



Robert F. Shields, past president of the Golf Course Superintendents Association of America, presented GCSAA scholarships to Michael H. Torrence, left, of Appomattox and David P. Whitt of West Point.

phorus out of sewage isn't the answer, he contended. Taking out the organic carbons would help, he added, because as organic matter decomposes, it gives off carbon dioxide which is immediately taken up by living organisms.

A greater effort must be made to question the inaccuracies that reach the mass media, he continued. For example, the decline of fish catches in a lake may be blamed on pesticides or pollution, when in fact the real cause may be that the lake has been overfished. The sport fish population is down and the rough fish have taken over.

As unrealistic as some environmentalists get, they do serve a purpose, said Dr. R. E. Schmidt, agronomist at Virginia Polytechnic Institute, "in calling attention to such things as dirty waters."

Genesis does state that man should multiply and conquer, he continued, and that priority is given over all other life. But he added that man is also cast in the role of steward.

Though he described some environmentalists as "Prophets of Doom," Dr. Schmidt suggested that they "may rally us to perform our stewardship."

We can solve our problems one of two ways—in a destructive or creative way, he said. We can eliminate causes, that is, "we can eliminate people, or animals. But which people? Which animals?"

As a part of seeking creative so-

lutions, Dr. Schmidt said the turf manager must realize that turf is an important entity in our sophisticated, modern society.

"As the work week shortens and recreation increases, turf's effect upon human social behavior will be greater. You have a new incentive—that of being a human ecologist."

Dr. Schmidt suggested five theories the turf manager should consider in selecting and managing turfgrasses: (1) tolerance; (2) limiting factors; (3) substitutes; (4) competitive stamina; and (5) natural selection.

Though attention seemed focused on pesticide regulation and on the effects of pesticides on the environment, reports of continuing research in other areas were presented.

Studies by agronomist Vince Snyder indicate that iron applications to turf can reduce desiccation, increase rooting capacity, and increase top growth.

Though findings are significant, Snyder indicated more data must be obtained before the practice can be officially recommended.

Iron chelate at four ounces per 1,000 sq. ft. and one pound of nitrogen per 1,000 sq. ft. showed a marked improvement in turf color. Applications were made in October, November, December and February on Penncross Bent. Color response was noted within 24 hours, he said. It peaked in four to five days and lasted 1½ months. Spring growth came three to four weeks earlier, an effect he believes was produced by the heat absorption capacity of the turf's darker color. Although color was about the same in summer, Snyder found that nitrogen with iron increased root growth.

Dr. A. J. Powell of the University of Maryland accused turf men, of all people, for not taking seriously the old truism for seeking problem solutions: "Get to the grass roots."

Turf managers should be constantly checking the root system, "looking for thick, white, succulent, heavily branched roots."

"Just looking at top color can be misleading," he said. "We have to be able to sacrifice color in the summer time," he added, suggesting lighter fertilizer applications to avoid over-taxing the root system in stress periods. Among factors affecting root health, he listed: nutrients and soil pH, temperature, mowing height, moisture and light.

To improve the cold tolerance of bermudagrass, Dr. W. B. Gilbert, agronomist from North Carolina State, suggested adding potash in August. For example, he reported

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trials showing that whereas a 4-0-0 fertilizer ratio produced a 50% survival at 23 degrees, a 4-1-5 ratio gave a 50% survival at 17 degrees.

Other factors that affect cold tolerance, he said, include drainage, compaction, mowing height, and traffic. He strongly recommended a spring management practice of spiking, airifying and verticutting.

Mixtures are best when overseeding bermudagrass, Dr. Schmidt advised. Two seeding rates he recommended in pounds per 1,000 sq. ft. were: Pennlawn, 15, annual rye, 15 and Seaside bentgrass, 2; or Pennlawn, 15, and Manhattan, 15. A new variety, Pennfine, looks good also, he said.

The majority of irrigation equipment is basically good, reported John T. Singleton of Toro Manufacturing Co., "but the problems will come with the installation." The reason, he said, is that no one manufacturer offers a "total system." Pumping is the heart of the system, and that's a separate industry, he added.

You must have a good designer and he must see the course before he begins, said Singleton. Secondly, you must buy the best equipment;

and thirdly, it must be installed properly. "There is no trade-in on a bad system."

"The more sophisticated a system, the greater the need for a service policy," he recommended.

