Dacthal drives 20 annual weeds off the course with one easy swing.

One application early in the spring. That's all it takes. Dacthal preemergence herbicide prevents 20 annual weeds from sprouting all season long. Problem weeds like carpetweed, chickweed, purslane and others. So you can devote time and manpower to more important work.

Dacthal doesn't stop there. It also drives out troublesome crabgrass and Poa annua. Hit 'em in the spring. And follow through with Dacthal in late summer for control of Poa annua and other late-germinating weeds.

Over the years, Dacthal has proven to be the closest thing to worry-free weed control. It won't harm new grass when used as directed. Won't leach out with frequent waterings. And there's no problem of residue buildup in the soil.

Dacthal degrades, naturally, in one season. Just read and follow label directions. You can even use Dacthal to keep the weeds out of flowers and shrubs. It's cleared for use on over 120 ornamentals. That's one more beauty of it.

This year, drive out weeds with Dacthal... the all-around favorite preemergence herbicide. Available in wettable powder or granules. Ask your supplier for more information or write: Agricultural Chemicals Division, Diamond Shamrock Chemical Company, 1100 Superior Avenue, Cleveland OH 44114.
Golf Green Construction Investigated By Two Texans

It costs more to construct, maintain and eventually replace good golf greens these days. This simple economic fact of life has led two Texas A & M University agronomists, K. W. Brown and R. W. Duble, to investigate and reevaluate the characteristics of golf green construction with an eye to making it better, but less expensive. Brown described the investigation and its results at the annual meetings of the American Society of Agronomy in Miami Beach.

Ideally, greens should have the contrasting properties of having high infiltration rates to prevent ponding, and have sufficient moisture storage capacity to supply the turf for a day or two without reirrigation. The green surface must also be firm even when wet, but may not be too hard.

Brown and Duble found that such properties could be obtained by constructing a green of a 4-inch layer of pea gravel topped with a 12-inch layer of a mixture of 85% sand, 10% peat moss and 5% soil. The gravel layer is used to allow rapid drainage when water must be removed, but it also acts to slow drainage after the initial free water has been removed. Such greens would also have a significant capacity to store fertilizer nutrients, thus decreasing the requirement for expensive fertilizers.

As a result of their research Brown and Duble have rewritten the golf green construction specifications used by the United States Golf Association.

River Bed Sediments Hold Mercury Pollution Key

Mercury pollution has played a major role in creating public concern for the pollution of streams and lakes in the U.S. The real danger, of course, occurs when toxic mercury compounds such as methyl mercury enter into the food chain and are ultimately consumed by people.

Since methyl mercury is not the form of mercury normally discharged by industry, but is the form found in fish and is highly toxic to humans, studies have been made by soil scientist Lee W. Jacobs of the University of Wisconsin to determine the possibility of mercury methylating by organisms present in sediment.

An experiment was established in each of two Wisconsin rivers of different water quality and sediment, but with similar histories of discharges from paper mills and a chlor-alkali plant. Preliminary results show that some mercury is lost from sediments and that methyl mercury is produced in sediments containing high concentrations of mercury salts.

Once researchers know to what extent methyl mercury is formed in sediments and what factors favor this formation, they will be better able to determine ways of preventing the production of methyl mercury from the storehouse of mercury compounds already present in U. S. waterways. The final result should be the elimination of methyl mercury from the food chain.

Sprinkler Irrigation Conf. Slated Feb. 18-20 In Dallas

The role of the sprinkler irrigation industry in the next twenty years will serve as the focal point for the 1973 Sprinkler Irrigation Technical Conference. The meeting, to be held on Febuary 18-20 at the Fairmont Hotel in Dallas, Texas, will deal heavily with the opportunities, problems and challenges in the field of waste products control through sprinkler irrigation as well as with subjects of a more general nature in both agriculture and turf.

The program, developed under the chairmanship of Tom Lyndon, Jr., contains an impressive list of speakers from government agencies, universities and the sprinkler irrigation industry. Keynote addresses will be delivered on successive days by Belford Seabrook of the Environmental Protection Agency and Jack Thompson of the U. S. Corps of Engineers. Other speakers will come from nine states and one foreign country.

