Who ever said that science wasn't beautiful? Located on a 220-acre tract of land bordering the shores of Lake Michigan in North Chicago, the grounds at "Abbott on the Lake" are expected to be nothing short of perfect. That's not a surprise considering that Abbott Laboratories is a Fortune 500 health care and pharmaceutical company.

During peak growing season, North Chicago Grounds Maintenance mow and irrigate turf areas at least once a week, routinely maintain flower beds and hedges and collect litter.

Snow removal has been a top priority at Abbott ever since a 1979 New Year's Eve storm left the manufacturing plant buried for two weeks. From Nov. 1 to April 1, the entire grounds crew is on 24-hour call in case of any sudden snowstorms. Snow has to be cleared from 70 acres of pavement and hauled away to a remote snow dump site on the perimeter of the property.

Can you imagine being told that you cannot use mowing equipment, fertilizers and pesticides one day because the ozone levels exceed the national standard? That's another challenge the contractor has to overcome, as well as strict plant cleanliness requirements from the government and the Illinois Environmental Protection Agency.





► Edging a sidewalk is easier using a trimmer with edger attachment.

▼ Effective use of both color and texture make this flower bed a real focal point.

Editors' note: *Landscape Management* is the exclusive sponsor of the Green Star Professional Grounds Management

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Awards for outstanding management of residential, commercial and institutional landscapes. The 2000 winners will be named at the annual meeting of the Professional Grounds Management Society in November. For more information on the 2000 Awards, contact PGMS at 120 Cockeysville Road, Suite 104, Hunt Valley, MD; 410/584-9754. Web-site: [www.pgms.org](http://www.pgms.org)

Management Society in November. For more information on the 2000 Awards, contact PGMS at 120 Cockeysville Road, Suite 104, Hunt Valley, MD; 410/584-9754. Web-site: [www.pgms.org](http://www.pgms.org)

**PGMS**



Weed control:

# turf vs. ornamental beds

**Some products suited for turf can damage ornamental beds, and vice versa. Before you use postemergents on adjacent areas, learn which products to avoid**

BY JEFFREY F. DERR



Weeds commonly move from turf areas into ornamental beds and from beds to turf areas. The control strategies may be different in the two areas, however.

**M**y previous article ("Control T & O Crossover Weeds," *Landscape Management* November 1999), discussed weeds that are common to turf and ornamental areas. Since you may maintain both turf and ornamental beds, I discussed the herbicides that can be applied to both areas to control these crossover weeds. If you can use the same products in both lawns and ornamental beds, your weed management program becomes much less complex.

Unfortunately, some chemicals can only be applied to turf, and others can only be applied to ornamentals. You should know how to use these products to avoid damage to desirable plants.

## Differences matter

A major difference between turf and ornamental beds is that we are maintaining a perennial grass in our lawns while maintaining predominantly annual and perennial broadleaf species in landscape beds. The tolerance of broadleaves to an herbicide is often quite different from that seen in a perennial grass. This is especially true for postemergent herbicides. The similarities in weed control in lawns and ornamental beds occur primarily with preemergent crabgrass herbicides.

Ornamental grasses are becoming increasingly important in landscapes and herbicide use in these plants is quite similar to that used in turfgrass. Herbicide tolerance in nongrass monocots such as daylily, liriopie and tulip, however, can be different from that in turfgrasses. Due to the diversity of plants being grown in ornamental beds, it is important to have an understanding of herbicide tolerance across ornamental beds and turf.

The differences that occur in turf and ornamental herbicides fall primarily into three categories: 1. post-emergence herbicides used for broadleaf weed control



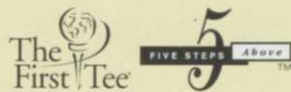
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in turf; 2. herbicides used for perennial grass control in ornamentals; and 3. nonselective herbicides used in ornamentals.

### Turf damage control

A number of selective postemergence broadleaf herbicides are used in lawns, including 2,4-D; 2,4-DP; MCPP; MCPA; dicamba; and triclopyr. They are often referred to as growth-regulator herbicides and are usually applied in two-way or three-way combinations for broader-spectrum broadleaf control. As with broadleaf weeds, broadleaf ornamentals are usually quite sensitive to members in this group. Their exposure to small quantities of these herbicides can cause systemic damage. These chemicals can also damage conifers and nongrass monocots.

There are three major ways that injury to broadleaf ornamentals can occur with these herbicides: spray drift, vapor drift and root uptake. Use caution when applying these compounds to avoid spray droplet drift into ornamental beds (they should be applied when winds are light). Granular formulations could be used in certain situations where spraying would be difficult, but although granular formulations eliminate the potential for spray drift, they still can damage broadleaf ornamentals through root uptake.

