

ROLLING BILLBOARDS — An effective technique being used by AMF Western Tool, division of AMF Inc. Twenty new trailers and ten cabs are used in the promotion to deliver products to distributors across the U.S. This AMF "piggyback" idea is hoped to generate increased sales of the company's lawn and garden equipment.

## Griswold Bulletin Details Flow Control Valves

A new 8-page bulletin describing the Griswold flow control valve is now available from Griswold Controls.

The Griswold flow control valve is based on a unique, patented concept. A spring-loaded, perforated cup moves in response to line pressures, automatically adjusting the flow of liquid to a constant, factoryset value across an extremely broad pressure range.

The Griswold bulletin summarizes the operation of the valve and describes the various types, sizes, and flow rates that are available.

Copies of the new bulletin may be obtained by contracting Griswold Controls, 124 East Dyer Road, Santa Ana, California 92707.

### Golf Course Builders Compile Directory

The first printed directory of golf course contractor-members of the Golf Course Builders of America is now available from the association's national headquarters in Washington, D.C.

It is believed to be the first list of leading golf course contractors carrying photos and biographical information about each.

The 24-page, pocket-size directory identifies GCBA builder and associate members and gives a brief biography of the contractors and of their experience. Courses they have built are identified; thereby permitting prospective golf course owners and golf course architects seeking bids from contractors to check the management of already-built courses for further reference.

Single copies of GCBA's Membership Directory are available free upon request. Write: Harry J. Lambeth, Executive Director, Golf Course Builders of America, 632 Shoreham Building, Washington, D.C. 20005.

## Speakers And Tour To Highlight IPAA Meeting

Program highlights of the annual International Pesticide Applicators Association include a variety of wellknown speakers. Dates of the meeting are August 15-18 at the Marriott Inn, Berkeley Marina, Calif.

According to Ralph V. Backstrom, executive director, convention speakers include Gary Ashenbrenner, an expert in office management, personal motivation and management: Dr. Robert Raobe, plant pathologist, University of California, Berkeley, whose topic will be systemic fungicides.

Other speakers are: Dr. David Schlagel, plant pathologist, University of California, Berkeley, who will speak on "Integrated Pest Control Techniques;" and, Dr. Karl Koehler, U of C entomologist, who will discuss "Implanted Systemics" and "Conifers."

Sales promotion and public relations will be the topic of Henry Engh, keynote speaker.

Delegates will tour the facilities of Terminator Products, Oakland, Osborn Spray Service, Danville and Killroy Pest Control Co. in San Jose.

Pre-registration fee is \$30 per individual or \$37.50 per couple. Write: Chuck Bradshaw, convention chairman, 2710 Monument Ct., Concord, Calif. 94522. Heals wounds; prevents decay

> Cabot's Tree Healing Paint is a carefully prepared bituminous paint for protecting

Cabot's

HEALING PAINT

live wood and preventing decay. Leading arborists and foresters have been using it for almost half a century. Here are the reasons why:

• ideal for trees, shrubbery, etc.; seals, heals wounds, cuts, broken limbs, pruning abrasions.

stimulates growth of new bark

• apply with brush or spray; produces a black, tough, elastic, quick-drying coating.

• excludes moisture; stops rot; prevents evaporation of sap

• may be used in any season





HYDROFYER: Agresults, Inc., Miami, Fla.

Inject any liquid chemical into turf areas without disturbing playing surface. This injection system is designed for use on conventional golf course Airfyer. Manifold and injection heads adapt to machine in less than 30 minutes. Materials are mixed in conventional spray machine and injected into soil under 100 to 300 pounds pressure. Equal distribution on two inch centers for nematacides, fertilizers, soil conditions and water soluble liming materials. For more details, circle (705) on the reply card.



LIFT-QUIK: F. G. Nolan and Son, Pulaski, N.Y.

Any vehicle up to 1400 pounds can be raised as high as 33½ inches and lowered to floor level without a need for expensive loading docks. Perform maintenance on lawn and garden tractors, snow blowers, golf carts and other vehicles with little or no effort. Unit is made of heavy gauge pipe. Rails adjust from 24 to 40 inches. Lift is powered by a C.T.&E. reversible one-half inch electric drill with adapter. For more details, circle (706) on the reply card.



12 VOLT DIGGER: Stone Construction Equipment, Inc., Honeoye, N.Y.

Digging is easy with this 12 volt digger that features a powerful two horsepower motor. It operates on any 12 volt system. Simply connect to battery on your car, truck or tractor. Digs holes two inches to seven inches in diameter. With chuck attachment, the unit will drill holes in steel, concrete and other materials. Machine comes with 20 feet of cables and battery clamps. For more details, circle (707) on the reply card.