For the first time in history, the meeting will be co-sponsored by another group, the Texas Turf Irrigation Association. The TTIA has met with members of the SIA in planning the conference and will serve an integral role at the meeting, acting as hosts at the conference.

The Dallas meeting is also the first time in many years that the Conference has been moved out of the western area and is the first trial effort by the SIA to bring its meetings to different areas of the country, thus promoting attendance on the part of those unable to travel long distances to attend.

Poa Annua In Bermudagrass? Try Kerb Herbicide

Rohm and Haas Company has announced that Kerb 50W herbicide is now recommended for the control of annual bluegrass (poa annua) in bermudagrass turf in the southern tier of states from the Atlantic to the Pacific.

Throughout the years poa annual has been a constant threat to golf courses by impairing the attractiveness and efficiency of the widely used bermudagrass turf. Kerb is effective either as a preemergence or post emergence spray. Its preemergence activity will control poa annua germinating after the initial post-emergence application.

Kerb also offers wide latitude as to timing of application. On bermudagrass it can be used safely on dormant or growing grass. It can be applied at any growing stage from germination through seed maturity.

Golf superintendents and grounds keepers who have tested Kerb on numerous golf courses report good control of poa annual.
Winter Survival Kit For Business

Well, it’s snowlyy white outside and cold as the arctic so you’re just going to throw another log in the fire and read some old magazines or turn on the T.V. or get back in bed next to something warm, right?

Wrong!

Just because the weather is bad doesn’t mean the day has to be an unprofitable one. In fact, those shut-in days should be looked on as a welcome opportunity to catch up on old business. Such as what?

Well try any of the following:

Follow Up On Job Leads: Remember that neighbor Mrs. Jones said wanted to see you but you didn’t have time? What was her name? Call up Mrs. Jones, get the name and call the neighbor to see if she still needs your services, when the weather breaks of course. Or that customer who said come back and do such and such in a couple of months. Good time to call and firm up that job and when you can do it. A couple of hours making phone calls to hot leads should drum up a number of new jobs.

Collecting: Next, call up those “slow-pays” and remind them in a friendly way that you’ve been looking for their check and perhaps you could stop over today and pick it up. Any time you can collect payment on old accounts it’s worth going out even in foul weather to get it done. And don’t worry about calling to ask for your money. You’re not asking for anything you didn’t earn. Remember, too, every day that goes by, your chances of ever collecting an old debt decrease and you can be sure that your continued patience and silence will in no way expedite payment.

Customer File: Remember that up-to-date complete customer file you always wanted to make? Why not start it next time you’re rained out or snowed in? All you need is a stack of index cards (preferably the big 4” x 6” kind) and a cheapie file box. Gather up all those scattered scraps of papers and little note books with customer names, phone number, etc. on them. Write the name at the top left (last name first) with address and phone below it. Then write down whatever information you have or can remember about what you did, when you did it, how much you charged, etc. Then keep it ever handy and always up to date. Sure it takes time to get the customer file started, but they’re valuable to have. On those otherwise worthless days you have time to spare, use it!

Tools and Supplies Check: It may be too cold or damp out in the shop to stay there very long but then it doesn’t take very long to check out what needs to be fixed, what parts are needed to do the fixing, and what supplies are getting low. (Take your pen and note pad out with you so you don’t forget what you need.) A few min. in the shop and a few on the phone may save you precious hours that could be otherwise wasted when you got on a job without the supplies you need, or with a tool that didn’t work. Sometimes getting the right part to fix a tool can be as time consuming as the repair itself. So by consolidating several trips into one you are saving yourself lots of time . . . and money.

Even if the weather is severe there are jobs such as tool cleaning, sharpening, lubrications, etc. which can be done in short periods of time. And in many cases could be brought inside to a warm cellar if your shop or garage is not heated.

So now that you know what you can do with yourself when you can’t work outside, next time the weather is lousy, cheer up and get busy!