We have come up with two new diseases for you to worry about, reported Dr. H. B. Couch. They are rhizoctonia leafspot on tall fescue and a new species of helminthosporium on Kentucky bluegrass. Controls of the latter disease aren't known because "we're not sure what it is yet." Most fungicides will control the new fescue disease.

Do you have turf areas that repeatedly are under stress? Look for these possible causes, suggested John Shoulders, VPI Extension turf specialist: temperature (northern or southern exposure), soil mixture (a good one, he said, is 45% mineral, 5% organic, 25% air and 25% water), turf variety, soil pH, fertility, thatch, and water management.

When replacing divots in an athletic field, Shoulders suggested digging two to three inches deep. Replacement sod can't be kicked out and it blends immediately with surrounding turf because it doesn't go through a stress period.



Leland H. Bull of State College, Pa., left, former state secretary of agriculture, was honored recently for his administration's statewide survey of turfgrass. Albert W. Wilson of Shawnee on Delaware, president of the Pennsylvania Turfgrass Council, presented the plaque. The study found that production and maintenance of turf was a leading industry.

In closing out the conference, attended by more than 300 turf specialists, Dr. R. E. Blaser, another VPI agronomist, warned that while the turf manager is "gravely misunderstood," the situation is "going to get worse." Only time may provide some of the answers regarding the improving of the environment, he said. In the meantime, the important goal of turf specialists must be to "keep growing professionally."

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DuPont Company Announces New Tersan Turf Fungicide

"Tersan" 1991 turf fungicide, a new lawn and turf disease-protection compound, is now available for control of three major turf diseases. Introduced by the Du Pont Company, the new fungicide is recommended for control of Rhizoctonia brown patch, Fusarium patch and Sclerotinia dollar spot.

The new compound has a combination of preventive and curative fungicidal properties, systemic action and a wide margin of safety.

"Tersan" 1991 will control large brown patch and Fusarium patch on tees and greens with as little as 2 ounces per 1000 square feet in sufficient water (2 to 5 gallons per 1000 square feet) to obtain thorough coverage. Applications may also be made to fairways if these diseases appear. Treatment should be started when disease first appears and repeated 10 to 14 days later, with added applications as needed.

Applications of "Tersan" 1991 with one ounce per 1000 square feet will control Sclerotinia dollar spot throughout the summer months. Golf course superintendents can start applications when disease appears and continue on a 14-day schedule. If brown patch appears, increase rate to two ounces. Circle (717) for more details.

Mallinckrodt Announces Broadleaf Herbicide

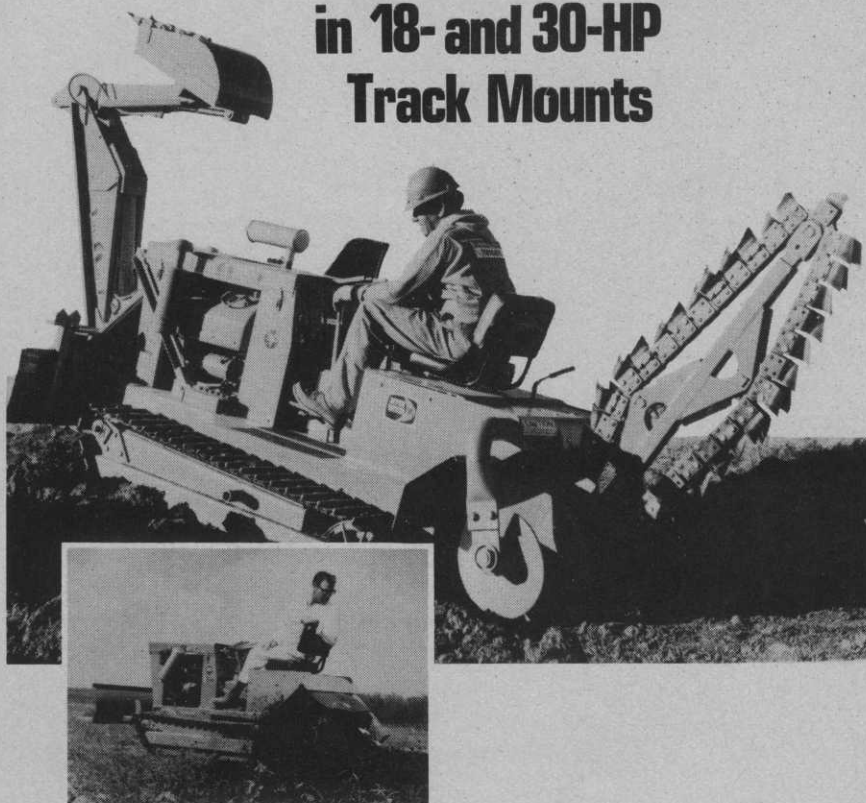
TREX-SAN (tm), a new broadleaf herbicide for the professional turf manager, has been announced by M. A. Eggleton, manager, Specialty Agricultural Products of Mallinckrodt Chemical Works.