Log Splitter: Vermeer Manufacturing Co., Pella, Ia.

"Instant firewood" is now possible with the introduction of the LS-200 Log Splitter. It's a self-contained, 12 Hp unit that can split any log up to 30 inches long. A powerful overhead cylinder hydraulically wedges a heavy-duty cutting blade through the log under 22,000 pounds of splitting force. The blade, then automatically returns to the starting position for the next cycle. Unit can be towed behind any car, truck, or trailer. Other features include an electric start and a torsion axle for a smooth ride at highway speeds. For more details, circle (708) on the reply card.



HYDRAULIC CHAIN SAWS: Ackley Manufacturing Co., Clackamas, Ore.

These hydraulic chain saws come in bar sizes of 12, 15, 18 and 24 inches. They're powered by hydraulic pressure from tractors, trucks and other hydraulically equipped vehicles. Motor which turns saw chain provides the highest power-toweight ration of any hydraulic motor on the market, according to the manufacturer. Nothing else is on the saw but a trigger handle. Saw weights only six pounds without bar. But it gives the operator eight horsepower of direct drive. Features instant stop and start. For more details, circle (709) on the reply card.



FOUR-WHEEL DRIVE FRONT-END LOADER: Davis Manufacturing, Div. of J I Case Co., Wichita, Kans.

Scatback 430 is a compact four-wheel drive front-end loader with hydraulic articulated steering and hydra-static drive. It is powered by a 30 Hp engine, either gas or diesel. Infinitely variable speeds, both forward and backward gives the operator much latitude in operation. Instant forward/reverse is controlled by a single pivot dual foot pedal. Loader is self-leveling and has a 30 degree bucket rollback at ground level to handle heaped loads. Dump clearance is 109 inches at the hinge point. For added safety, operator sits aft of the lifting arms. For more details, circle (710) on the reply card.



HYDRAJUST TRACTOR SEAT: Rotary Power, Inc., Centerville, Tenn.

Slope mowing becomes safer and more efficient with this new and unique tractor seat. It is self-leveling. Seat and the tractor operator remain in a level position while the tractor is on a slope, even up to 33 degrees. Operator's weight automatically adjusts the seat to a level position, even though the tractor is at an angle. Allows the operator to keep both hands free for guidance and operation of his equipment. Seat is also adjustable forward and to the rear to comfortably fit individuals of differing heights. For more details, circle (711) on the reply card.



#### FIELD MARKING PAINT: C. B. Dolge Company, Westport, Conn.

Here's a tough, durable, latex emulsion paint formulated specifically for use on athletic fields, cinder tracks, tennis courts and other sports areas. It is available in white or field green. Paint is non-toxic and contains no skin irritants. It will not fade and will not stunt the growth of turf. Can be applied with a brush, roller or sprayer. One coat cover most surfaces. For more details, circle (712) on the reply card.





LOW IMPACT FORCE ACTION of the MOTT lightweight free swinging flail knives, their vertical mode of operation, the guard action of the roller and the deflecting features of the cutter housing all combine to make the MOTT Hammer Knife flail mower by far the SAFEST of all impact action mowers.

#### WRITE FOR YOUR FREE COPY OF

"Why I Believe in Flail Mowers"

(Sizes from 24" to 19 foot gangs)

## MOTT CORPORATION

514 SHAWMUT AVE., LA GRANGE, ILL. 60525

B32 8 HP 32" WALK or RIDE BEHIND mower has two speeds forward plus power reverse. Can be used to mow fine lawn areas, shred man sized weeds, mulch leaves and renovate.



# insect report—

#### INSECTS OF ORNAMENTALS

TORTRICID MOTH (Clepsis fucans)

PENNSYLVANIA: Larvae collected on azalea at Wind Gap, Northampton County. This is a new state record and first record for eastern North America.

CALICO SCALE

(Lecanium cerasorum)

MARYLAND: Reports of infestations more numerous than past 3 years. Silver maple, dogwood, and crab apple appear most heavily infested in several areas of Montgomery, Prince Georges, and Anne Arundel Coun-ties. This species and wax scales seem to be increasing within State.

#### SOFT SCALE

(Pulvinaria floccifera)

DELAWARE: Very abundant on taxus and holly with eggs laying in progress. Taken at Newark, New Castle County. This is a new state record.