EDITORIAL (from page 9)

state publish a “Rules For Applicators” booklet similar to those published by auto licensing bureaus. The candidate could then study the rules, chemical uses or other pertinent data and be better prepared to take an examination. If there is doubt as to experience, a practical spraying test could be devised.

We commend the professional applicator for his patience. The authority granted the Environmental Protection Agency in developing training programs is now official. Help for the applicator is on the way.

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For More Details Circle (140) on Reply Card

For More Details Circle (117) on Reply Card
Over 80 members and guests constituted a record attendance when the Atlantic Seedsmen’s Association, combined with the meeting of the Lawn Seed Division of the American Seed Trade Association met in New York City in November for the 20th annual convention.

The traditional “Round Table,” now grown into a horse-shoe due to increased attendance, was well attended. The following morning the Annual Meeting of the Atlantic Seedsmen’s Association was opened by President Peter Loft.

The first order of business consisted of introduction of guests and the identification of members in attendance. A minute of silence was then observed in memory of Bill Burpee.

Committee reports began with William Herron as chairman of the legislative committee. Seed control officials were very cooperative in reporting any changes in the State Seed Laws. Brief reports were given by Russ Billings, chairman of the farm seed committee, who commented on the world-wide shortage of farm seed; and by John Vaughan, chairman of the garden seed committee, who had more optimistic remarks.

The following officers were elected to serve for the following year: New officers elected for 1973 include: William L. Jeppers, Oliger Seed Co., pres.; William A. Feury, The Terre Co., 1st vice-pres.; George A. Beens, Stanford Seed Co., 2nd vice-pres.; Alvin M. Sweeney, Sweeney Seed Co., secretary; and J. S. Newsom, F. W. Bolgiano & Co., treas. Peter S. Loft of Loft-Pedi
greed Seed, Inc. becomes a member of the executive committee. Two additional members were elected: William Herron, Stanford Seed Co. and George Wagner, Garfield-Williamson & Co. Margaret Herbst of New York remain as executive secretary.

Peter Loft presented observations in the trade during 1972. He particularly mentioned the general trend for more consumption of seed of all kinds and the many more proprietary seeds that will be sold.

John Vaughan, a member of the review committee on grants, then presented the recommendations of his committee for contributions. The Grants were approved to: American Seed Research Foundation, Better Lawn & Turf Institute, National Garden Bureau, Farm Seed Conference and the National Lawn & Garden Week newspaper supplement.

Peter Loft, also chairman of the seed specification committee, reported on an excellent acceptance of the revised specifications and their wide distribution.

Robert A. Russell of J. & L. Adikes reported on the progress of the discussions with regard to seed labelling that were being held with the various seed control officials during the convention. Just before luncheon, the new president, William Jeppers, assumed the chair and presented the past president plaque to Peter Loft.

Dr. Herbert Cole, Jr., professor of plant pathology, Pennsylvania State University, presented the case for chemical seed treatment. He looked
upon chemical seed treatment as an opportunity rather than a problem. With the use of slides, he illustrated the different turfgrass problems and stressed the need of genetic diversity as one solution to these problems.

The second speaker was Prof. Kenyon T. Payne, dept. of crops and soil science, Michigan State University. Payne gave some aspects of turfgrass needs; he chose to approach his subject in several areas: the grasses themselves; seed and its production and distribution; education; industry and environment.

Ronald Gianettino, vice-president of Keyes, Martin & Co. advertising agency concluded the session with a presentation on the marketing and advertising of seeds, past, present and future.

The next morning conferees heard reports from the West given by Arnie Bonnicksen, Arden Jacklin and Alan Hick before the Lawn Seed Division meeting opened, presided over by chairman John Vaughan.

Robert A. Russell gave a more complete report on the seed labeling discussions with seed control officials. Alan Hick covered the topics that had been brought out in the Planning Committee session.

James Jenks spoke on the highway specifications problems in Virginia and Maryland. Doyle Jacklin reported on the noxious weeds list; as a result, a recommendation was passed to have a committee to look over these various lists.

