

# MANAGING NATURALIZED AREAS: Maintenance Tips To Keep Weeds At Bay And Balls In Play

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In an industry pressured for cost savings, superintendents are considering every option, including going natural. These areas, called by many names, including native, natural and naturalized, can also help make a golf course more marketable during these difficult economic times, by providing increased aesthetic interest for golfers.

Naturalized areas help create a contrast to intensely managed turf and improve wildlife habitat. While an aesthetic case for naturalized areas can be easily made, many superintendents are converting intensely managed turf to naturalized landscapes to cut their input costs related to fuel, fertilizer, irrigation, pesticides and labor. The deep root systems of these naturalized areas, for example, are more tolerant to environmental stresses and require less irrigation. But properly going natural should not be confused with letting nature take over.

Naturalized areas left to grow at Nature's will are bound to become large weed patches and over-grown eye sores that can become a no-man's land for irretrievable golf balls. Unlike turf and groomed landscapes, a naturalized area's success relies on a different type of plant management, and a low maintenance, but methodical approach that includes both preemergence and postemergence herbicides.

## Choosing plants and planning maintenance

The types of indigenous or non-native plants a superintendent chooses for naturalized areas have a significant impact on maintenance needs.

Monostands or mixes consisting of fescues, lovegrass, bluestems, broomsedge, wheatgrass, indiagrass and others can provide a clean contrast to playable turf and require minimal maintenance inputs. They are great for sloped areas prone to erosion and some varieties even have natural weed defenses.



Aurora hard fescue

Native flowers and wildflowers add color to a course's green-scape but require more care to ensure seasonal blooms and growth succession over invasive, aggressive weeds. When grown from seed, wildflowers may take up to three years to provide the impact desired. Some of the most popular choices for golf courses include cosmos, yarrow, baby's breath, black-eyed susan, primrose, poppy and Shasta daisy to name a few.



Naturalized areas near play

Controlling weeds in a naturalized area inhabited by wildflowers can be a challenge for superintendents. Herbicides meant to knock down broadleaf weeds may also kill wildflowers—which are categorized as broadleaf species. As a result, these wildflower areas may require hand weeding and spot spraying to remove unsightly broadleaf weeds. Weedy grasses, however, can be controlled with selective herbicides. If planting wildflowers, superintendents should consider the size of the planting area realizing that these areas will require some hand weeding to achieve the full benefits.

## Getting started on going natural

Establishing strong, healthy plants is key for weed management in low-maintenance, naturalized areas. When beginning a new area, use a non-selective chemical treatment to eliminate weeds and then lightly till. Then use a low seed rate per acre to avoid thick stands of vegetation. Be sure to time seeding with seasonal rains to minimize the need for irrigation. With new areas, it is important to communicate progress to members, because plants may take years to develop and achieve the desired effect.

One way to avoid waiting for the area to develop is to use established plants if available. Plant them in the fall to make the most of favorable soil temperatures and decreased weed pressure. Superintendents could also cut costs by building an out-of-sight nursery to grow native varieties until they're ready for planting. Mature plants should be spaced apart so players have room to walk in and play a missed shot back onto a fairway. A number of grass options, including lovegrass, fescues, broomsedge and bluestem, work well in these areas.

## Managing weeds and promoting healthy, playable growth

Seasonal thinning, trimming, mowing and spraying naturalized areas should be included in a golf course's routine maintenance in order to sustain the integrity and playability of the course landscape.

A management plan should start with an inventory of current herbicides in the chemical storage building. Categorize your existing herbicides by application timing, use areas and weeds controlled

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## Inventory Your Herbicides and Categorize Their Use in These Areas

\*Recommendations compiled by BASF Professional Turf & Ornamentals' technical staff.

Disclaimer: Consult individual product labels to determine individual species tolerance. Most product labels allow users to evaluate species not on the label. User assumes all risk. This is a partial list of products and is provided as a guide.

Company Name	Product Name	Active Ingredient	Application Timing		Use Areas			Weeds Controlled	
			Preemergence	Postemergence	Native Grasses	Wildflowers	Grasses	Broadleaves	Sedges
<b>Preemergence-grasses and broadleaves</b>									
BASF	Pendulum herbicide	Pendimethalin	x		x	x	x	x	
Syngenta	Barricade	Prodiamine	x		x	x	x	x	
Dow AgroSciences	Dimension	Dithiopyr	x		x	x	x	x	
United Phosphorus Inc.	Surflan	Oryzalin	x		x	x	x	x	
Amyvac Chemical Corp.	Dacthal	DCPA	x		x	x	x	x	
<b>Postemergence-non-selective</b>									
Bayer	Finale	Glufosinate-ammonium		x	x	x	x	x	
Monsanto	Roundup	Glyphosate		x	x	x	x	x	x**
<b>Postemergence-sedges</b>									
BASF	Basagran herbicide	Sodium Bentazon		x	x				x
Gowan	Sedgehammer	Halosulfuron methyl		x	x				x
<b>Postemergence-grasses</b>									
BASF	Drive XLR8 herbicide	Quinclorac		x	x			x	x
Bayer	Acclaim Extra	Fenoxaprop-P-ethyl		x	x	x		x	
BASF	Segment herbicide	Sethoxydim		x	x*	x		x	
Syngenta	Fusilade II	Fluazifop-P-butyl		x		x		x	
<b>Postemergence-broadleaves</b>									
Dow AgroSciences	Turflon	Triclopyr		x	x				x
Dow AgroSciences	Lontrel	Clopyralid		x	x				x
Multiple manufacturers	Various	2,4-D		x	x				x
Multiple manufacturers	Various	Dicamba		x	x				x
PBI Gordon	Trimec Classic	2,4-D + MCPP + Dicamba		x	x				x
LESCO	Three Way	Dicamba + 2,4-D + MCPP-P		x	x				x
PBI Gordon	SpeedZone	Mecoprop-p + Dicamba		x	x				x
Dow AgroSciences	Confront	Triclopyr + Clopyralid		x	x				x

x\* May be used in fine fescue x\*\* Suppression

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# MANAGING NATURALIZED AREAS

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(see chart on page 12). Note preemergence and postemergence herbicides, whether use sites are appropriate for wildflower areas and native grass areas, and their control of broadleaf weeds, sedges and grassy weeds. While many herbicide products labeled for golf course use do not list native grasses and wildflowers specifically, language on the label usually allows you to evaluate the herbicide on your particular species. You should test the product on a small area to determine tolerance before making applications to larger areas. In

addition, many product labels include native grasses and wildflowers that are tolerant to a particular herbicide in the ornamental section of the label.

