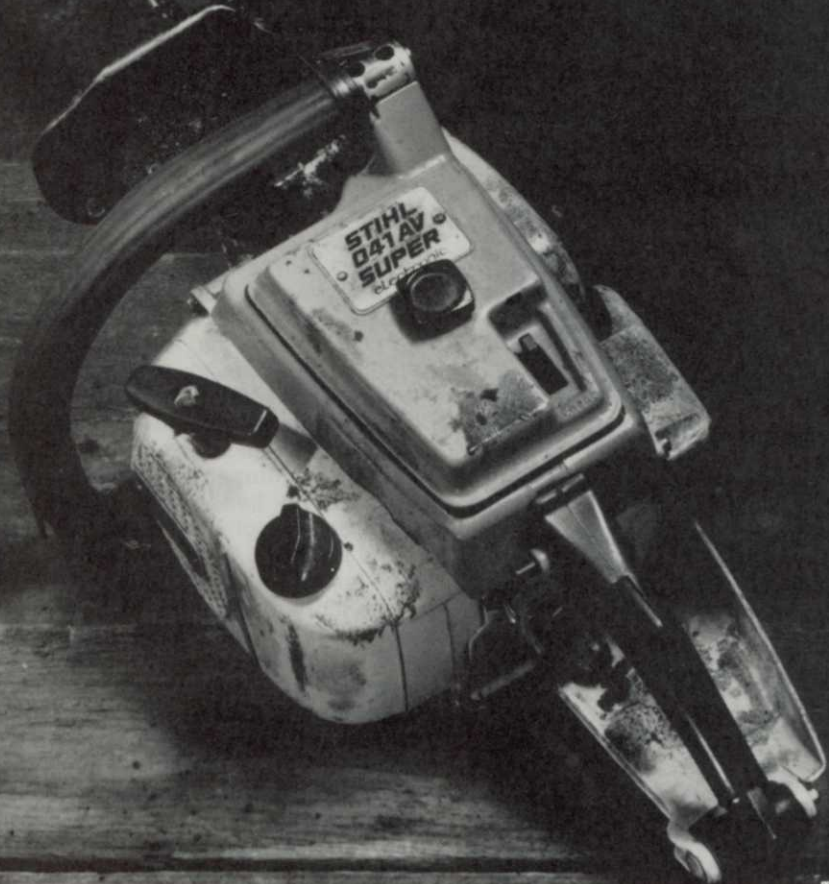


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Irrigation from page 60



Extra steps during installation save in repair time later, such as this device which protects both heads and pipe from damage.

There are special electric valves for effluent water. Using effluent in a standard valve system is doomed to failure, Kirby said.

For finding electrical shorts, Kirby recommended fault finders made by Progressive Electronics Inc., or Hewlett Packard. The devices cost from \$600 to \$2,000 but perform reliably, he said. These devices not only tell you where a wire problem is, they will tell you how deep the wire is in the ground.

Chris Espinoza of Toro outlined the part of the irrigation system which takes the most beating, the heads. Espinoza said rotational heads (impact, ball drive, cam drive, and gear drive) wear even with proper use over time. Jamming from debris near the head, material in the water, or tampering by vandals should be carefully watched. Espinoza said replacement may be cheaper than repair due to labor costs in some instances.

Improper installation (not level with grade or lack of drainage for heads) and lack of safety devices invite head problems. The spray should clear surrounding grass without any special trimming around heads and puddling near heads should be corrected with use of gravel under and around the head. Correct water pressure is another major cause of malfunction for heads he said. Occasionally the problem will be traced to a back-flow preventer which has its own gate valve. If this valve was tampered with, water flow will be incorrect for the design.

Espinoza suggested replacing shrub risers to pop ups for liability and maintenance reasons. He also suggested use of double swing joints during installation to prevent damage to lines underneath and to heads.

Overall, Espinoza proposed that the long term cost of a system should be considered as well as the short term. Using fewer heads, cheaper heads, less durable heads, and skimping on maintenance service could result in costs above those originally anticipated or desired.

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WEEDS

Catskills host 34th annual NEWSS meeting

The Northeastern Weed Science Society brought forth 147 scientific papers, the most ever presented at a NEWSS meeting, when the society met at a resort facility in January.

Sessions discussed at Grossinger's Hotel and Country Club included ecology, physiology, and soils; horticultural crops; agronomy; industry, forestry, and conservation; ornamentals; and turf. A symposium on pesticide interactions also was added to the agenda this year.