Arden Jacklin’s discussion resulted in a resolution to be sent to the board of directors of A.S.T.A. to get a legal opinion on the protection of Kentucky bluegrasses under the Plant Variety Protection Act and/or the Plant Patent Act. Doyle Jacklin submitted a resolution designed to codify existing seed testing research on varietal and identification information.

The speaker for the Lawn Seed Division was Dr. Roy Nittler, N.Y. Dept. of Seed Investigations, Geneva, New York. He discussed new seed testing techniques and their application of variety differentiation.

**Optimum Nitrogen Rates Cited As Major Sod Problem**

An Ohio State University agronomist has cited application of optimum rates of nitrogen fertilizer as a major problem facing the sod grower today.

K. R. English says that because sod is used to establish many new turfgrass areas, large sod fields must be carefully managed to produce a top quality crop which can be used in laying a new site. Poorly developed sod will fall apart and establish slowly. Insufficient nitrogen produces a weak, thin turf which allows weeds to move in and take over. Conversely, too heavy nitrogen applications cause excessive top growth and weakened root and rhizome systems.

Speaking before the annual American Society of Agronomy recently, English added that a study conducted at Michigan State University considered several ways to decide how much nitrogen the sod grower should use for efficient sod production.

Ammonium nitrate was applied several times at various rates during the growing season to Merion Kentucky bluegrass grown on an organic soil in Michigan.

Increasing the rate of nitrogen applied increased clipping yields which would necessitate more frequent mowing. Excessive nitrogen rates—60 pounds nitrogen per acre per month or more—gave less root (continued on page 47)
**Assoc. Landscape Contractors**

**Plan Jan. 22-26 Meeting**

Nearly 500 landscape contractors, their wives, guests and suppliers will gather in Miami, Florida, January 22-26, 1973, for the 11th Annual Meeting of the Associated Landscape Contractors of America (ALCA) at which President Norman Gray of Mansfield, Mass., will preside.

"Solving the Management Maze" is the theme of the five-day conclave which will be held at the Doral Country Club and Hotel. Registration will begin January 22.

ALCA's Trade Exhibit will be held January 23, 1972 (in conjunction with the convention) also at the Doral. The show promises to be one of the best ever staged by the Association. It will offer landscape contractors the opportunity to view goods and services to assist them in running profitable landscape contracting operations.

**Brazilian Honey Bee Pirates American Bee Life**

An aggressive and ferocious strain of honey bee that has spread rapidly after becoming established in Brazil in 1957 could migrate to North America and become a serious public nuisance and a major problem to the beekeeping industry, according to findings in a study sponsored by the U.S. Department of Agriculture.

The most noteworthy characteristic of the Brazilian bee is its aggressiveness. Not only does it readily attack intruders, but it is aggressive in other ways. For example, it occasionally takes over the hives of other bees; it forages so aggressively that strains formerly kept by commercial beekeepers can't compete and have disappeared in areas where the aggressive strain has appeared. The aggressive strain also leaves managed hives readily to migrate long distances.

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Dr. Robert W. Toler, (c) associate professor of plant pathology with the Texas Agricultural Experiment Station and Department of Plant Sciences at Texas A&M University, receives the Distinguished Service Award. F. J. Milberger of Bay City, association president, (r) makes the presentation. Looking on is Dr. David Rosberg, head of the plant sciences department.

Texas Sod Producers
Honor A&M Pathologist

The Texas Sod Producers Association has honored an associate professor of plant pathology at Texas A&M University with a Distinguished Service Award.

Dr. Robert W. Toler received the award at the annual meeting of the Texas Sod Producers Association in Corpus Christi recently. He was honored with a plaque upon which was inscribed: "In recognition of his outstanding research accomplishments in the control of St. Augustine Decline disease and the significant contribution of his research efforts to the Commercial Sod Producing Industry of Texas.

Toler, who specializes in virus diseases, was leader of the project work which recently uncovered a new variety of St. Augustine grass that has resistance to SAD (St. Augustine Decline), a virus disease. The new variety has been jointly released by the agricultural experiment stations of Texas and Florida and is called Floratam.