TREX-SAN is a three-way combination of 2,4-D, MCPP and Dicamba. The additive effect of each is said to build a weed control system unequaled by its individual components or respective two-way combinations. Synergisms achieved enable the reduction of total amount of chemical required to obtain almost complete broadleaf weed control for 35 species. Safety factor is estimated to be five to ten times better than previous chemicals and combinations.

Features include effectiveness over broadest spectrum of weed control on the market; safety of use for most turfgrasses and adjacent ornamentals; economical, at \$4.50 per acre at recommended rates; labor-saving in avoiding multiple applications. Circle (718) for more details.

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Officers and directors for 1971 of the Golf Course Superintendents Association of America are: Front row, from the left — Clifford Wagoner, secretary-treasurer; Richard Blake, president; Robert Mitchell, vice-president; and Norman Kramer, president emeritus. Back row — Directors Palmer Maples, Jr., R. W. Malpass, P. E. Mechling, C. G. Baskin, and J. Murphy.



42nd GCSAA Denver Conference

'GREATEST SHOW ON TURF'

Golf superintendents called their 42nd International Turfgrass Conference & Show the "Greatest Show on Turf." And they were quite likely right. The association of golf superintendents consistently stage the biggest exhibit of commercial turf equipment to be found. They have been playing regularly, at least for the last few years, to audiences of about 3,500, which indicates the dedicated interest in the commercial turf industry.

Richard C. Blake, superintendent of the Mount Pleasant Country Club at Boylston, Mass., is the incoming president. He succeeds Norman Kramer, Point O'Woods CC at Benton Harbor, Mich. Both are typical of the golf superintendent of today. As Blake said in his program appearance, the past 10 years has created a demand for qualified professionals in the industry. Blake said the superin-

Table 1. Conference attendance continues high for the national turf conference staged by the GCSAA. Statistics for the past five years are as follows:

	Denver, Colorado (1971)	Houston, Texas (1970)	Miami Beach, Florida (1969)	San Francisco, California (1968)	Washington, D.C. (1967)
Members	1076	1182	1078	902	1066
Ladies	564	592	620	610	565
Guests	234	189	194	192	246
Greens Chairmen	214	211	506	90	110
One Day Admission	333	419	285	286	315
Turf Students	142	52	57	13
Exhibitors	922	975	771	730	738
Total Registration	3485	3620	3511	2823	3040

tendent needs to be both college-educated and business-oriented, plus having practical experience and knowledge. Further, he pointed out that men employed as superintendents generally have worked at several different golf courses. They have both the technical knowledge and the common-sense approach to successful turf management. In short, Blake said, they can do the job, as well as

know why it is done.

Blake is convinced that superintendents generally have the knowledge and experience to do the technical job. But he expressed concern over what he termed "people problems." This so called people problem area is where help is needed, he said, and is needed now. An important function of the greens committee chairman, Blake believes, is to



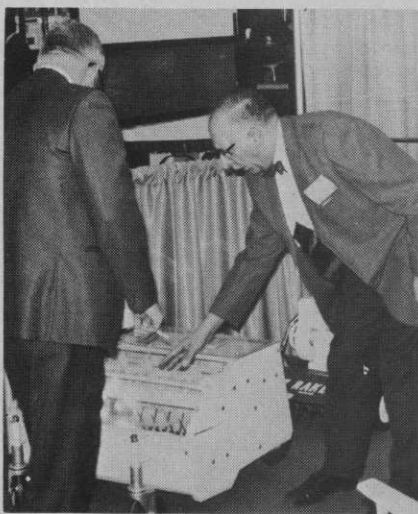
Would you care to count noses to verify the crowd? If not, the table above will give the comparative size of this year's golf and turf show at Denver. Guests jammed the exhibit floor to see new products and equipment. At the Mallinckrodt booth, the subject was newly registered chemicals. And Russ Carlton, center, of Buckner was talking about sprinkler systems, of course.



