

Improving pre-emergents kill goosegrass early

By Mark Leslie

Throughout the Southeast, golf course superintendents keep a close eye on forsythias at the first of each year. Why? When forsythias bloom superintendents start to apply pre-emergent herbicides to beat their nemesis goosegrass to the punch.

United States Golf Association agronomist John Foy said: "Goosegrass in north Florida through the Southeast has a preset window of germination. For effective pre-emergent control, you need to get the pre-emergent material down before that time, but close enough to have good residual through that window."

Except for south Florida where goosegrass essentially germinates year-round, the "window" normally is the first month after the forsythia blooms, according to Foy, Dr. Euel Coats of Mississippi State University, and others.

"Timing is essential," agrees Tim Hiers, golf course manager at John's Island West in Vero Beach, Fla. "The big problem with goosegrass is that it multiplies."

Prolific? Goosegrass is to the world of weeds what rabbits are to the world of animals.

A typical plant may produce thousands of seeds. And, said Foy, "a seed head can form even when it's being mowed at three-sixteenths of an inch or less."

And goosegrass is ugly, so superintendents attack it with vengeance.

University and manufacturing company researchers recommend:

- Apply a single treatment or the first of two treatments of a pre-emergent herbicide in that "window." The window in Ohio is mid-May, but across the South it is mid-February to late-March, depending on elevation. A split treatment entails an initial treatment with half the dosage per acre and a second treat-

ment with the other half 60 days later.

- Follow with a post-emergent herbicide application to kill whatever remains.

Most pre-emergents kill 80 percent or more of the plants before they emerge through the soil surface.

O.M. Scott's project leader for chemicals,

Ray Huey, explained, "The pre-emergent forms a barrier at the soil surface, so when the goosegrass germinates, it comes in contact with the herbicide and dies."

Meanwhile, the turf's root system is below the herbicide, so remains largely unaffected — unless it is under stress.

Dr. B.J. Johnson of the University of Georgia at Griffin said "a lot more" pre-emergents are available to turf managers today than 10 or 15 years ago. And Coats suggested it is worth it to shop around.

Coats last year checked the prices of the products on the marketplace and found the cost per acre of treatment ranged from less than \$50 to \$195.

Yet, Coats said: "This is one of the few industries where turf is such an important player. We're not placing the value on lifting the product and selling it. It's an aesthetic value..."

"We're not as concerned with what it costs to give us that uniform playing surface as people in other fields are concerned with their product, because we're not selling that product in a classical economic sense."

"That does not mean managers are not dollar-conscious. With a certain percent of the clientele, those high numbers are going to be less of a hindrance than they are on people in almost any other industry."

"When you look at the thousands of dollars of extra material in a single year, it's not really that great. Especially if it provides what the clientele is looking for. If you don't do it, and they don't come back because you've got goosegrass, you've lost their business."