Dr. Toler joined the Texas A&M staff in March, 1966. Before coming to Texas he was stationed in Georgia as a plant pathologist with the Agricultural Research Service, USDA. He is a native of De Witt, Arkansas and holds degrees from the University of Arkansas and North Carolina State University.

MAJOR SOD PROBLEM (from page 45)

and rhizome growth. This means weaker sod and slower sod development, thereby decreasing production efficiency, English said. On this organic soil, some nitrogen—at least 15 pounds nitrogen per acre per month—was needed for good sod.

Timing of nitrogen application was very important. Discontinuing or reducing nitrogen applications during the hot summer months gave stronger, more mature sod in the fall of the year. Heavy nitrogen applications should definitely be avoided during the summer months, he emphasized.

English also pointed out that clipping yields ranged from a low of 0.25 ton dry weight per acre from the unfertilized plot for the year to a high of 4.25 tons per acre on the plot receiving 120 pounds nitrogen per acre per month.

He said that as the rate of nitrogen applied was increased, the nitrogen content in the clippings increased to a maximum of 6.1 percent. Sod which received lower nitrogen rates gave generally faster rerooting into new soil.

Nitrate levels in the soil increase with the heavy nitrogen treatments, but due to variability the use of soil nitrate tests did not prove to be a useful tool to predict the nitrogen needs for sod.

The agronomist added that there was a general increase in soil nitrate levels during the season, indicating that nitrogen was being released by soil microorganisms at warmer soil temperatures.

Easily move objects up to 300 lbs. with this two-wheel cart. Handle bulky and heavy loads. Mini-Kart is designed to put the weight on the wheels, not on the back or arm muscles. Unit has a 30 inch by 18 inch painted % inch plywood platform for maximum strength and is protected by a wrap-around nylon channel. It has two heavy-duty 8% inch by 2% inch semi-pneumatic wide track tires for easy movement on sandy or soft soil. All metal parts are fabricated out of high quality steel and plated to resist rusting. Total weight is 22 pounds. For more details, circle (701) on the reply card.


This top dresser has a capacity of approximately 16 cubic feet. And it spreads a five foot wide swatch three times faster than any other top dresser. Unit is foot controlled. According to the manufacturer, it is the only riding top dresser for golf course greens presently on the market. The unit is easily attached to the power head which is interchangeable with other Smithco products. For more details, circle (702) on the reply card.

QT-16 TRACTOR: Bolens Division, FMC Corporation, Port Washington, Wisc.

Here’s a tractor with the projected noise ordinance standards built into the design. It’s a twin cylinder 16 Hp opposed engine tractor that was engineered to run quietly and smoothly. It is reported to be the quietest and most vibration free tractor in its class. Unit features hydrostatic foot-pedal control, with variable forward speeds. The eccentric power-locking collar for attachment drive provides quicker, easier connection for all powered accessories without the use of belts. Standard features include hydraulic lift, front and rear light, side reflectors, electric start, enclosed engine and electric clutch. For more details, circle (703) on the reply card.

METE-R-MATIC: Jacobsen Manufacturing Company, Racine, Wisc.

Model F-9 truck-mounted top dresser features an increased hopper capacity of 13½ cubic feet and a rotating brush for deep distribution. Mounted on a Model 12 truck, the unit is capable of dressing a 36-inch wide swath at speeds of up to 4 mph. Equipped with a drag mat, machine can drag a 6 foot swath while top dressing. Unit can be reversed without backing into drag mat. Over-sized, low pressure tires and even weight distribution protect sensitive turf areas. For more details, circle (704) on the reply card.
GROUNDS TRACTOR: Deere & Co., Moline, Ill.

Model 820 diesel tractor is powered by a 31 Hp engine that packs a wallop into this compact machine. Tractor features eight forward speeds. Also has a three-point hitch, differential lock and 540 rpm PTO. There's a wide variety of equipment for the 820 including center- and rear-mounted rotary mowers, backhoe, snow blower, blades and rotary broom. For more details, circle (705) on the reply card.