J. L. Lewis, left, and M. M. McSwain, center, both of Myers, relay sprayer information to Carl Swanson.



Harold Skaggs, right, explains his new core shredder attachment to Dr. William Daniels, Purdue University agronomist.



Phil Abdinoor, E-Z Rake, with the aid of a "glass-paneled" model, describes to a visitor how the machine operates.



John Kiepl, left, WEEDS TREES and TURF representative out of Chicago, talks shop with Roy Broyhill, president of Broyhill Co.

handle such problems — to keep balance and to effectively evaluate complaints. This chairmanship responsibility includes maintaining liaison with the superintendent, the board of directors and the membership. Blake stated, that at many clubs, a large percentage of the membership does not know the superintendent.

Because of what may well be termed a communication gap, Blake believes that the greens or grounds committee chairman is one of the most important men at the club. Blake stated that he should serve as chairman for five years, and the man who succeeds him should have at least three years of experience on the committee. This adds up to an eight-year tour of duty. Without such, Blake implied that lack of continuity and lack of long range planning can exist and thereby add to the high cost of golf.

The 1971 exhibit and educational session was set up at the Currigan Hall Convention Complex at Denver, Colo. This complex, similar to that at Houston, Tex., last year, makes a major display of equipment easy for the convention delegate. Space is available, not only for the equipment but for the associated food concessions and conveniences so necessary for the businessman away from his office.

The 1972 show will be held at Cincinnati, Ohio, at a very similar convention complex. Show dates for the '72 Conference will be February 13-18. The Netherlands Hilton Hotel at Cincinnati will serve as the association's headquarters during the conference. Looking ahead, the Executive Committee named Boston, Mass., as the conference city for 1973. The '73 Conference dates are Jan. 7-12.

Officers were elected as follows: Blake, president; Robert V. Mitchell, Sunset Country Club, St. Louis, Mo., vice-president; Charles G. Baskin, Jr., CC of Waterbury, Inc., Waterbury, Conn., director; Richard W. Malpass, Riverside G & CC, Portland, Ore., director; and Paul E. Mechling, Sylvania CC, Sylvania, Ohio, director.

In subsequent action, the Executive Committee appointed Clifford A. Wagoner, Del Rio Golf and Country Club, Modesto, Calif., as secretary-treasurer.

Other directors, whose terms of office continue through 1971 are: Palmer Maples, Jr., Charlotte, N.C., Jerry M. Murphy, St. Paul, Minn., and Norman W. Kramer, Benton Harbor, Mich. Kramer is outgoing president.

insect report



TURF INSECTS

A BILLBUG

(*Sphenophorus venatus confluens*)

OREGON: Damage heavy in 100-acre planting of Merion bluegrass in Linn County. Overwintering adults present in crown area. Field probably will be replanted.

RANGE CRANE FLY

(*Tipula simplex*)

CALIFORNIA: Infestation in Tulare County continues to damage additional areas. About 1,000 acres in Yokohl Valley show severe damage with many "slicks" on hill-sides and extending into flatlands.

INSECTS OF ORNAMENTALS

A ROOT MEALYBUG

(*Rhizoecus americanus*)

FLORIDA: Adults on 1 out of 10 hibiscus plants at nursery near Osprey, Sarasota County. This is a new county and host record. All stages on roots of thread leaf falseralia (*Dizygotheca elegantissima*) at nursery near Large, Pinellas County.

BLACK VINE WEEVIL

(*Brachyrhinus sulcatus*)

OREGON: Infestations sporadic and heavy locally. Larval counts of 3-5 under some potted plants, feeding on roots of sedums and sempervivums in nursery at Dallas, Polk County. Some plant mortality. Controls recommended.

TREE INSECTS

WHITE PINE APHID

(*Cinara strobi*)

NORTH CAROLINA: Eggs heavy in Iredel County. Continues troublesome in western Piedmont and mountain areas.

A CICADA

(*Diceroprocta vitripennis*)

WISCONSIN: Specimen collected in mixed stand of cedar and hardwood at Spring Green, Sauk County. Range of this species extended 100-150 miles. This is a new state record.