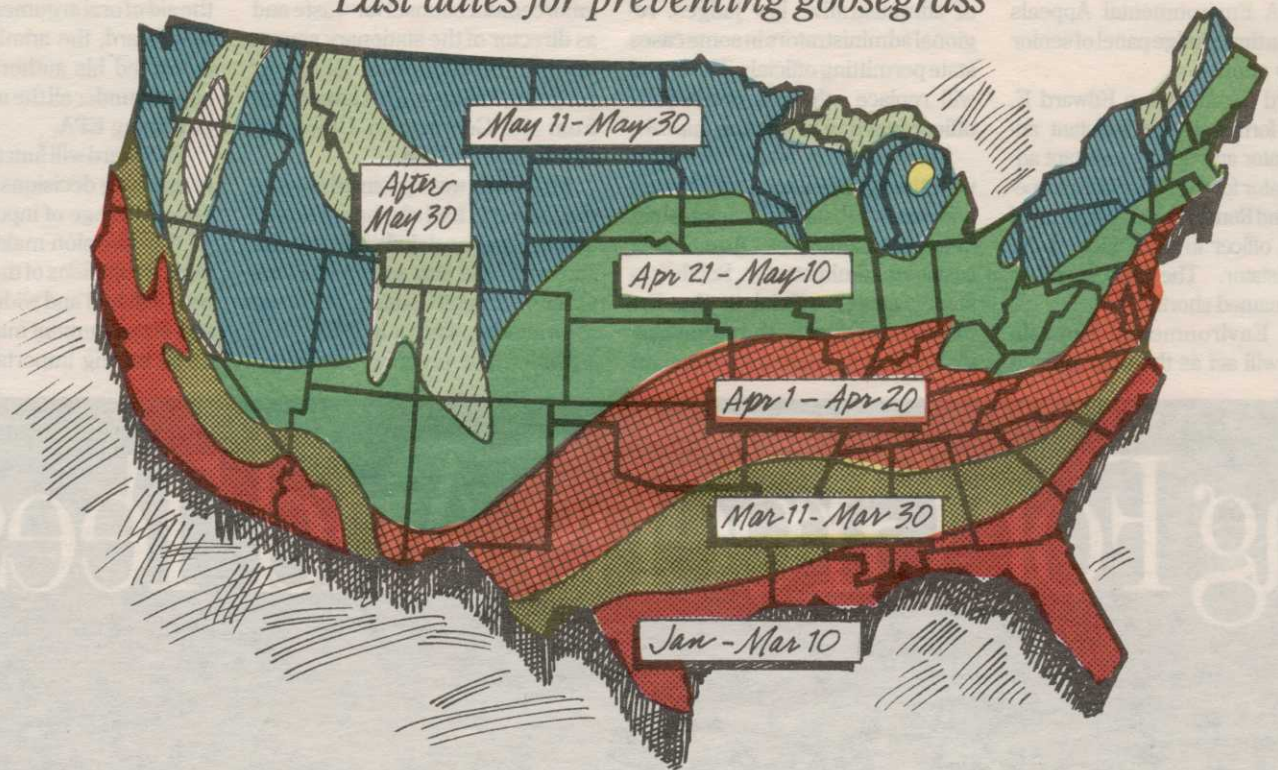
RESEARCH AND DEVELOPMENT

Johnson said that in selecting a pre-emergent for goosegrass: "I'd be interested in a product that could give us consistent performance from year to year, and not have the variability we often find. Most of the herbicides we have now do give us very good control some years, then the next year is not as good."

"Pendimethalin has generally given us very good performance, but last year it bottomed out, probably due to excess rainfall during early spring and into summer. On the other hand, oxadiazon performed very well."

Huey said that with the advent of balan, then pendimethalin in 1985, "along came a lot of DNA (chemical group dinitroaniline) products that

Last dates for preventing goosegrass



Courtesy of O.M. Scott

Goosegrass pre-emergents in the marketplace

Company	Product	Active ingredient	Formulation	Cost per acre	1 or 2 app's	Length of residual	Mobility
DowElanco 9002 Purdue Rd. Indianapolis, Ind. Tel: 800-352-6776 Circle #201	Balan 2.5G	Benfenin	Granular	N/A	Two	8-10 wks	Very low
	Surfian 4AS	Oryzalin	Liquid	N/A	Two	12-16 wks	Low
	Team	Trifluralin/Benfenin	Granular	N/A	Two	12-16 wks	Very low
	XL	Oryzalin/Benfenin	Granular	N/A	Two	12-16 wks	Low
ICI Americas New Murphy Rd. Wilmington, Del. Tel: 302-886-1660 Circle #202	Betasan	Bensulide	4E; 7G; 12.5G	N/A	One-two	4-12 wks	Low
	Devrinol	Napropamide	50WP; 5G; 2G	N/A	One-two	4-12 wks	Low
Lebanon 1600 E. Cumberland St. Lebanon, Pa. 17042 Tel: 800-233-0628 Circle #203	Balan 2.5G	Benfenin	Granular	N/A	Two	8-16 wks	Not mobile
	Betasan 4-E	Bensulide	Emulsifiable lqd	N/A	Two	8-16 wks	Not mobile
	Betasan 7G	Bensulide	Granular	N/A	Two	8-16 wks	Not mobile
LESCO 20005 Lake Rd., Rocky River, Ohio Tel: 800-321-5325 Circle #204	Pre-M	Pendimethalin	All types	N/A	One-two	12-16 wks	Very low
Monsanto 10000 Old Olive St. Rd. St. Louis, Mo. 63167 Tel: 314-694-4345 Circle #205	Dimension	Dithlopyr	Liquid	\$90	One	3-4 mths	Very low
Rhone-Poulenc P.O. Box 112014 Res'ch Triangle Pk, N.C. Tel: 919-549-2000 Circle #206	Chipco Ronstar	Oxadiazon	Granular	\$100-\$200	One	16 wks	Not mobile
Sandoz 1300 E. Touhy Ave. Des Plaines, Ill. 60018 Tel: 708-699-1616 Circle #207	Barricade 65WG	Prodiamine	Granular	N/A	One	All season	Not mobile
O.M. Scott 14111 Scottslawn Rd. Marysville, Ohio 43041 Tel: 513-644-0011 Circle #208	Goose/Crab Control	Betasan/Ronstar	Granular	N/A	One	All season	Not mobile
	South'n Weed Control	Pendimethalin	Granular	N/A	One-two	All season	Not mobile
	Turf Starter	Ronstar	Granular	N/A	One	All season	Not mobile

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Pre-emergents fight goosegrass before it gets started

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have been considered effective and less costly."