18 HP AUTOMATIC: Wheel Horse Products, Inc., South Bend, Ind.

Totally new from the ground are describes this 18 Hp automatic, the biggest, boldest and most deluxe of the manufacturer's product line. Power packed with a twin cylinder, cast iron engine that provides high torque, smooth operation and minimum vibration under heavy working conditions, the tractor offers compactness and maneuverability to the user. New Tach-a-matic hitch system permits faster and easier attaching of mid- and front-mounted attachments without use of tools. Safety features include a three-way interlock system to prevent accidental starting of tractor when power driven attachments are engaged. For more details, circle (707) on the reply card.

HOT CLAMP, Dadco, Inc., Fresno, Calif.

The wet cell battery has one big disadvantage — corrosion on the terminal post. But now there is a terminal clamp that is guaranteed non-corrosive. Clamp features emergency release with no special tools required, cam action locking ring, 360 degree post contact, self-locking with no special lubrication and an unrestricted current flow. No steel bolts, plates or strengthening rings are used to attract acid. For more details, circle (706) on the reply card.

INTERSTATE: Energy Manufacturing Co., Monticello, Iowa

Energy hydraulic cylinders are used to lift and tilt both side gangs in the Mott Interstater. The Mott is a heavy duty safety flail mowing system specially designed for use on highway rights-of-ways, airports, parks and other areas where large volume mowing is needed. Flat out, the full three gang combination mows a swath 18 feet 10 inches wide and sides flex to follow the contour of ditches, ridges and other areas. Energy cylinders can take daily abuse and come back for more. Their rugged construction keeps maintenance to a minimum. For more details, circle (708) on the reply card.
OSHA Security Checklist Developed By Chicago Firm

The Federal Government's hard-line follow up on the new Occupational Safety and Health Act (OSHA) was evident in a 12-month report just issued.

According to Charles Wessel, vice president of Interstate Service Corp. of Chicago, a Globe Security Co., the industrial community is feeling the impact of the Government's rapid and effective implementation of OSHA by what has probably become the busiest Review Commission in the country.

"More than 32,707 compliance inspections have been made," Wessel said, "covering about 29,500 establishments employing approximately 5.9 million workers."

"Although about 25% of the locations inspected were found to be basically in compliance with OSHA standards," he pointed out, "still there were 102,816 violations reported and 23,231 citations issued."

"The dollars it will cost the companies in penalties levied by OSHA regional directors have mounted to $2,291,147."

Wessel, who heads the organization that has become one of the nation's top four security firms, said that the Federal Government's focus on a major problem in America today is both timely and imperative.

Interstate Service, with more than 80 years of experience in the industrial/commercial security field, is a leading proponent of the now popular theory, that safety and security indeed go hand in hand.

"Safety for an individual worker comes about only after safeguards have been undertaken," Wessel pointed out. "It is not enough that machinery is accident proof, and the materials the workers use be harmless; the employee and the equipment must be guarded by an effective safety and security program that systematically covers every weak point."

"Materials must be arranged to avoid the threat of fire, alarm systems must be designed to protect all vulnerable areas of an establishment, locking devices must be installed in such a way that the building is impregnable against outside vandals. The only way a company can be both safe and secure is to have a thorough-going program designed for their individual needs."

"One concern of the Government," Wessel explained, "and it is a proper one, is to overcome security and safety weakness before disaster occurs."

The ramifications to an individual company or firm, subject to the relatively new Government regulations under OSHA, are complex. Wessel suggested that firms gird themselves both in general knowledge of the Act and the specific application to their companies.

"The added stigma a company may receive now from non-compliance with a Government regulation is another reason for preventative measures," Wessel added. "The company's employee relations and its image to its stockbrokers and the public at large are all endangered by a lack of understanding of the Act and therefore a lack of obedience to the law."

To assist businesses of every description, large and small — new organizations and established firms — Interstate Service Corporation is offering consulting services on the Occupational Safety and Health Act. Interstate also has developed a detailed security check list that is available upon request. By using the check list, businessmen can effectively check their own security quotient and perhaps grasp a better reading on their safety requirements, Wessel stated.