OAK LEAF TIER

(*Croesia albicomana*)

WEST VIRGINIA: Eggs per 15-inch ranch of scarlet oak ranged 16-34 in Pocahontas County and 17-46 in Greenbrier County. Moderate to heavy defoliation expected in these areas.

AN ERIOPHYID MITE

(*Aceria theospyri*)

VIRGINIA: Specimen collected in persimmon in King and Queen County. This is a new state record.

AN ARMORED SCALE

(*Lopholeucaspis japonica*)

VIRGINIA: Specimen collected on European white birch in Independent City of Richmond. This is a new record.

OBSCURE SCALE

(*Melanaspis obscura*)

CALIFORNIA: Counts of 10 per linear foot on *Quercus agrifolia* (California live oak) in Capitol Park at Sacramento, Sacramento County. Adjacent area of scarlet and pin oaks currently under eradication treatment. *Q. agrifolia* is a new host record.

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Nearly 200 persons attended the first meeting of the National Landscape Association. The sign at right indicates the theme of the Mobile, Ala., get-together. NLA's new board is: Bottom row (left to right)—Treasurer, Richard Kaufman of J. Franklin Styer Nurseries, Concordville, Pa.; director-at-large, Art Lanseadel of Secor Landscape Co., Toledo, Ohio; president, Bill Heard of Heard Gardens, Des Moines, Ia.; vice-president, Jim McCarty of McCarty's Colonial Garden Center, Evansville, Ind. Regional directors



in the top row are: Region VII—Arthur Fitzsimmons of Arthur Fitzsimmons Garden Centre, Hamilton, Ontario; Region IV—Donald Johnson of Johnson Nursery & Garden Center, Sioux Falls, S.D.; Region II—Tom Gilmore of Gilmore Plant & Bulb Co., Julian, N.C.; Region VI—Frank Tomlinson of Tomlinson's Select Nurseries, Whittier, Calif.; and Region V—Edward Teas of Teas Nursery Co., Bellaire, Texas.

NLA Announces First Home Design Awards

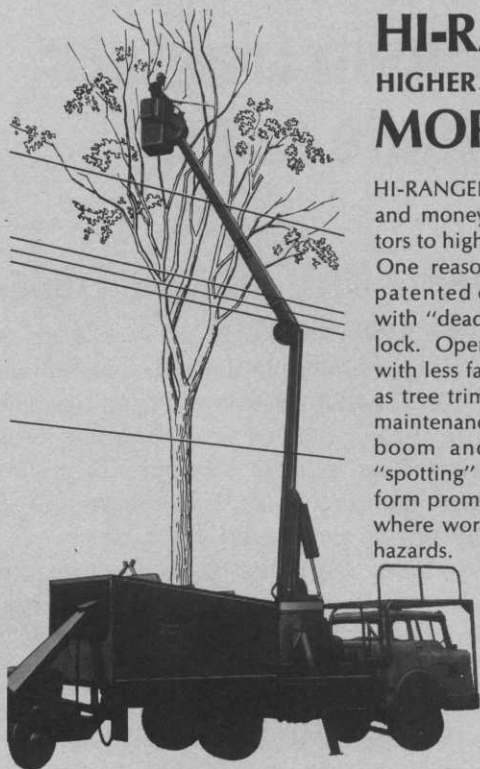
The National Landscape Association has presented the first annual Residential Landscape Design Awards and Certificates of Merit.

Judges selected four first place awards and five projects for certificates of merit.

NLA's award program recognizes those professionals who have created outstanding residential landscape designs as well as those who execute those designs through landscape installation.

First place awards were presented to Bert T. Foster & Associates, and Tropical Arts, both of Orlando, Fla., for the design and landscaping of an Orlando residence; Garden Gate

Landscaping, Silver Spring, Md., for a home in Potomac, Md.; M. Paul Friedberg & Associates, New York City, for the design of a residence in Southampton, N.Y., and Lewis & Valentine, Greenvale, N.Y. for the landscape installation of that residence; and Edward D. Stone, Jr. & Associates, in Fort Lauderdale, and Mike Blank Nurseries, Delray Beach, Fla., for a Delray Beach home.