#### TURF INSECTS

#### **BROWN WHEAT MITE** (Petrobia latens)

WASHINGTON: Infested 150 acres of orchard grass near George and Moses Lake in Grant County; damage 60 percent. UTAH: Moderate on planted grasses at Beaver Dam, Box Elder County.

#### HARVESTER ANTS

(Pogonomyrmex spp.)

UTAH: P. occidentalis (western harvester ant) active throughout Cache County on warm days; foraging and clearing mound areas. *P. owyheei* clearing areas about mounds in Curlew Valley, Box Elder County.

#### **BANKS GRASS MITE**

(Oligonychus pratensis) WASHINGTON: Heavy, damaged experimental bluegrass seed field at Prosser, Benton County.

#### TREE INSECTS

#### PINE TUSSOCK MOTH (Dasychira plagiata)

MINNESOTA: Early spring observations of over-wintered second-instar larvae showed low population levels in General Andrews State Forest area. There may be some localized areas of heavy populations, however.

#### OAK SKELETONIZER

(Bucculatrix ainsliella)

MICHIGAN: Adult emergence about 15 percent in Genesee County. Severe infestations on oak in Ingham County appear to be heavily parasitized.

# **ELM LEAF BEETLE** (Pyrrhalta luteola)

KANSAS: Few adults and egg masses noted on Siberian elms in Shawnee County. None found on elms checked in Riley County. OKLAHOMA: Eggs numerous on Siberian elms in Payne and Major Counties, larvae appeared in Payne County.

#### PINE SAWFLY

(Neodiprion taedae linearis) MISSISSIPPI: Defoliation moderate in tops of loblolly pines in 40-acre block in Lowndes County. This is first generation; larvae about one inch in length. TENNES-SEE: Immatures observed on loblolly pine in Knox County. This is a new county record.



# Past Due Accounts What To Do About Them

By CARL I. MORRIS, Sr. President, Associated Claims, Inc. Silver Spring, Maryland

THE collection of delinquent accounts, generally speaking, originates from the extension of poor credit granting. The history of credit, its origin, and uses actually dates back to the era of the cave dwellers.

Those of you who enjoy getting to the bottom of things would be interested to know that according to prehistoric drawings discovered thousands of years ago on the walls of caves, it could be reasoned that one caveman had "sold" a stone ax to a second caveman who was going to pay for it with the skin of the first animal he killed with that ax.

Now this is stretching things a bit. However, it does indicate that credit transactions are as old as the world itself. Much later in the 16th Century, the beginning of the making of loans and the taking of interest for money was made legal in England with a fixed rate of 10%.

As soon as the interest rate was set by law, another law had to be passed to make it possible to collect the interest. As a result of this law, debtors prisons were created in England and not abolished until 1869.

In the period thereafter with the migration to America came the conducting of business on a buy nowpay later basis, which has been going on since the beginning of time. The by-product of such credit transactions has resulted in past-due accounts and collection problems. The collection problems represent only a small percentage of the total credit volume in our country, and the advantages have been made possible through credit purchasing in this country far outweighs any disadvantages.

It is my understanding that sod producers are confronted occasionally with the situation that the sod cutter or installer will pay in advance for a series of sod cuttings, then dwindle to just a few days in advance on cuttings, and finally to a daily basis. The aftermath of this so-called build-up is the beginning of credit extension which in many cases is on a strictly verbal basis.

The nature of the sod business conducts itself to some individuals that are rather insecure as in every other trade. This particular group can operate with a rented or borrowed truck, a few shovels and a minimum of capital outlay. This fact in itself makes it imperative that the screening of your accounts becomes of greater importance. To avoid the creation of uncontrollable collections it is necessary to classify debtors according to the risks involved.

The risks that we must consider are good, fair, and poor.

The good risk debtor has a high credit limit, and is entirely reliable, therefore, cf little consequence as a potential collection problem.

The fair risk debtor is probably good, but a little slow. He has a medium rating in regard to his ability to pay and is entirely willing to meet his bills, but through carelessness or through happenings of the unforeseen contingencies beyond his control, he postpones payment of his obligations. This type of risk must be given careful and special consideration, necessitating a study of conditions responsible for the delinquency before pushing the claim to a serious collection situation.

The poor risk debtor is the one who has just enough ability to pay and just enough reputation of meeting his obligations with fair promptness to deserve the privilege of opening an account. In this class are included those debtors who can pay, but do not intend to do so until forced, as well as debtors without a conscience or financial respon-

(continued on page 63)



# If you're thinking of seeding in the next few months, here are 6 good reasons why you should be thinking about new ProTurf Victa.

