



## Preemergence Herbicides

### Goosegrass control with preemergence herbicides

Dr. Wayne Bingham, professor of plant physiology at Virginia Polytechnic Institute and State University, included some aspects of his research on goosegrass control at the recent Virginia Turf-

grass Conference in Williamsburg, Virginia. While treatments for crabgrass control should go on in early March or early April, he said, goosegrass treatments should be delayed until May or even early June, when goosegrass germinates.

Dr. Bingham felt that his preemergent herbicide tests should be carried on for more than one

*Continues on page 47*

**Goosegrass Control in Common Bermudagrass Fairway**

Herbicide	Kg/ha					Percent Goosegrass Control		
	1974		1975		1976	1974	1975	1976
	4/16	9/5	4/3	8/20	4/12	9/5	6/22	8/26
Oxadiazon	3.4	1	3.4	3.4	3.4	100	100	100
Butralin or Prosulfalin	4.5	4.5	3.4	3.4	3.4	38	88	100
Bensulide or Butralin	11.2	11.2	11.2	11.2	4.5	0	0	38
Benefin	3.4	3.4	3.4	3.4	3.4	0	88	100
DCPA	16.8	11.2	17.9	11.2	17.9	50	38	62
Check	---	---	---	---	---	0	0	0

<sup>1</sup>Prosulfalin was applied 9/5/74 at 3.4 kg/ha.

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Summed up, the new 295 is the same superior mower with more power than ever, and the full safety package. Attachments that stretch its working seasons the full year also interchange with all EXCEL HUSTLER models from 272A through 295.

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# Wherever annual weed

"Out here, crabgrass is our biggest complaint, and Balan in the spring works like a charm."



"Around these parts, we're faced with goosegrass/crowfoot in the summer, then when our Bermuda-grass goes dormant, Poa annua's the problem. So we use Balan twice."



"Sometimes we use Balan in the early spring for crabgrass, but if goosegrass is a problem we apply Balan later to get it as it germinates."



"If you've a goosegrass/crowfoot problem, a shot of Balan early in the summer takes care of that problem; but nothing makes our courses look worse than green patches of Poa after the Bermuda's gone dormant, so we apply Balan in the fall, too."

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# grasses are the problem...

"Around here, our main problem is crabgrass in the fairways, so we use Balan in the spring.

It's so economical we treat fairways and the roughs."



"Almost every course in the South has two main weed grass problems: Poa annua and goosegrass/crowfoot. Two applications of Balan gets rid of them both."



"Plain old crabgrass is the biggest problem around here. Balan is so economical we put it on all our fairways in the spring before germination."



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# The city that gave the job to JOBE.



Carson, California, is a city that takes pride in its appearance. Its 22 square miles include about 35,000 trees on public land, approximately 50% planted in just the past ten years. F. "Tuto" Iglesias, maintenance superintendent of the Carson Parks and Recreation Department, is pleased with tree appearance and growth since the city "gave the job to Jobe." He says, "For our tree maintenance in residential areas,



we fertilize exclusively with Jobe's spikes. Easy application saves us money on equipment and personnel." Carson discovered another benefit using Jobe's spikes — water conservation. Says Iglesias, "We used to fertilize while watering trees. Since starting to use Jobe's, we save on water usage."

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## Preemergence Herbicides

year for a good evaluation of control. Variability between locations became a factor.

When the new herbicides began to show up and their effect on goosegrass control showed them to be important, they were looked at and critically compared to find which had the best results. Dr. Bingham found that if he split application, control was better.

Oxadiazon, however, seemed to work just as well whether it was applied all at once or split. With DCPA, bensulide and benefin, better results were achieved with a split application.

The following charts show a comparison of goosegrass control over a three year period, the first indicating control and the second indicating the amount of bermudagrass filling the plots back in.

Goosegrass Control in Common Bermudagrass Fairway

Herbicide	Kg/ha <sup>1</sup>					Bermudagrass ground cover <sup>2</sup>				
	1974		1975		1976	1974	1975		1976	
	4/16	9/5	4/3	8/20	4/12	4/16	5/30	7/22	6/14	8/26
Oxadiazon	3.4		3.4	3.4	3.4		104	132	137	144
Butralin or Prosulfalin	4.5	4.5	3.4	3.4	3.4		108	127	122	143
Bensulide or Butralin	11.2	11.2	11.2	11.2	4.5		69	79	117	132
Benefin	3.4	3.4	3.4	3.4	3.4		115	127	131	144
DCPA	16.8	11.2	17.9	11.2	17.9		108	104	115	138
Check	---	---	---	---	---	33	43	72	83	122

<sup>1</sup>Kg/ha multiplied times 1.12 equals lb./A.

<sup>2</sup>144 square feet = complete coverage of the plot.

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MARCH 1979/WEEDS TREES & TURF



# SCOTTISH GREENKEEPERS PRESERVE NATURAL CHALLENGE OF COURSES

by Stan Metsker

**Stan Metsker** made the trip to Scotland in September of 1977 to bring back ideas for the Country Club of Colorado where he is the Superintendent. For the last five years he has been working with architect Peter Dye, who designed and constructed the course, to develop some of the Scottish links atmosphere.



**Gorse at Gleneagle Golf Course.** The sharp-leaved gorse receives great respect from golfers and rarely gives back balls hit into it.

It is easy to see why Golf started in Scotland. The courses were there just waiting to be discovered. The dunes formed the contours, the grass was so starved that it was thin and easy to find a ball in, and the rabbits and sheep kept the grass down enough to form what later became mowed greens. Next to the sea (the links land) there are dunes of beachsand that provide so many possible natural golf holes that the biggest problem must have been in choosing which way to lay out the course to the fullest advantage.