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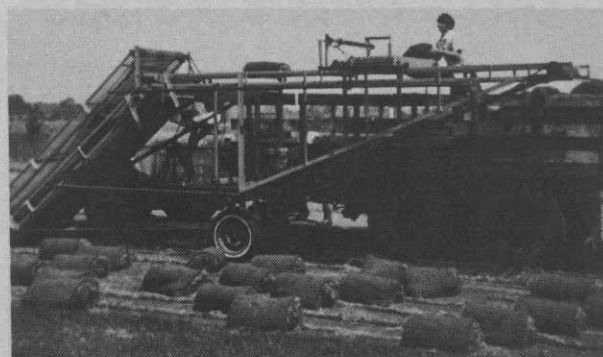


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Benomyl for Fusarium Blight, Says MSU

Stop worrying about phosphate and nitrate pollution from fertilizing turf, or for having to live with Fusarium blight, but don't assume your turf worries are over because you decide to sod rather than seed.

These were some general recommendations coming out of two days of intensive discussions about turfgrass. The event was the 41st annual Michigan Turfgrass Conference at Michigan State University.

More than 400 golf course superintendents, sod growers, grounds managers, and other turf specialists attended.

"We have found a material, called benomyl, which will control Fusarium blight," reported Dr. Joseph M. Vargas of MSU's botany and plant pathology department. "Apply eight ounces of benomyl per 1,000 sq. ft. and thoroughly wash it down into the root zone before it has a chance to dry on the foliage," he directed.

Dr. Vargas said benomyl can be washed in by hand hosing or that it can be applied to the area covered by a sprinkler, allowing the sprinkler spray to wash it down. Two to five applications are required for control, he advised.

Benomyl is available under trade names by Du Pont and Scotts.

Use of phosphate and nitrate fertilizer on Michigan lawns does not contribute significantly to pollution of lakes and streams, contended Dr. Paul Rieke, MSU soil scientist.

Research at MSU and elsewhere has shown that phosphates are almost insoluble in soil and that, where care is used to follow recommendations for applications, there is no phosphate leaching.

Nitrate leaching, he said, is related to the type of nitrogen fertilizer used — water-soluble or organic—the rate of application at one time and over the season, and the amount of irrigation.

Dr. Rieke said that where turfgrass is being grown on heavily irrigated, sandy soils, especially near lakes and streams lighter and more frequent applications are required.

A visiting agronomist from the University of Arkansas cautioned that quality sod alone is not the answer to a beautiful turf.

"Proper seedbed preparation is just as crucial for the long-term success of sodded lawns as for seeded lawns," said Dr. John W. King. "And proper irrigation is the most important factor affecting the knit-

ting of sod as well as the establishment of seedlings."

Dr. King, an MSU graduate, said proper debris removal, grading, drainage and soil texture are essential before sodding or seeding.

"Later correction is much more expensive than doing the job right in the first place," he emphasized.

Dr. King listed 12 lawn establishment principles, as important to the success of the home lawn as to the public green:

—Remove debris. Stones, roots, cement blocks and other debris interfere with water movement in the soil and result in dry spots.

—Rough grade the area. Slope at 2% to 5% away from buildings.

—Install tile around foundations and through low areas. Pack backfill over tile so that settling will not occur later.

—Till or modify soil. Loam, sandy, clay loam, or sandy loam are best for lawns. Till to eight-inch depth.

—Fertilize and lime. Incorporate fertilizer, especially phosphorus, into top soil. Lime to pH 6.5.

—Final grade. The soil to receive the sod or seedlings should be smooth, fine and well-settled.

—Weed control. Use temporary soil sterilants to control quackgrass, nutsedge or bentgrass, if present. Keep sterilants away from tree and shrub roots.

—Seed or sod. Use high-quality seed blends or mixture high-quality sod.

—Roll lightly to assure contact of seed or sod with soil.

—Mulch with two tons of weed seed-free straw per acre if seeding.

—Irrigate. Use light water applications daily for the first month to keep soil moist, but not wet.