Sessions discussed at Grossinger's Hotel and Country Club included ecology, physiology, and soils; horticultural crops; agronomy; industry, forestry, and conservation; ornamentals; and turf. A symposium on pesticide interactions also was added to the agenda this year. President James V. Parochetti, USDA-SEA-Extension, Washington, DC, opened the general session by focusing on the agricultural practices, terminology, and expectations of the 1980's. Dr. J.M. Witt, of Oregon State University, followed with a keynote address critiquing the EPA Aelse II 2,4,5-T report.

The society recognized three member scientists with the Distinguished

Member Award: John F. Ahrens, department of plant pathology and botany, Connecticut Agricultural Experiment Station at Windsor; John E. Gallagher, product development manager for aquatic weed control with Union Carbide Agricultural Products Co., Inc.; and Richard D. Ilnicki, department of soils and crops at Rutgers University.

New officers for 1980 include: president, M.G. Schnappinger, Ciba-Geigy Corp., Centreville, MD; secretary-treasurer, R.R. Hahn, agronomy department, Cornell University, Ithaca, NY; president-elect, R.B. Taylorson, USDA-SEA-AR, Beltsville, MD; and vice president, Stephan Dennis, Stauffer Chemical Co., Dayton, NJ.

Mallinckrodt offers systemic/fungicide

The Specialty Agricultural Products Div. of Mallinckrodt, Inc., St. Louis, MO, has introduced Duosan, a broad spectrum turf fungicide which

combines both systemic and contact control.

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ARBORICULTURE

New York groups merge into ISA chapter

The merger of the New York State Arborists Association and the International Society of Arboriculture, New York Chapter, into the New York State Arborists, I.S.A. Chapter, was announced in January. The two groups elected to merge to effect stronger and wider industry goals, according to newly elected President Jon Hickey.

Dennis Ryan, assistant professor and arboriculture program director

Continues on page 66

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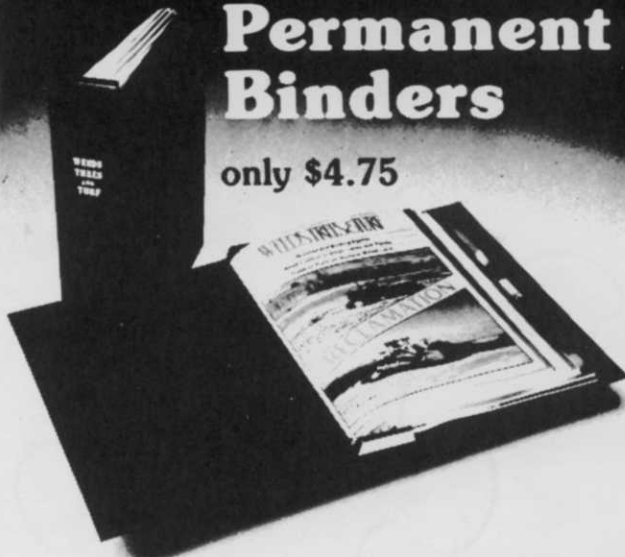
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at the State University of New York, Farmingdale, was elected first vice-president. John Hawthorne, Hawthorne Bros. Tree Service, Bedford Hills, was elected second vice-president, and Robert J. White, Arista Tree Service, Callicoon, was elected third vice president.

WEEDS

Scientists discuss pesticide regulations

Agriculture needs pesticides to do a better job feeding the world's hungry, said a group of international, federal, and state scientists attending the Weed Science Society of America meetings held in Toronto in February.

Dr. Virgil Freed, director of the Environmental Health Sciences Center, Oregon State University, said that the opportunity for food production technology to keep pace with the expanding numbers of the world

hungry is being eroded away by excessive environmental concerns and over-regulation.

Scientists also recommended that the U.S. Environmental Protection Agency restore the suspended uses of 2,4,5-T and silvex for pastures, forests, and rights-of-way at its 20th annual meeting.

Officers of the society for 1980 include: Dr. W.D. Carpenter, Monsanto Co., St. Louis, MO, president; Dr. D.E. Davis, Auburn University, Auburn, AL, president elect; Dr. T.J. Sheets, North Carolina State University, Raleigh, NC, vice president; Dr. J.D. Nalewaja, North Dakota State University, Fargo, ND, secretary; and Dr. G.H. Bayer, Agway Inc., Syracuse, NY, treasurer.

PESTICIDES?

