



HOW ENKATURF CAN KEEP YOU FROM LOSING YOUR ROOTS.

A lot of people are interested in finding their roots these days. We're interested in keeping them. That's why we've developed the Enkaturf® System.

The Enkaturf System utilizes Enkamat® 3-dimensional nylon webbing to reinforce natural grass and reduce root zone compaction, making the turf more durable, more resilient and more beautiful.

The Enkaturf System gives turfgrass the protection it needs to grow and heal itself. The webbing is structured to keep turf anchored and resilient even in heavy traffic areas. Compaction, aeration, maintenance costs and players' injuries are reduced tremendously.

Soccer fields. Players who use their heads want to keep their feet on firm ground. That's why



Enkaturf, created in Europe over 15 years ago, has been used there extensively to enhance the strength of natural playing fields. And now that Americans have discovered soccer, they've discovered the benefits of Enkaturf on the soccer field too.

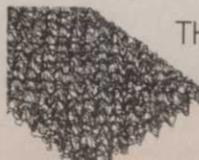
Football fields. The Enkaturf System is a natural grass system without the pitfalls of artificial turf. Enkaturf tackles the problems of torn-up grass and eliminates them, creating a firm, well-reinforced playing surface.

Airfields. The best kind of ground control. The Enkaturf System provides a shock-absorbing surface for landing strips and offers long-term reinforcement of the turf for these as well as adjacent areas.

Golf courses. A stroke of genius. The Enkaturf System is perfect for soil erosion problems, entrance ways to cart paths, tees, pond stabilization and for the construction of flood plains. In fact, eleven of the top forty golf courses are using Enkaturf... of course.

Zoos. Putting the animals out to pasture? It's no longer a problem, thanks to Enkaturf. The system gives sod a structural strength which stands up to pounding, pawing and prancing hooves. It is also effective for grass walkways, erodible slopes and other areas subject to erosion. No wonder so many architects and engineers are specifying the Enkaturf System. Because sometimes you have to let the grass grow under your feet if you don't want to get stuck in the mud.

Contact Enkamat Systems, American Enka Company, Enka, NC 28728. (704) 667-7668.



THE ENKATURF SYSTEM
BY **ENKA**

Helps keep grass
from losing its roots.

Circle No. 102

UPDATE

Check hazardous waste quantities

If your business generates more than 200 pounds of "hazardous wastes" per month, you will soon have more rules to obey. The definition of "hazardous waste" will be set by the Environmental Protection Agency and is likely to include pesticides, many chemicals, their containers and anything contaminated by them.

The new rules are part of the Solid Waste Disposal Act, a new law designed to assist toxic waste control, a politically hot topic at the moment.

Businesses generating more than 200 pounds per month will face a whole set of rules involving leak prevention, underground storage, record-keeping and inspections by late 1985.

Environmental impact factor in biotech rules

EPA must be notified of all field-studies for genetically-altered or biotech pesticides under interim regulations announced in October. Some concern over use of these materials has already made them an issue in California where environmentalists want to know what happens to genetically-altered products in the soil.

The environmentalists are attacking the pesticides in the same way they have in Oregon, asking for environment impact statements prior to use on government lands. For nearly all states EPA regulates pesticide testing through experimental use permits.

Up to now, all regulation of biotech products has been handled voluntarily by chemical companies based on guidelines set by the National Institute for Health. Both EPA and FDA are expected to get involved in regulation of biotech products in the near future.

Testing of biotech materials in laboratories is exempt from the interim EPA regulations.

Legislators go after pesticide residue tolerances

Bills involving additional regulation of pesticide residues have been introduced in both House and Senate. The bills are designed to force a closer look at currently allowable pesticide residues on food products.

Both bills establish a review and hearing process for questionable residues and are intended to "close loopholes" in existing legislation. Advanced technology now provides knowledge of extremely minute quantities of pesticide on food. Standards designed for previous technology are being reexamined.

PEOPLE

Names in the news

Richard Slivinski, the highly regarded golf superintendent for the Phoenix Parks, Recreation and Library Department, is resigning his position to start his own golf and turf management consultant service. He is credited with implementing a successful water conservation system on the park courses, directing the construction of the new Cave Creek Golf Course, and making the city golf program self supporting during his eight years with the Phoenix department. He is a National Director of the Golf Course Superintendents Association of America and serves on state pest control and water management committees.