Vapor drift occurs when these products are applied under high temperatures (especially over 85 degrees F). These chemicals leave the soil surface as a vapor and move with wind to sensitive crops. The risk is greatest with ester formulations, which are more volatile than amine formulations. Thus, when making applications in late spring or summer when trees and shrubs are actively growing, you would prefer amine formulations to minimize vapor drift. It would be safer to apply ester formulations after deciduous trees and shrubs have dropped their leaves in fall.

All of these growth-regulator compounds are mobile in the soil. After rain or irrigation leaches these compounds into the soil, the potential exists for tree or shrub roots to absorb these herbicides. Overapplication within the dripline of a tree or shrub can lead to root uptake and damage.

### Target the application

The compounds in the 2,4-D group are difficult to clean out of a sprayer. It might be better to use a different sprayer to apply these compounds than one used to apply fungicides and insecticides to ornamental beds.

**TABLE 1**

*Herbicides used predominantly in cool and/or warm season turf species.*

<b>Growth regulators:</b> 2,4-D 2,4-DP dicamba MCPA MCPP triclopyr	<b>Triazines:</b> atrazine metribuzen	<b>Other:</b> imazaquin MSMA quinclorac
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**TABLE 2**

*Herbicides used predominantly in ornamental beds.*

<b>Postemergence grass:</b> clethodim fluzafop sethoxydim	<b>Nonselective:</b> diquat glufosinate glyphosate pelargonic acid	<b>Other:</b> dichlobenil oxyfluorfen pronamide
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**Most of the postemergence grass herbicides applied to broadleaf ornamentals cannot be used for grass control in turf.**

Trace amounts of a growth regulator herbicide can cause severe damage to broadleaf ornamentals.

Quinclorac (Drive) is one of the newer herbicides registered for turf use. Besides controlling crabgrass, quinclorac also controls certain broadleaves, such as white clover. Because of this broadleaf activity, it must be used with caution around ornamentals. It, like the 2,4-D group, is both leaf and root absorbed. Avoid spray drift into ornamental beds and ensure that the correct rate is being applied to avoid exposing tree and



shrub roots to high levels of this chemical.

While the triazine herbicides atrazine and metribuzen can be applied to certain warm-season turf species, they cannot be applied to ornamental beds. Both

compounds are absorbed by leaves and roots. By a similar fashion, imazaquin (Image) is used predominantly on turf and will damage certain ornamental species. It can be used on certain woody ornamentals, however. The organic arsenical MSMA is used primarily on turf for postemergence control of crabgrass, yellow nutsedge and certain broadleaf weeds. Avoid drift onto ornamental species.

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J. DERR

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### Ornamental bed options

One group of compounds that can be used in broadleaf and nongrass monocots are the postemergence grass herbicides. This group includes fluazifop (Fusilade II/Ornamec), sethoxydim (Vantage) and clethodim (Envoy). Fenoxaprop (Acclaim Extra) is also in this group but certain turf species will tolerate fenoxaprop. Turf species generally have less tolerance to fluazifop, sethoxydim and clethodim than to fenoxaprop.

Postemergence grass herbicides have an opposite control spectrum than the 2,4-D group. These control grasses and do not affect other monocots (like daylily) or broadleaves, and are used to control perennial grasses like quackgrass, bermudagrass and johnsongrass. In some cases, certain turfgrass species will tolerate one or more of these compounds. In most situations, however, drift will damage Kentucky bluegrass, perennial ryegrass, tall fescue, bermudagrass and other turf species.

The postemergence grass herbicides are primarily absorbed by leaves. They can exhibit preemergence effects but have very short half-lives in soil. Since postemergence grass herbicides have short soil residual action, the primary concern is spray drift onto turf areas.

Several other herbicides are used to control certain perennial grasses in ornamental crops. Dichlobenil (Barrier/Casoron) and pronamide (Kerb) will control perennial grasses such as tall fescue. Pronamide can be

**Determine the tolerance of both the turf species and ornamental species when applying herbicides in a landscape.**

used on bermudagrass turf but will damage most cool-season grasses (it is applied as a sprayed application). Avoid spray drift onto turfgrass.

Dichlobenil is applied in granular form. When used in woody ornamental beds, ensure that granules are not being thrown into turf areas. If heavy rains occur soon after an application of these herbicides,

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## Herbicide eases timing problems

Chris Randall, grounds management manager for Bland Landscaping, Apex, NC, knows the drill. If weather or other factors prevent him from taking care of his clients on time and weeds emerge, he expects a call from his upscale residential or industrial clients.

"I'll have to send a spray technician back to the site to re-apply a herbicide, adding to costs, lowering profit margins and damaging the company's credibility," Randall says. "Relying only on preemergence products increases our vulnerability because of the narrow application window."

His clients want reliable, broad-spectrum postemergence weed control, he notes. "We lose money when we have to retreat a property. We need effective products that enlarge the treatment window."



**Eric Eibelheuser, IPM coordinator for Bland Landscaping, treats a commercial account.**

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