Persistent deep blue-green color. Scotts research and development tested Victa Kentucky Bluegrass for 11 years on plots in Marysville, then at several research substations, and finally at state agricultural experiment stations, in sod fields, on golf courses, and in home lawns all over the country. During those 11 years, Victa proved to have strong summer color which lasted until late fall, in the North. On the West Coast, color lasted throughout the year.

Thick, dense growth with wider and stronger leaf blades. Victa's spring growth profile is naturally lower than Pennstar, Fylking, or Newport, which makes it ideal for golf turf or any other turf where carpet-like texture is desirable. Lateral instead of vertical growth means Victa fills in bare spots vigorously, choking weeds out. (In tests with equal amounts of Victa and Merion sprigged in two identical 3' x 4' squares of bare earth, Victa covered 80% of its square in eight weeks; the Merion plants covered only 55%.)

Extraordinary stress tolerance. Victa's low growth profile makes it naturally adaptable to close mowing; Scotts tests found Victa maintains a thick, dense, complete cover even when cut to <sup>3</sup>/<sub>4</sub>". Victa performs well under virtually all environmental conditions, including full sun. In addition, Victa is one of the very few bluegrasses to perform successfully in shade mixtures.

Unusual disease resistance. Aware of most bluegrasses' vulnerability to turf disease, Scotts carefully screened Victa during the testing years, routinely inoculating it with disease during the growing season. The results: Victa proved to be one of only a few bluegrasses in existence with a high degree of resistance to leafspot. Testing in geographic locations around the country showed that Victa also has a good level of resistance to stripe smut, snowmold, mildew, and rust, and more resistance to dollar spot than either Merion or Fylking.

Vigorous germination and growth. Victa seeds are larger and plumper than most other varieties, which helps the seedling to withstand environmental stress. Victa seed is characteristic of this rugged, very persistent grass—it's excellent quality, with high varietal purity and high yield. In lab tests reporting Victa's characteristics for U. S. Plant Patent #3,156, Victa seed germinated at an unusually fast rate: 41% by the end of the first week, 99.6% in 28 days.

Once seedlings are established, Victa requires less maintenance than many other top bluegrass varieties, yet responds beautifully to fertilizers.



Leafspot damage in May. Common Kentucky bluegrass on the right, Victa on the left.

**Compatibility with other grasses.** In addition to offering excellent turf performance on its own, Victa can blend its good qualities with those of other grasses to achieve a specific purpose. Victa is currently being offered by ProTurf in blends with Windsor, Nugget, Merion, C-26, and other varieties.

Proflurf Victa. A robust new bluegrass with 11 years of rigorous testing behind it . . . from the people who've been developing top-quality seed for over a century.

A division of O. M. Scott & Sons Marysville, Ohio 43040 P. O. Box 2079, Oakland, California 94604



Editor's Note: Fixed costs in the production of sod are becoming more important as the margin of profit decreases. Dr. John R, Hall, assistant professor of agronomy and extension turf specialist at the University of Maryland, brings these fixed costs into better perspective in his presentation of the "DIRTI" 5. By knowing the pitfalls of business, sod producers will have a better opportunity to maximize profits.

**I**<sup>T</sup> has always been a source of amazement to observe how the cost of living continues to rise and yet the price of harvested sod remains stagnant. In the early 1950's bread was at least one-third today's cost and sod was almost as cheap as it is today.

How has the producer been able to maintain this low cost in the presence of increasing pressure for higher quality sod? Volume sales have, in some cases, created a margin of profit sufficient for returns to land, labor, capital and management. Agronomic and engineering advances have decreased production time and increased production efficiency to the point where sod production has remained a profitable venture in spite of narrow profit margins.

Agronomic research will continue to investigate management factors and chemicals that will decrease production time and increase sod quality in an attempt to increase profit margins.

What can economic research do for your profit margins? A strong understanding of economic principles is as important to successful sod production as your understanding of agronomic principles. A recent economic study conducted by Fred T. Arnold and Billy V. Lessley has provided the sod industry with much needed information on the economic structure, costs and returns of sod production<sup>1</sup>. This bulletin entitled The Commercial Turfgrass Industry in Maryland: Structure, Costs and Returns can be obtained from the Department of Agriculture Resource Economics, College Park, Maryland 20740. (Also see WTT Feb. 1973 p44.)

At a recent Sod Cost Analysis Workshop, Dr. Billy V. Lessley exposed sod producers in attendance to the frightening prospect that their businesses might be dying a slow and invisible death hastened by failure to include "The DIRTI 5" in the cost of sod production.