Also in the golf world, **Ted W. Zahn** is planning to re-establish the National Golf Foundation's education division in Scottsdale, AZ, after being named the NGF's director of education and golf promotion. Zahn joined NGF in 1979 as national education director after 15 years as a teacher, coach, athletic director, and school administrator in Oregon.

Zahn will also administer NGF's new Academy of Golf Instructors, an organization created to provide support, publications, films, and services to golf coaches across the nation.

Elanco Products Company, Indianapolis, IN, announces two promotions. **D. Michael Baker**, a native of Webb, MS, moves from his position of



D. Michael Baker



N. Wayne Rish

manager of national accounts for agricultural chemicals to director of sales, agricultural chemicals. **N. Wayne Rish** is the new executive director of agricultural chemicals marketing. Baker and Rish both began their careers with Elanco in 1969.

John Gutknecht begins his duties as president of the fertilizer division of Kaiser Aluminum & Chemical Corporation. The 51-year-old Gutknecht served as the division's vice president and general manager since 1983. He is a graduate of Tulane University with a degree in chemical engineering and holds an MBA from Louisiana State University.

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101	115	129	143	157	171	185	199	213	227	241	255	269	283	297	311	325
102	116	130	144	158	172	186	200	214	228	242	256	270	284	298	312	326
103	117	131	145	159	173	187	201	215	229	243	257	271	285	299	313	327
104	118	132	146	160	174	188	202	216	230	244	258	272	286	300	314	328
105	119	133	147	161	175	189	203	217	231	245	259	273	287	301	315	329
106	120	134	148	162	176	190	204	218	232	246	260	274	288	302	316	330
107	121	135	149	163	177	191	205	219	233	247	261	275	289	303	317	331
108	122	136	150	164	178	192	206	220	234	248	262	276	290	304	318	332
109	123	137	151	165	179	193	207	221	235	249	263	277	291	305	319	333
110	124	138	152	166	180	194	208	222	236	250	264	278	292	306	320	334
111	125	139	153	167	181	195	209	223	237	251	265	279	293	307	321	335
112	126	140	154	168	182	196	210	224	238	252	266	280	294	308	322	336
113	127	141	155	169	183	197	211	225	239	253	267	281	295	309	323	337
114	128	142	156	170	184	198	212	226	240	254	268	282	296	310	324	338

WEEDS TREES & TURF DECEMBER 1984
 This card expires Feb 15, 1985

MY PRIMARY BUSINESS AT THIS LOCATION IS:
 (PLEASE CHECK ONE ONLY IN EITHER
 A, B OR C)

**A. LANDSCAPING/GROUND CARE AT ONE OF THE
 FOLLOWING TYPES OF FACILITIES:**

- 0005 Golf courses
- 0010 Sport complexes
- 0015 Parks
- 0020 Rights-of-way maintenance for highways, railroads & utilities
- 0025 Schools, colleges & universities
- 0030 Industrial & office parks/plants
- 0045 Condominiums/apartments/housing developments/
hotels/resorts
- 0050 Cemeteries/memorial gardens
- 0060 Military installations & prisons
- 0065 Airports
- 0070 Multiple government/municipal facilities
- Other type of facility (please specify) _____

B. CONTRACTORS/SERVICE COMPANIES/CONSULTANTS:

- 0105 Landscape contractors (installation & maintenance)
- 0110 Lawn care service companies
- 0125 Landscape architects
- 0135 Extension agents/consultants for horticulture
- Other contractor or service
(please specify) _____

C. SUPPLIERS:

- 0205 Sod growers Other supplier (please specify) _____
- 0210 Dealers, Distributors _____

Approximately how many acres of vegetation do you
 maintain or manage? _____

What is your title? (please specify) _____

I would like to receive (continue receiving)
WEEDS TREES & TURF each month: YES NO

Your Signature: _____ Date: _____



BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 665 DULUTH, MINNESOTA

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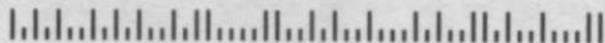
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WEEDS TREES & TURF

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UNITED STATES



**GET
MORE
FACTS**

It pays to spray...economically!

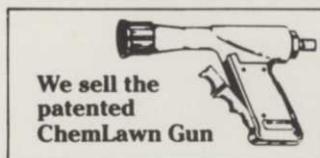
Introducing LESCO Three-Way Selective Herbicide.