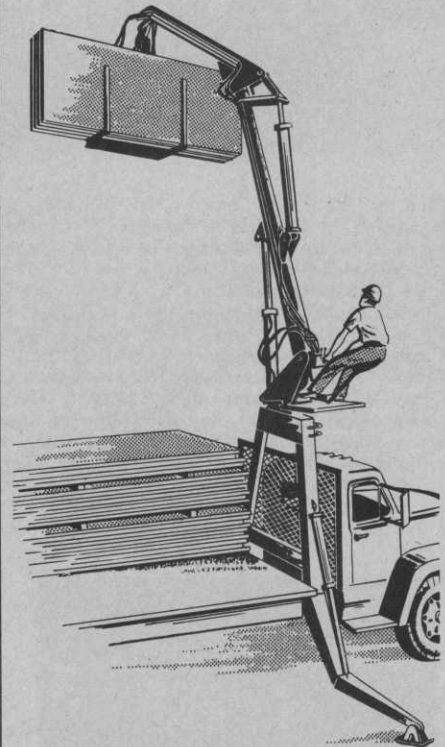
—Mow regularly as soon as any grass reaches one and one-half inches in height.

James Armstrong, J. D. Armstrong Landscape, Frazer, was elected president of the Michigan Turfgrass Association. Vice-president is Clem Wolfrom, Jr., Detroit Golf Club. The executive secretary-treasurer is James Standish III of Detroit. Dr. Paul Rieke of MSU is assistant secretary; Dr. Kenyon Payne of MSU, assistant treasurer.

Directors are Bill Milne of Gross Point Farms, Robert G. Spoelma of Spring Lake, James Smith of Detroit, Ted Woehrl of Birmingham, Gary Bartsch of Orchard Lake, Robert Knoll of Troy, and George Prieskorn of Brighton.

STICK 'EM UP!

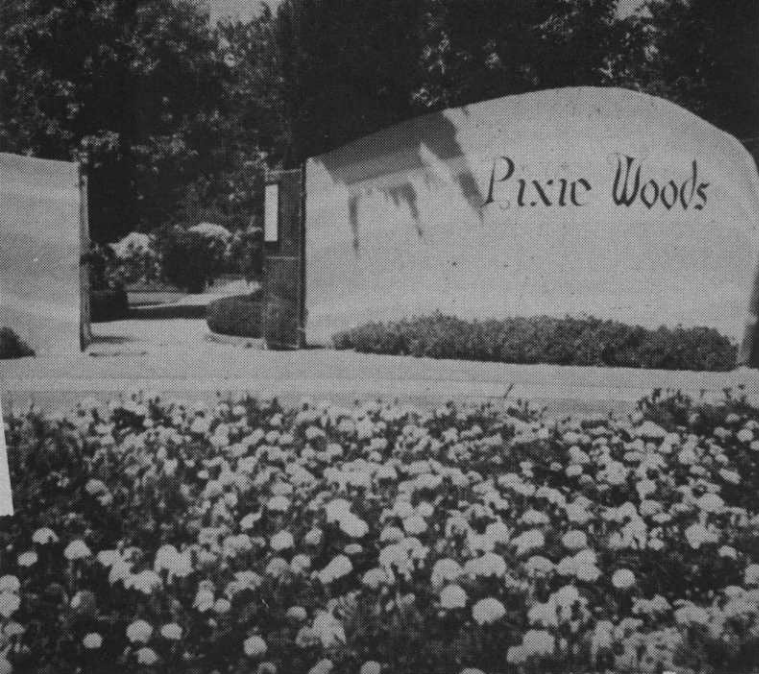
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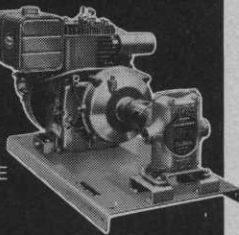
Five national winners in the annual Gold Medal Awards program for excellence in park and recreation management have been announced by the Sports Foundation, Inc. Presentations were made recently at the 42nd National Sportings Goods Association Convention and Show. Winners are: Class I (population more than 250,000) — Washington, D.C.; Class II (population 100,000-250,000) — Madison, Wis.; Class III (population 50,000-100,000) — Stockton, Calif.; Class IV (population 20,000-50,000) — Glenview, Ill.; and Class V (population under 20,000) — Lewiston, Idaho. Pictures above are of key elements of the Class III winning entry from Stockton. The city was noted for its Pixie Woods children's park, Silver Lake Family Camp and exemplary

senior citizen's park. It was cited also for such items as its park storage building design for a new park and home development. The building was designed to blend in with the design of the neighborhood. Washington received the first state award for its parks and recreation program. Sound financing, far-sighted land acquisition, strong leadership, balanced but flexible programming, and over-all planning and cooperation with other agencies were key program criteria. Of special interest to judges was the degree to which the department succeeded in assessing and meeting the recreational needs and desires of the community.



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