The two basic types of cost involved in sod production are variable and fixed. Variable costs include those that are a function of output.



If sod production ceases, variable costs cease. These types of cost include labor, seed, fertilizer, lime, gas, oil etc.

The silent and deadly costs that will put many less knowledgeable sod producers out of business are the fixed costs that are incurred whether sod production is occurring or not. These costs are a function of time and include "The DIRTI 5," Depreciation, Interest, Repairs, Taxes and Insurance.

Depreciation is a decrease in the value of a piece of property through wear or aging. It is an annual cost of sod production that should be calculated and included in the selling price. Mathematically it is:

Annual Purchase price — Salvage Value Depreciation = \_\_\_\_\_\_ Cost Length of Life

A \$1500 sod cutter that will last three years and be salvageable for \$300 has an annual depreciation cost of \$400. Average total annual depreciation costs in Maryland varied from \$9.62 to \$22.14 per acre in 1968. This represented from 6.91% to 15.04% of the total cost of sod production.

The annual depreciation cost should be calculated for every per-

manent structure and piece of machinery and equipment involved in sod production.

Total depreciation costs should be included in calculations of sod production costs.

Interest is generally considered to be money paid for the use of money. In the case of sod production it must also be thought of as money that you could be making with money that you have tied up in the business of sod production. The cost of tying up your resources in sod production is the value of these resources in their best alternative use. This is sometimes called alternate investment opportunity. The money tied up could be making at least seven or eight percent interest if it were invested. This lost investment opportunity is a cost of sod production and is computed:

Average Beginning Inventory

 $\frac{\text{Alternate}}{\text{Investment}} = \frac{+ \text{ Salvage Value}}{2} \left( \begin{array}{c} \% \text{ Interest} \\ \text{achievable} \end{array} \right)$ 

The more obvious interest cost is that which your business accrues from borrowed money. Alternate investment opportunity and standard (continued on page 62)

#### WEEDS TREES and TURF

# Put away poa annua now with Betasan

For straight line chipping and putting, your players need greens free of poa annua. Now's the time to start control of poa. Use Betasan herbicide now to start your poa eradication program...or your prevention program if your turf is free of poa.

Betasan also controls fall-germinating henbit and shepherdspurse along with spring-sprouting crabgrass.

Betasan does not harm desirable turf

grasses, dichondra or ornamental plants on your course. It prevents weed growth the practical, economical way.

See your local turf products supplier now for Betasan. Stauffer Chemical Company, Agricultural Chemical Division, Westport, CT 06880.

Stauffer

Betasan<sup>®</sup> from





**E**MERALD Creeping bentgrass, agrostis palustris, joins Seaside and Penncross as a third alternative among the seed-propagated creeping bents. Emerald is the first seeded creeping bentgrass to combine vigor, good disease resistance, extremely fine texture and ease of establishment with the uniformity of type heretofore found only among stolon-propagated bents. While admittedly beautiful in appearance, the vegetatively planted strains are very difficult and costly to establish properly.

Emerald is well adapted for use in high quality turf areas such as golf courses, lawn tennis courts, bowling greens and fine lawns. On golf courses it forms an excellent putting surface that is uniform and without "grain". Additionally, testing under tee and fairway management levels has shown Emerald to be exceptionally well adapted for use in these areas. Its excellent density holds the ball up well, while the vigorous stolon production characteristic of the variety rapidly repairs injuries such as divot scars and golf cart tracks.

Emerald is a single clone synthetic variety. Every seed traces back to a single superior parent plant. It produces a very uniform turf which does not develop "patchyness" or "graininess" as the turf matures.

With this uniformity, the golfer is assured a truer ball roll from club face to cup than can be obtained with any other seeded creeping bent. It is this quality that makes Emerald the first creeping bent to combine the best attributes of both the seeded and stolon-propagated varieties.

On putting surfaces, Emerald should be seedwed alone to assure the uniformity so prized by golfers and superintendents alike. For tees and fairways, it may be seeded alone or blended with other varieties to provide genetic diversity.

Although this bentgrass is a new variety in North America, it has been used for fine turf in Europe for nearly ten years. It is marketed there under the name "smaragd," which is the Swedish translation of the word emerald.

Developed by W. Weibull of Sweden, one of the largest and most distinguished plant breeding firms in the world, the strain originated as a single superior plant selected from among many progeny of Congressional (C-19) Bentgrass, a well known stolon-propagated variety. After thorough testing, it was released for European use in 1965. Now, after extensive evaluation in