For single-application broadleaf weed control, the triple-action effectiveness of 2,4-D, MCPP and dicamba is tough to beat. Now you can get that reliable three-way control from LESCO — and at a lower price than you have been paying for the same herbicide combination. And LESCO Three-Way eliminates the inconvenience and inefficiency of tank mixing — you save time and money.

This newest quality herbicide from LESCO is available in five-gallon, 30-gallon and 55-gallon containers. In most areas, bulk shipment by tanker truck or tote tank can also be arranged.

LESCO just made broadleaf weed control more convenient and less expensive. To order or to find out more about LESCO Three-Way Selective Herbicide, call toll free.

(800) 321-5325 (800) 362-7413
NATIONWIDE IN OHIO

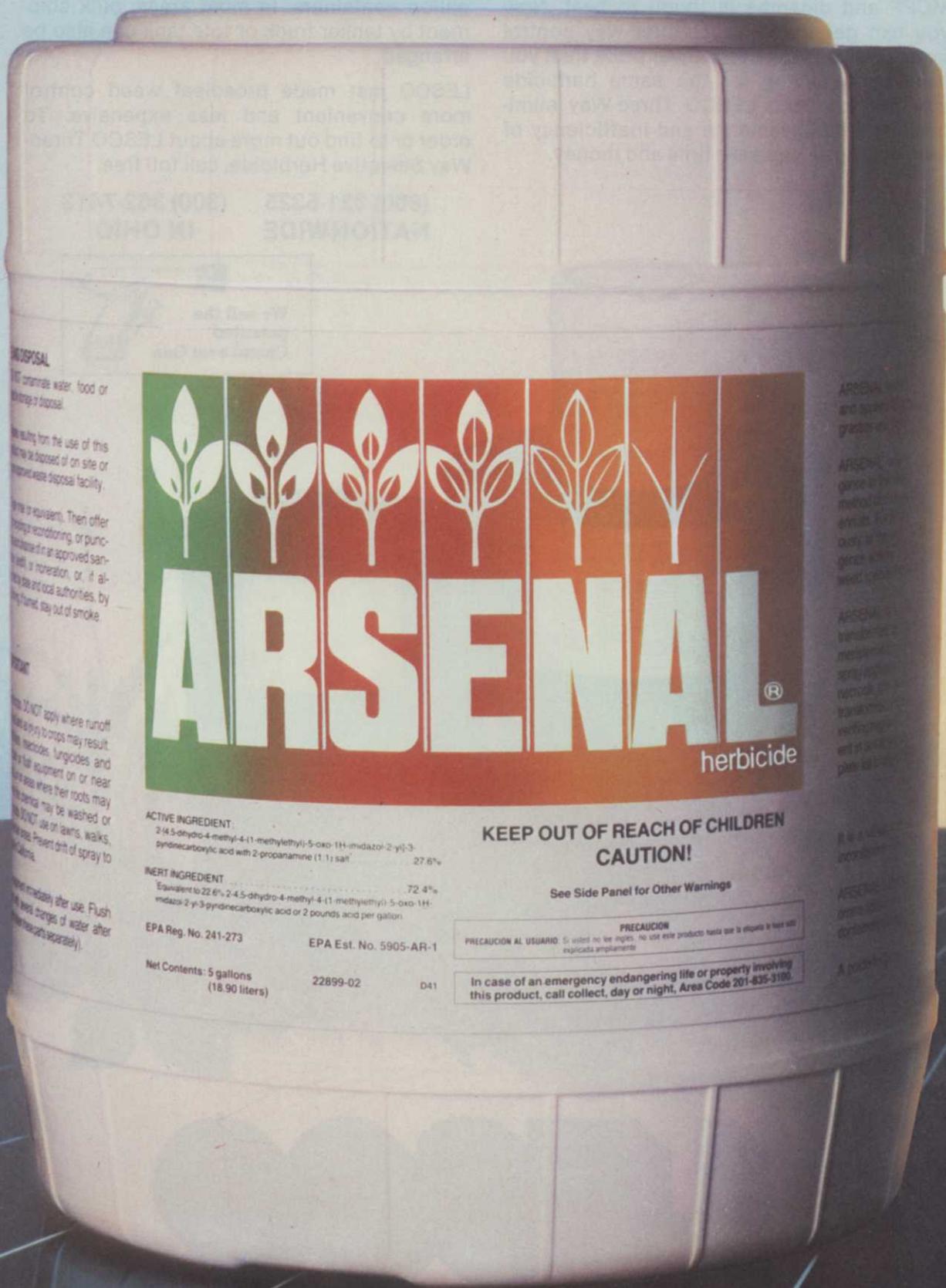


LESCO

LESCO, Inc., 20005 Lake Road, Rocky River, Ohio 44116 • (216) 333-9250

Circle No. 114 on Reader Inquiry Card

Introducing . . .



DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal.

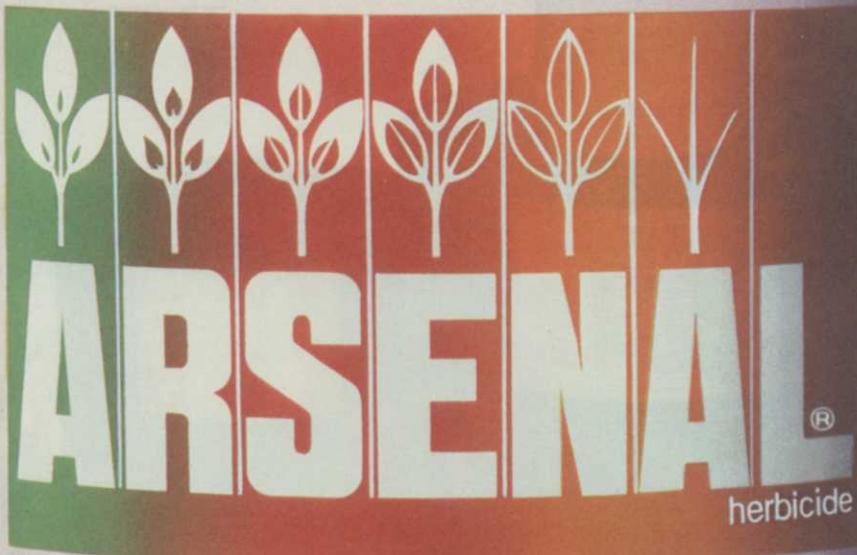
Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Do not reuse or refill. Then offer for recycling, reconditioning, or puncturing and disposal in an approved sanitary landfill, or incineration, or, if allowed by state and local authorities, by other means. Stay out of smoke.

PRECAUTION

DO NOT apply where runoff could harm crops. Do not apply to crops, lawns, gardens, and ornamentals. Do not use on or near water bodies where their roots may be washed or submerged. Do not use on lawns, walks, or patios. Prevent drift of spray to other areas.

Flush immediately after use. Flush thoroughly with changes of water after each use (see separate instructions).



ACTIVE INGREDIENT:
2-(4,5-dihydro-4-methyl-4(1-methylethyl)-5-oxo-1H-imidazol-2-yl)-3-pyridinecarboxylic acid with 2-propanamine (1:1) salt 27.6%

INERT INGREDIENT 72.4%
Equivalent to 22.6% 2-(4,5-dihydro-4-methyl-4(1-methylethyl)-5-oxo-1H-imidazol-2-yl)-3-pyridinecarboxylic acid or 2 pounds acid per gallon.

EPA Reg. No. 241-273

EPA Est. No. 5905-AR-1

Net Contents: 5 gallons
(18.90 liters)

22899-02

D41

**KEEP OUT OF REACH OF CHILDREN
CAUTION!**

See Side Panel for Other Warnings

PRECAUCION

PRECAUCION AL USUARIO: Si usted no lee inglés, no use este producto hasta que lo etiquete en su idioma explicada ampliamente.

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100.

the new broad-spectrum vegetation control that treats the environment with respect

New ARSENAL® herbicide controls more unwanted vegetation species than any other product and many tank mixes. But equally important, ARSENAL also respects the environment. It's a completely new class of chemical that offers this unique combination of advantages:

- **Sure, powerful control**

ARSENAL works by both contact and residual action. It's absorbed by roots and foliage of target plants within 4 hours; and it's not then washed away by rain.

- **Broad spectrum**

ARSENAL controls more undesirable plant species than any other vegetation control method. It even gets woody vines and perennial grasses such as trumpetcreeper and Johnsongrass.

- **Stable in the spray tank**

- **Full-season control**

A single application of ARSENAL eliminates existing weeds and provides residual control of newly-germinating vegetation for the balance of the growing season.

- **No lateral movement**

ARSENAL does not move laterally in the soil.

- **Not harmful to the environment**

When used according to label directions, ARSENAL has been shown to present no hazard to humans, warm-blooded animals, fish or bees.