1979 pesticide market estimated \$5.1 billion

The Environmental Protection Agency has estimated the 1979 U.S.

pesticide market to be \$5.1 billion, of which agriculture accounted for \$3.2 billion or 63 percent.

These and other estimates are among 1979 pesticide industry sales and usage market estimates from the Economic Analysis Branch, Benefits and Field Studies Division, Office of Pesticide Programs, EPA.

Of the estimated \$5.1 billion market, the Branch estimated that industry/government accounted for \$3.1 billion or 25 percent, and home/garden for \$0.6 billion or 12 percent.

Further, it estimated that in 1979 total farm production expenditures would be \$105 billion of which \$3.2 billion or 3 percent would be farmer expenditures for pesticides.

The Branch also provided the following U.S. pesticide industry profile: 30 basic producers; 3,300 formulators; 1,400 registered active ingredients; 1,100 active ingredients in production; 200 major active ingredients; and approximately 35,500 formulated products.



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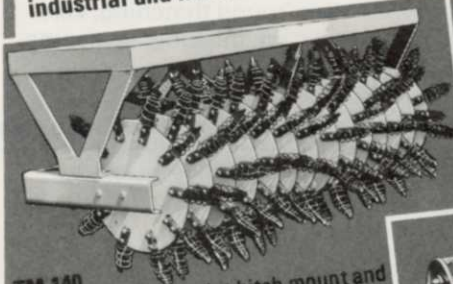
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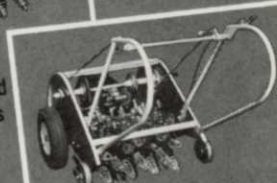
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 - 53 \$15,000 to \$30,000
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- 3E/ Plant Materials (Trees, Ornamentals, Seeds, Sod, etc.)**
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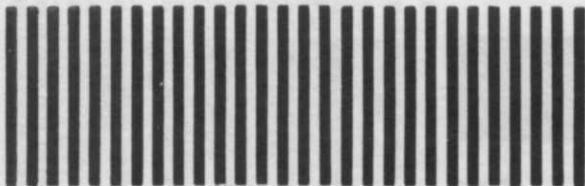
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that they are merely a playground for the wealthy. They are one of the greatest components of the urban "Green Belt" through which people preserve natural environments.

McLaughlin also recommended expanding the functional use of golf courses as filter bases for recycling waste water. He urged superintendents to be more demanding of manufacturers to keep costs down through energy efficient manufacturing and to develop more efficient irrigation systems. The superintendent must express his willingness to experiment and to test new technologies.

GCSAA's Distinguished Service Awards were presented to Manuel Francis and Dr. John Madison. Francis' career as a superintendent, designer and consultant has spanned more than 60 years. Madison previously served the turf industry as a California educator, researcher, and author.

Melvin Lucas, superintendent of Piping Rock Club, Long Island, N.Y., was elected GCSAA President for

1980. Michael Bavier, superintendent of Inverness Golf Club, Palatine, IL, was elected vice president. The 52nd International Turfgrass Show will be in Anaheim, CA, in January.

NURSERY

Nursery trade called "people business"

A California nurseryman told participants at the Annual Nurserymen's Short Course at Texas A&M University that "we are in the people business and we must have commitment and enthusiasm to succeed in the 1980's."

Ken Cook from The Growing Grounds in San Diego challenged his audience "to never rest on your laurels—your past accomplishments. You must make each and every day a special experience for the guest that walks into your place of business."

Another speaker, Sidney

Meadows, owner of Flowerwood Nursery, Mobile, AL, talked about the people employed by the nurseryman. He said the right people with proper training can solve the biggest problem in nursery production—lack of productivity.

"The day of the small nurseryman is still here," Meadows said. A worker is like a student. If he is given work under his level of ability, he will get bored; if given too much responsibility, he will become frustrated and quit.

GOLF

Golf superintendents elect new officers

Melvin B. Lucas Jr., superintendent of Piping Rock Club, Locust Valley, Long Island, NY, was elected president of the Golf Course Superintendents Association of America during the association's annual meeting Feb. 20 in St. Louis.

Michael R. Bavier, superintendent of Inverness Golf Club, Palatine, IL, was elected vice president for 1980.

New members of the association's board of directors are Robert W. Osterman, superintendent of The Golf Club of Aspetuck, Easton, CT, and James W. Timmerman, superintendent of Orchard Lake Country Club in Michigan. Osterman and Timmerman will serve three-year terms.