Preemergence herbicides should be the pillar of any naturalized area maintenance plan. Most preemergence herbicides labeled for golf course use evolved from crop applications, which typically control tall and unsightly weeds commonly found in naturalized areas. These include grassy weeds such as barnyardgrass, foxtail, johnsongrass, panicum and witchgrass, as well as broadleaf weeds like lambsquarter, pigweed, spurge and smartweed. Since most preemergence herbicides only affect the roots of germinating weed seeds, they are generally labeled for use on mature grasses with a well established root system. Using herbicides to preventatively control weeds will be the most cost-effective strategy. If superintendents can prevent outbreaks with one product application, they'll save themselves the time and expense of applying multiple products on multiple weed varieties.

Superintendents should apply herbicides annually as part of their routine maintenance. Other strategies such as mowing and thinning the vegetation will promote healthy growth and keep the area playable.

Superintendents should consider mowing naturalized areas twice a year, once in the spring to provide for a clean, fresh growing season and then again in the fall before plants go into dormancy. Spring and fall are ideal times for superintendents to apply a preemergence herbicide to control weeds.

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After an area has been established for a few years, superintendents may consider getting a permit for a controlled burn of the area. Scheduling an annual burn during the early spring months will encourage hearty growth and renew soil.



Once new growth appears, apply a preemergence herbicide before grassy and broadleaf weeds invade the area. Postemergence broadleaf herbicides are effective on naturalized grass areas, but eliminating unsightly grassy weeds can be more challenging. There are several postemergence grass herbicides that can be used, but study product

labels closely to determine if your stand is tolerant to the herbicide.

Naturalized areas on golf courses continue to be a developing trend. And while they are not maintenance free, naturalized areas can reduce the amount of management required on the overall course and increase aesthetics. Properly managed naturalized areas can be mutually beneficial to superintendent budgets and player expectations. And when created and managed methodically, naturalized areas can give superintendents a visually appealing contrast to the manicured playing areas.

## Maintenance Schedule Breakdown

- Mow in the spring and apply a preemergence herbicide.
- Monitor the amount of wildlife living in the naturalized area—if animals or insects have become pests to players, decrease the amount of food- and shelter-giving plants.
- Spot spray and hand weed as needed if weed pressure increases during summer months.
- Mow in the fall and apply a preemergence herbicide before dormancy hits.
- If allowed, consider burning to clean out debris and vegetation to promote new growth.
- If desired, label the indigenous grasses and flowers to both educate players and help remind maintenance crews which plants are intentional.



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## 2008-2009 GCSAA CHAPTER COOPERATIVE RESEARCH PROGRAM PROGRESS REPORT Management and Biology of Brown Ring Patch on Annual Blugrass

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### A. REPORT ABSTRACT

Brown Ring Patch caused by *Waitea circinata var circinata* is a new, invasive pathogen of turfgrass in the U.S. Experiments were initiated in 2008 to address the key issues of chemical and cultural management, population structure and origin and the basis of resistance to certain classes of fungicides. In field experiments, it was shown that certain fungicides are most effective for the control of the disease. It appears that Headway and Endorse fungicides provide excellent curative activity against the disease, but have short residual activity. Certain DMI-fungicides (Trinity, Triton and Tourney) and ProStar appear to take a longer period of time to control the disease, but offer a high level of control with a long residual period. Repeated applications of fungicides also appear to give better control than single applications. Nitrogen appears to have a significant effect on decreasing disease development when 1 lb/1,000 sq ft was applied in nitrate, ammonium or urea form. Primo MAXX (0.125 fl oz/1,000 sq ft) appeared to cause a slight increase in disease in some cases. However, applications of nitrogen in combination with Primo MAXX appeared to provide the best disease control and turf color. Currently, population analyses using AFLP and determination of the molecular basis of fungicide resistance are being performed. Based on the results of

2008 field experiments, best management practices for brown ring patch include (i) application of nitrogen and Primo MAXX to reduce disease severity and improve turf color, (ii) application of Headway or Endorse for quick acting curative control, and (iii) application of certain DMI-fungicides or ProStar for long lasting control.

### B. PROJECT RATIONALE

*Waitea circinata var circinata* was recently discovered as a new, invasive pathogen of turfgrass in the U.S. affecting high value golf course putting greens (de la Cerda et al. 2007, Chen et al. 2007). Previously only found as a turfgrass pathogen in Japan causing "Brown Ring Patch" (Toda et al. 2005), it was only first detected by the Turf Disease Diagnostic Lab at UC Riverside from golf courses in Washington and California beginning in 2003. Since then, it has been detected at over 50 locations in California, Oregon, Washington and Nevada and most recently in Illinois, Ohio, Pennsylvania, New York, New Jersey, Connecticut, Maine, Rhode Island and Massachusetts (Figure 1).

Little is known about the biology, origin or method of spread in the U.S. for this pathogen and there is very limited information on effective control measures. Recent work in the Douhan and Wong

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