- **No quick, unsightly brown-out**

- **Flexible application timing**

ARSENAL herbicide can be applied at any time during active growth.

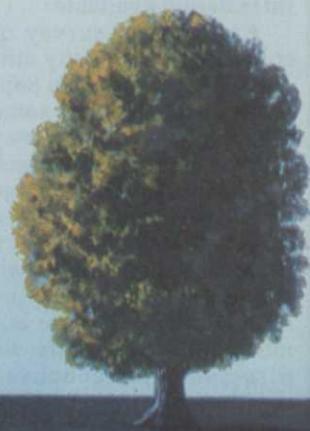
- **Non-volatile and non-flammable**

ARSENAL is the ideal herbicide for controlling vegetation along railroads, right-of-ways, utility lines, and other industrial uses. It's the first total vegetation herbicide to come along in over a decade.

In its own unique way, ARSENAL meets the redefined needs of the modern professional applicator. ARSENAL . . . the one tough, broad-spectrum vegetation control that treats the environment with respect.

For more information, write to ARSENAL® herbicide, Box 8024, Trenton, NJ 08650, and ask for the ARSENAL brochure, #PE 11008.

Read and follow label directions carefully.



 **CYANAMID**
Agricultural Division
Wayne, NJ 07470 © 1984

Circle No. 242 on Reader Inquiry Card

Yearning for Recognition

Maintaining college fields is not well understood. Grounds managers are asked to do much more than just keeping the gridiron neat.

by Ron Hall, assistant editor

A major roadblock to serving the athletic field market has been that there is no such thing as a typical athletic field manager.

It's the least understood area of turf management," one grounds manager told WEEDS TREES & TURF, "with the least amount of information available."

An informal survey of college and university athletic field managers in September now provides some consistencies in the way athletic fields are managed.

The individual in charge of athletic fields is also responsible for the entire campus in more than half the cases. He reports to the Physical Plant Director but must consult regularly with athletic directors and coaches. He puts together his own budget and field maintenance standards.

His biggest concerns are overuse of the fields, control of them, time available, and water (irrigation and drainage.)

For the most part, he operates without any particular set of recognized field maintenance standards, putting together his own based upon his experience and requests from the athletic department.

The average budget for chemicals and equipment for fields was \$16,000, while the track surface and pits are worth \$117,400, the fencing around fields is worth \$52,000, the equipment used worth \$163,000 and the stadium building and stands are valued at \$1.57 million.

With sizeable investment for just the athletic portion of their respon-

STADIUM BUILDING & STANDS \$1.57 million

EQUIPMENT USED WORTH \$163,000

TRACK & PITS' WORTH \$117,400

CHEMICAL & EQUIPMENT BUDGET \$16,100

FENCING \$52,000

SALARY \$24,000

ATHLETIC FIELD SURVEY

Average



room in the gym.

The athletic field manager of today has to work out complicated schedules, substantiate budget requests, deal with unions, and still know grass. He has to overcome bad weather, satisfy alumni, and even invent equipment and methods to get his job done.

Salary range

Salaries (and respondents were surprisingly frank) ranged from \$12,000 to \$40,000 annually, with 14 percent of those polled earning in the \$12,000-\$19,000 range, 48 percent in the \$20,000-\$25,000 category, and approximately 26 percent \$25,000-\$30,000.

Those indicating the highest salaries usually hold titles such as grounds and services manager, physical plant director, or director of facilities and grounds.

"I think you'll find the salaries to be about the same as what park directors make," one superintendent notes. "In the North they're probably a little higher than in the South."

Experience is a big word in the college groundskeeping fraternity with 11 years on the job being an average of all those responding, the low respondent having one year experience, the veteran 36 years.

These averages may not give the complete picture since some of those relatively new in their positions also indicate previous experience in grounds departments or related businesses.

Slightly more than half hold undergraduate degrees with hor-

sibility, colleges need more than a "maintenance man."

"Colleges don't want people in charge who go out and just work with their back all day," a chief groundskeeper at a college in the Southeast says. "They want people with some leadership, and people who can put together a budget, train other people, and supervise effectively."

College administrators can't expect a person who has little education and is unwilling to accept responsibility to manage buildings and landscapes worth millions of dollars. There is more than money at stake. The atmosphere of the campus to students and alumni and the safety of athletes are also at risk.

Management decisions for these can't be made by someone working out of a closet with a washtub in it or a cramped corner of the equipment



Pre-emergence application delivers NO-emergence weed control.