The old rules of golf called for the teeing area to be within two clublengths of the previous hole. Even now, the next tee may be almost that close to the edge of the just completed green. This contributes to fast play in Scotland where everybody walks.

All the courses are not maintained alike nor do they look alike. The manufactured look of American courses can be found, but it is the exception. The maintenance of these courses is quite different from that in the U.S. Greenkeeper Norman Ferguson of Troon Golf Club uses the following methods:

- Fertilize with nitrogen only, once in spring and once in summer.
- Mow fairways once per week.
- Mow greens three times per week when growing well, twice when slower.
- Change cups once per week.
- For insects use DDT or Chlordane.
- After aerifying greens, topdress Turface into low spots and compost into high spots.
- Irrigate only enough to make the grass survive dry periods.

Like most other Greenkeepers in Scotland he has no triplex greens mowers, no power trap rake or trucksters. He does have some automatic irrigation of greens and, even more rare, some automatic irrigation on the fairways. As with other courses, one of his big continuous problems is rabbits. They are forever digging holes.

To understand the vegetation of a links course you must remember that the "soil" is almost pure dune sand and that the weather is that of an island (high humidity) on the same latitude with the Hudson Bay in Canada, Southern Alaska, and Southern Sweden. The climate is generally cool, windy and frequently rainy. But, there are occasional droughts.

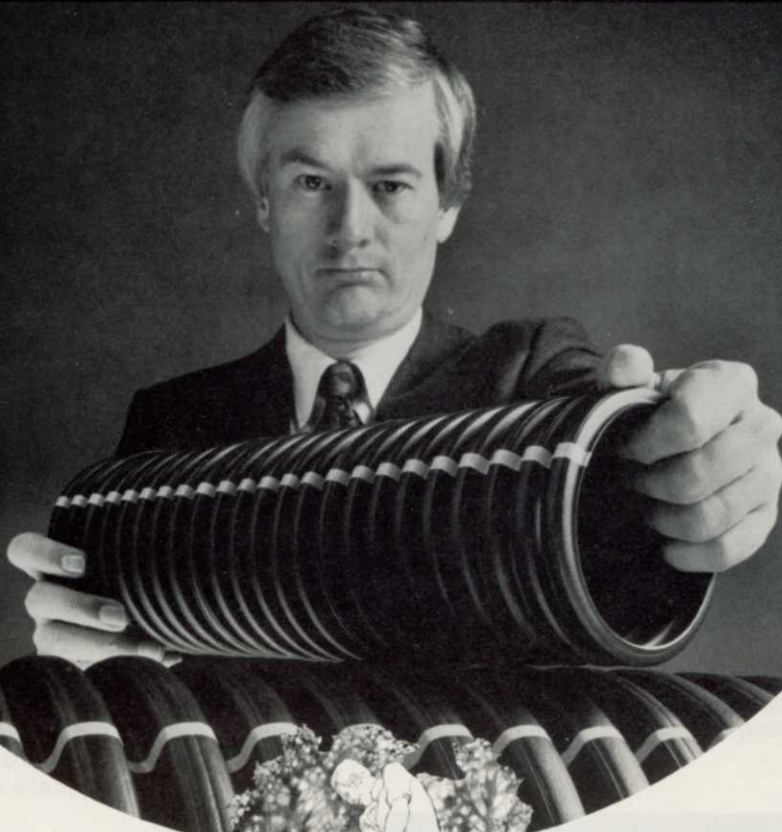
These infertile, acid, and fast draining soil conditions call for some pretty tough plants. Gorse (*Ulex europaeus*) is the most abundant and most respected bush. It is full of spine and is impossible to walk through. It blooms in the Spring and has pods that snap open on sunny fall days. It grows from a few in. to six ft. high and often is mixed with brambles such as blackberries. Gorse is often seen on the top of the dunes.

Heather (*Culluna*) grows in clumps very close to



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**North Berwick 16th Green** (above) is formed by two plateaus which makes for some interesting putts. Worker (below) uses an alder broom to brush debris off a Gleneagle green.



the ground, usually less than six in. high. It blooms in late summer and early fall with the purple flowers making a living carpet. A golf ball can often be found in heather but the stroke to get it out is difficult due to the plant's wiry nature. It does well on hillsides.

Broom (*Cytisus*) is common but seems to be scattered as an individual plant among the more common gorse. It has almost no leaves, hence its name. It grows about three ft. high and has beautiful pea-like yellow flowers in the spring.

Roses are common but often they are the small creeping types and grow in with the grasses. Trees are almost non-existent. Occasionally there is a small maple or a wind swept hawthorn. Trees are not necessary to have a good golf course as is evident at the courses at St. Andrews Links.

Common Sea Buckthorn (*Hippophae rhamnoides*) is not seen as often as gorse but on some courses makes large clumps of brush that are 15 ft. high and almost impenetrable. It has a nice gray-green color and spreads by suckers.

The grasses are mostly fine leaved fescues mixed with some bent and sometimes a little *Poa annua* where there is close mowing. The rough is generally thin and easy to find a ball in, even if the seed heads may be as high as six or eight inches. The fairways are also thin and often there is moss on the ground. Divots fill in very slowly, so it is a common practice to "sand" the divots. Seed is not usually included in the "sand" because dry winds often will kill the young seedlings. There was some evidence of overseeding on fairways.

Due to a prolonged dry period and the lack of a water system, some fairway grass had been lost