President Lucas appointed James A. Wyllie, superintendent of the Bayview Country Club, Toronto, Ontario, to serve as secretary-treasurer. Lucas also appointed Paul Boizelle.

TRADE SHOW

Mid-America show breaks past records

The 1980 Mid-America Trade Show, held in January at the O'Hare Exposition Center in Rosemont, IL, attracted the largest audience in its history.

A total of 4,487 buyers visited the show, spending \$1,916,954, for an average of \$428 per buyer. These figures represent a big jump compared to past shows.

Companies attending Mid-Am/80 totaled 246, occupying 386 booths. The total attendance, including exhibiting personnel, guests, students, and press, was 5,744, also a record.

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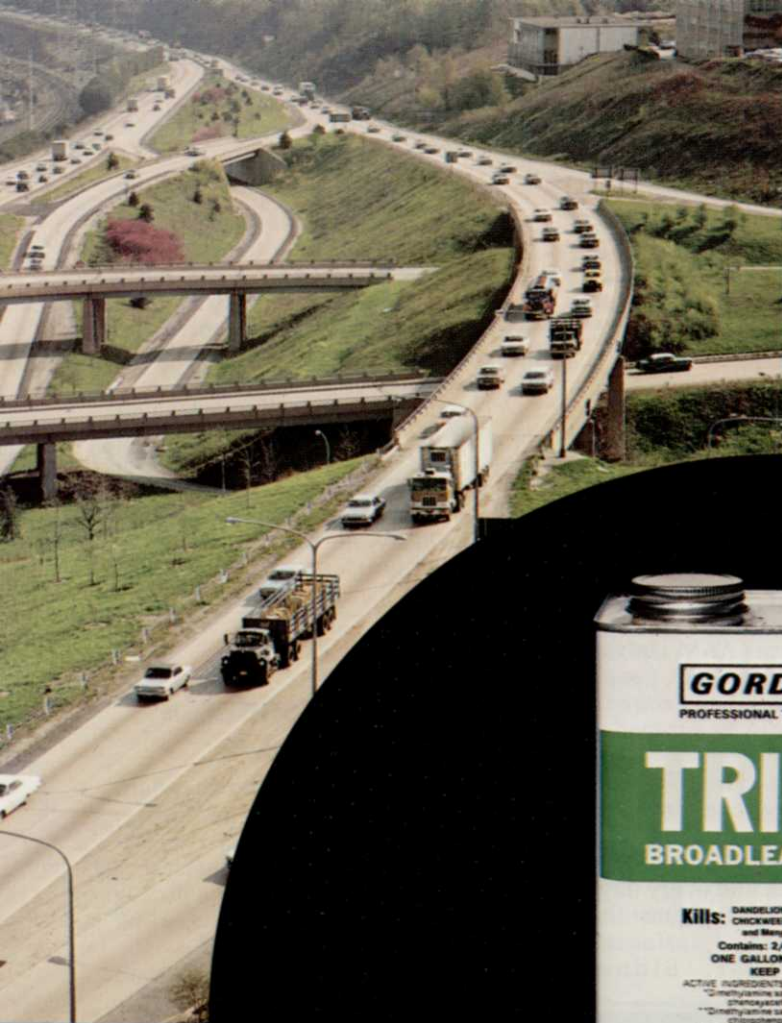
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ONE GALLON COVERS 2-2 1/2 ACRES.
KEEP FROM FREEZING.

ACTIVE INGREDIENTS

***Dimethylamine salt of 2,4-dichloro- phenoxyacetic acid	27.58%
**Dimethylamine salt of 2-(2-methyl-4- chlorophenoxy) propionic acid	13.36%
***Dimethylamine salt of Dicamba	2.78%
2,4-Dichloro-phenoxyacetic acid	32.78%
100.00%	100.00%