PRE-SAN® is Mallinckrodt's selective herbicide for pre-emergence control of crabgrass, goosegrass, shepardspurse, and many other troublesome weeds.

At recommended economical application rates, Pre-San provides effective residual control for up to four months. It is safe for spraying on a wide variety of turf grasses, even close-cut bent. Its two granular formulations are convenient and safe for use on ornamentals and ground covers, as well as turf.

Pre-San contains the active ingredient* that four out of five top lawn care companies swear by. To find out more about Pre-San, call Mallinckrodt toll-free, or contact your Mallinckrodt Turf Products distributor.

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Circle No. 118 on Reader Inquiry Card

ticulture, just edging agronomy, the most prevalent educational background. Nine percent hold associate degrees, 15 percent graduate degrees.

While many of the college grounds superintendents who responded to our survey earned their positions by coming up through the ranks, they, like their more formally educated counterparts, are eager to broaden their understanding by attending conferences and seminars. Winter short courses in turf management by some larger universities provide an excellent opportunity to learn, several note.



Harry Gill, right, and assistant Gary Vanderberg of County Stadium, Milwaukee.

Specialized training

The feeling among grounds superintendents is that the profession will require more specialized training in the future.

Differences caused by the size of colleges and universities and geographic location sometimes make direct comparisons tricky.

If the grounds superintendent isn't worrying about pushing the snow off a parking lot in the North, he's fretting about the seed he put down on the bermudagrass in the South, hoping for just a bit more green before the alum-

nae show up for their once-a-year homecoming bash. In fact, he often doesn't have the same responsibilities from campus to campus.

Few—a very few granted—fulfill responsibilities seemingly unrelated to athletic field maintenance, like one respondent who schedules events at the university ice arena also. Or another who serves as athletic director and baseball coach. More common are the grounds superintendents (a title used by 60 percent of those answering the survey) responsible for all the grounds at their particular universities or colleges, athletic fields being just part of the picture.

Almost 80 percent of those responding to the poll indicate they maintain more than ball fields, slightly more than 10 percent doubling as transportation supervisors also.

Although there's no such animal as the typical grounds superintendent, there are typical problems, our survey suggests, the most common being over use and control of the use of athletic fields.

Problems

"The biggest problem we have is keeping everything off the main football field. Now we've got soccer and rugby and that's one reason why I'm

... the profession will require more specialized training in the future.

retiring," one veteran superintendent says. "You can't play on it everyday and expect it to stay good."

Band practices, ROTC drills, even parking ("if we don't play on it, we park on it," one manager moans) cause headaches for those charged with keeping the campus green.

"Coaches as well as other field users need to be more realistic and sensitive to field wear," a supervisor in the Northeast says.

Another superintendent complains, echoing the responses of several others, he can't keep "conscientious" help because of lack of funds. "You kind of scrimp," he says. "You know what has to be done, but you just can't get it done."

Time. It's a major problem.

"I'm responsible for 119 acres of campus plus the athletic fields," a

West Coast grounds supervisor explains. "It's hard to find time to do everything. This year we rebuilt our football field (900 yards of new soil, new grass). We only had six weeks to get ready before our first game."

80 percent of those responding say they maintain more than ball fields.

Other problems listed in order of their frequency on the survey include poor drainage, inadequate irrigation, lack of equipment or equipment failures, and weed control.

University field managers and grounds supervisors keep themselves informed in a variety of ways, and 65 percent of them specifically listed trade publications with 30 percent using suppliers for ideas on a regular basis.

Solutions

Grounds managers are not bashful in seeking solutions to specific problems and the sources they use include product manufacturers, local extension offices, and specialists in related areas. Most have developed a network of "experts" they contact on a periodic basis for assistance, our survey shows.

Most indicate a need for a better exchange of information, or as one harried answerer pleads, "I need all the help I can get." Just over 50 percent responding to our survey said they would join an association for field managers with another 18 percent answering "maybe" or "depending upon the benefits." Only 12 percent came back with a definite "no."

Many current athletic field managers made it to the top by hard work, on-the-spot problem solving, and by being good politicians. Replacing them, however, are former golf course superintendents and horticulture graduates.

These new managers are more receptive to new techniques, more willing to share their expertise, and more determined to make natural turf withstand the wear of athletics. They will take the athletic field manager out of the days of secrecy and into the days of rapid progress.

WT&T