He added, "We're continuing the search with some of the newer chemicals along with older ones."

Dr. Bert McCarty of the University of Florida at Gainesville said one of those new chemicals is dithiopyr, or Dimension.

"Dimension is a newer class of chemistry — pypridine — that has higher activity," McCarty said.

Produced to fight crabgrass, as many goosegrass herbicides are, Dimension's major limitation

against goosegrass is its application rate restriction of one-half pound per acre, McCarty said.

Monsanto, Dimension's manufacturer, has requested an increase to three-quarters of a pound, according to product development associate Stewart Sherrick. Sherrick said if the Environmental Protection Agency grants approval, which he expects, the new rate will be available next season.

McCarty said a three-quarter pound application rate would make Dimension "pretty equal" to Ronstar in effectiveness. But, "Ronstar

doesn't hurt rooting as badly as Dimension and others do," he said.

Meanwhile, Foy, director of the USGA Green Section's Florida Region, said: "I haven't seen a dramatic improvement in anything over Ronstar. The basic materials haven't changed significantly the last 15 years. Dimension is supposed to provide longer residual, but we haven't had a chance yet to test it in the field."

GREENS THE MAJOR CONCERN

The major problem areas on golf courses are the high-traffic areas and greens. Only three pre-emergents — bensulide, oxadiazon

and dithiopyr — are labeled for use on greens, so the options are fewer than for fairways.

"The greens are the most important part of the course, but only two percent of the area," said Coats. "From a purely business standpoint, the risk is much higher on the greens. If something goes wrong, and the product over-performs on the turf, the liability is extremely high. Replacing 43,560 square feet of golf greens is a different ball-game than replacing 43,560 square feet on a fairway.

"On better golf courses, where you have USGA greens or modified greens

that are high-percentage sand, you don't have absorbency capacity in the soil... Consequently, from a tolerance standpoint, a given amount of herbicide is more active than it would be out on the fairway, where you have a clay-loam or even a sandy-loam soil.

"You're stressing the grass on that green because you're mowing at a low height."

Coats warned: "If you have an acre of greens, you use three pounds of a product and you're paying \$40 to \$50, plus liability, if it goes berserk in the night. That doesn't happen often, but it doesn't take very often. Not only do you lose greens but, in certain court-houses, you're also liable for lost revenues.

"So, not many companies are willing to take the risk."

FAIRWAY PROTECTION

"There are not nearly as many limitations on the fairway," Coats said. "You have a much greater arsenal of materials to choose from."

Goosegrass is also easier to fight on the fairway because the grass is mowed higher and it is generally in soil, rather than sand, so "the grass is much more tolerant."

TOSS OUT THE RULES IN S. FLORIDA

South of Orlando, Fla., superintendents can throw out all the rules on application.

"It's a different world there," Coats said. "Goosegrass never completely goes dormant there."

Foy said: "Under our conditions in south Florida — with high humidity, a long growing season, high rainfall and sandy soils — you don't get the (longer) residuals you get elsewhere. Advertisements that claim season-long goosegrass control are referring to the traditional areas of the Southeast."

The University of Florida's McCarty added: "Some of the inconsistency we see in Florida, that they don't in other states, is because we have much warmer temperatures year-round... Pesticides are active almost year-round.

"Second, we have large, sandy soils which are low in cation exchange capacity. Therefore, they don't hold the herbicides as well. Third, we get thunderstorms and heavy rain and that can move or break down the herbicides more quickly than other states."

"In south Florida," Foy said, "you should apply once in the spring (late-February to mid-March) and once in the fall (late-September to October). And expect some plants will escape and you will have to use post-emergent products."

HEALTHY TURF A DETERRENT

Yet, the best way of all to control goosegrass, Foy said, is to "maintain a good healthy turf cover and out-compete the problem. Use basic, sound turfgrass management: proper aeration schedules, fertilization, mowing heights, et cetera.

"Then, when you are doing everything you can, and you still have an unacceptable invasion of goosegrass, a pre-emergent program is the best way to control it. It is easier to control a plant before it gets started than afterwards."

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