INERT INGREDIENTS

Total

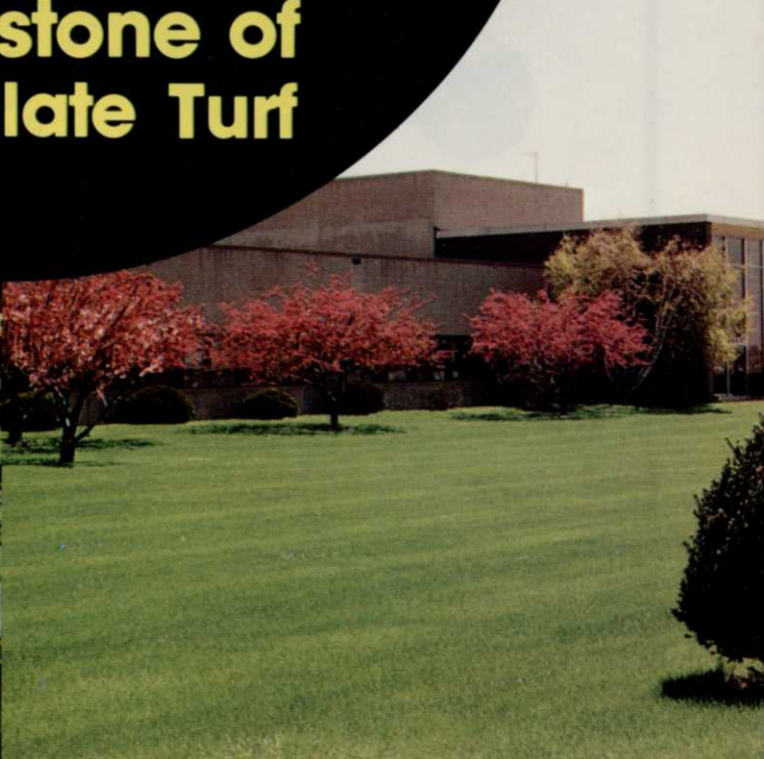
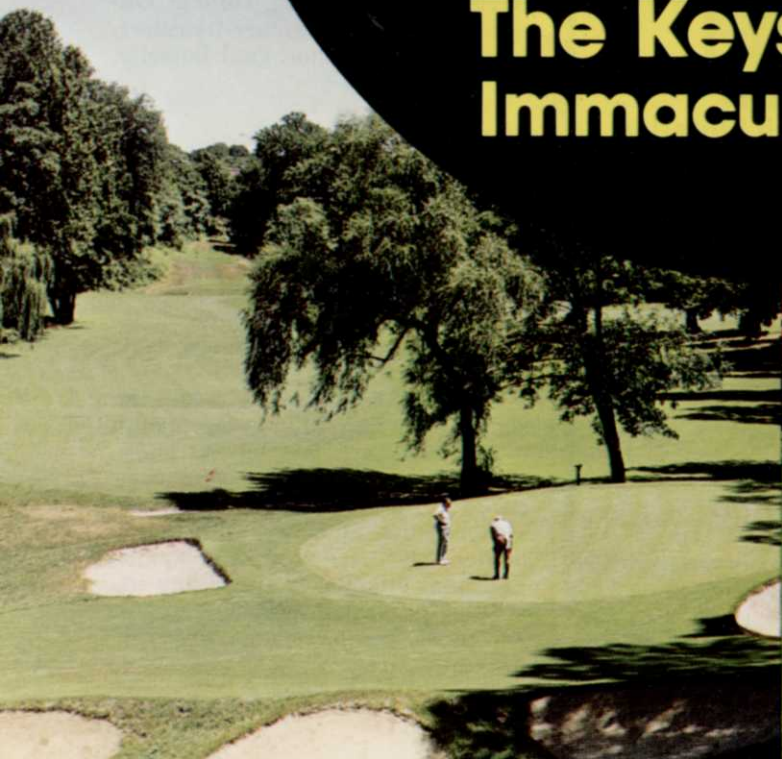
**2,4-dichlorophenoxyacetic acid equivalent 2.2 pounds per gallon or 32.58%	
**2-methyl-4-chlorophenoxy propionic acid equivalent 1.1 pounds per gallon or 17.48%	
***2,4-dichloro-phenoxyacetic acid equivalent 0.22 pounds per gallon or 3.32%	

CAUTION: Keep Out of Reach of Children
See Back Panel for Additional Cautions

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Immaculate weed-free turf not only looks better, it also costs less.

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Herbicide can save you time
and money, and make
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It costs less to go first class.

How many times have you heard that old truism? You know it's a fundamental fact of everything in life, but in no other phase of today's economy is it more graphically demonstrated than in the world of weed control in professional turf management.

When a turfman tries to skimp along with a narrow-spectrum herbicide on the theory that it will control the major eyesores like dandelions and chickweed, and will cost less per gallon than Trimec — he opens the door to an endless chain of problems and expenses.

Perhaps the worst consequence is the emergence of some ugly weeds of the hard-to-kill variety that he once considered to be so rare that he didn't even think of them as a problem in his area. And, when these weeds come, they come as a crowd...out of nowhere.

Of course, you know where they came from and why they came. They're the natural consequence of using a narrow-spectrum herbicide in an area that is fertilized and watered.

The hardy weeds (which were not controlled by the narrow-spectrum herbicide) are nourished by the fertilizer and water, and fight with the grass to fill the vacancy left by the demise of the sensitive weeds. Some of them win, and weeds that were once obscure become prominent.

There's really only one efficient way to cope with the problem, and that is the Trimec way.

Trimec is the one turf herbicide with a broad enough spectrum to



**How many species of
broadleaf weeds will
Trimec control?**

We are still looking for the economic broadleaf weed that Trimec will not control when applied at the right times and rate. If we ever do find such a weed, we will be very surprised. No other selective herbicide can match the broad spectrum of Trimec.

get those hard-to-kill weeds right along with the common, sensitive ones. How many species of broadleaf weeds will Trimec control? We are still looking for the economic broadleaf weed that Trimec will not control when applied at the right times and rate. If we ever do find such a weed, we will be very surprised. No other selective herbicide can match the broad spectrum of Trimec.

Yet, with all this power, Trimec is friendly to the environment in terms of safety to grasses, because no ingredient in Trimec is at a phytotoxic level.

And when you get to the bottom line, Trimec is less expensive than its less-effective contemporaries because it requires less

chemical per acre for maximum weed control, and it saves labor costs because it does it right the first time so you don't have to do it over. Thus, when you use Trimec, you not only look good to the greens committee...you also look good to the finance committee.

**Only Trimec gives you
all of these benefits**

- Controls the widest range of broadleaf weeds
- Gets hard-to-kill species with one treatment
- Wide safety margin for lawn grasses
- Minimum hazard from root absorption
- No vapor action after application
- Effective weed control in wide temperature range
- Unique formula overcomes water hardness problems
- Treated areas may be seeded within two weeks
- Non-flammable and non-corrosive in use
- Product stable several years above 32° F.
- Biodegradable; friendly to the environment
- Bentgrass formula also is available.

In summary

The Trimec record speaks for itself. No other turf herbicide available today is the equal of Trimec, not only in providing superior broadleaf weed control, but also in terms of safety to grasses — and in total cost. No wonder an overwhelming majority of golf course superintendents agree: *Dollar for dollar and acre for acre of immaculate, weed-free turf, Trimec is the most efficient broadleaf herbicide on the market... period.*

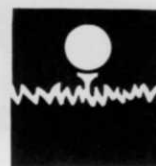
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Job market

With some 14,000 open arborist positions in the country, it is doubtful that the twelve new arborists from Farmingdale's Arboriculture program will have much trouble finding a job. According to the Chairman of the Department of Ornamental Horticulture, Dr. John Hyde, the department as a whole gets five job offers per student. But will the newly trained arboriculture students be satisfied with what the industry has to offer them? That is a question in the minds of a lot of people.

Many in the Arboriculture Industry feel that it usually takes the average starting Arborist anywhere from two to three years of internship as either a climber or sprayer before obtaining any type of management position. There is concern that some of these newly trained arborists might become dissatisfied with the noncompetitive salaries of the Arboriculture Industry at the onset of their careers.

It certainly seems that The Industry has a responsibility to the students, since it was the Industry's campaigning that helped to create the program. If they want good people they may very well have to become more competitive about getting them than in the past. Once Arboriculture students start graduating from the State University at Farmingdale,

there will be more trained people to choose from in the New York area and this might very well reduce the high turn over in personnel, experienced by the industry each year.

Anyone interested in the Arboriculture option can write to either Professor H. Dennis P. Ryan or The Director of Admissions, State University of New York, Agricultural and Technical College, Melville Raod, Farmingdale, N.Y. 11735.

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Sub-Soil Moisture Tester



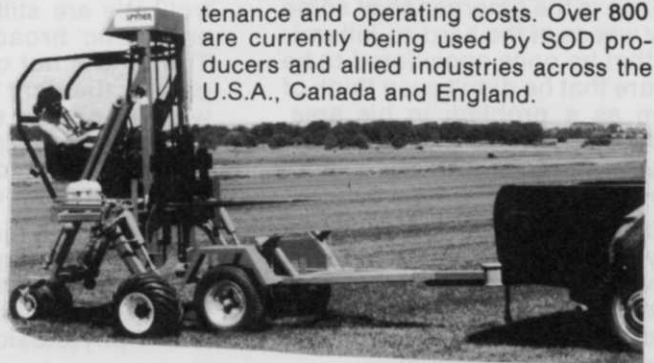
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