of Princeton Turf's sod farms, Cranbury, New Jersey.

Besides the Turfgrass Research Field Day and the equipment demonstrations, the day's activities will extend into the evening to include a dinner meeting and an informal round-table discussion of sod production problems.

In conjunction with these activities, the Northeast Branch of the American Society of Agronomy will be holding its annual Conference.

Interested sod producers from the United States and Canada or anyone with a new development in mechanization who may wish to have it demonstrated is welcome to participate. More detailed information on exhibit space or the program may be obtained by contacting Dr. Henry W. Indyk, College of Agriculture and Environmental Science, New Brunswick, N. J.

**Watch Trees for Fertilizer Deficiency Signs Snyder Says**

Sparse foliage, weak new growth, and light green leaf color are all signs that point to need for more fertilizer, says Dr. Leon C. Snyder, head of the University of Minnesota Dept. of Horticultural Science.

Tree fertilization programs become more important, Snyder explains, when root zone areas are covered with paved driveways and sidewalks, limiting soil area in which tree roots can develop. Another factor which causes trees to require more fertilizer is fallen leaf removal. Normally dead leaves and branches would fall to the ground and decompose, renewing soil fertility. But landscaped areas are deprived of this source of tree food through grounds cleaning programs, Snyder reminded tree service people. He recommends early spring, or late fall tree fertilizing, once every three or four years.

"A complete fertilizer comparatively high in nitrogen such as 10-8-6 is good for evergreens, and a 10-10-10 analysis should be used for deciduous trees," Snyder says. As a general guide he suggests using 2 to 4 lbs. of complete fertilizer for each inch in diameter of the trunk, measuring trees at breast height. Thus a 12-inch tree might require 24 to 48 lbs. of fertilizer, depending on soil and rate of desired growth.

Punch-bar application gets fertilizer close to feeding roots Snyder points out. Holes about 18 inches deep at intervals of 2 feet, in a band just under outermost branches, with about 1/4 cup of fertilizer in each, and then filled with compost, give desired penetration he says.

**Entomologist Kerr Says Lawn Caterpillars Crop Up Quickly**

Lawn caterpillars are easy kill but quite difficult to control reports associate entomologist Dr. Stratton Kerr of the Florida Agricultural Experiment Station.

Kerr says the destructive infestations can crop up again as early as 3 weeks after lawn treatment. Lawn damage occurs when the caterpillars chew the blades down so grass has an extremely close-mowed appearance. The pest feeds on almost all common Florida lawn grasses.

Damaged areas appear first along hedges and flower beds. Then injury starts in a patchy distribution across the lawn, with injured spots being only about 2 or 3 feet across. The spots enlarge in heavy infestations, reaching a peak in the summer.

Control is complicated because the bugs feed up the grass blades instead of down on the runners like cinch bugs do. As the lawn is mowed insecticide is chopped off, reducing the total treated area. This means effective control requires applications of insecticide about every 3 to 4 weeks.

Dr. Kerr recommends Sevin and toxaphene as two of the better insecticides for lawn caterpillar control. Other effective controls he suggests are diazinon and DDT. He cautions that applicators should start as soon as an infestation is noticed because 5 or 6 days' delay gives the lawn pest time to do most of its damage. Control efforts will be wasted if they do not catch the lawn caterpillars right away, Kerr notes.
IN MINUTES!

Vermeer's Original
POW-R STUMP CUTTER

It takes Vermeer's big high speed revolving cutting wheel just minutes to rip large stumps to chips. Saves thousands of man-hours, and thousands of dollars annually for municipalities and tree service firms. Available in 5 ruggedly-built and hydraulically operated units—here's the original, patented, time-tested machine for every stump removal need. Thousands in use in parks, golf courses, cemeteries, land clearing projects, private and public properties everywhere.

Write for complete information, prices, literature and a Free demonstration.

WORLD'S LARGEST STUMP CUTTER MANUFACTURER

VERMEER MFG. CO.
1470 W. Washington Pella, Iowa, U.S.A.

Hyman Lab Is Site
For USFS, UC Research

One of the biggest challenges in the field of research in insecticides, discovery of effective substitutes for DDT and other chemicals, is now getting the joint attention of U. S. Forest Service and University of California scientists at Berkeley.

Leader of an insecticide evaluation project at the USFS Experiment Station in Berkeley, Dr. Arthur D. Moore, announced that USFS has leased lab facilities belonging to Dr. Julius Hyman, president, Hyman Laboratories, 2840 8th St., Berkeley.

Hyman, a chemist who was instrumental in finding and initially developing insecticides commonly referred to as aldrin, endrin, chlordane, and dieldrin, will counsel and work with the 25 Forest Service and some of the 17 UC scientists studying the problem.

Professor of Entomology at UC, Dr. John E. Casida, is directing graduate students and postdoctoral fellows with the University group. Some of the team began work at the Hyman lab early in April. Facilities include six chemical labs, a shop, stockroom library, and a pilot plant for chemical production.

Seek Selective Chemicals

“Our immediate goal,” Moore said, “is to develop chemical substitutes for DDT; chemicals that are highly selective against individual species of insects, and those that break down into harmless components without contaminating the environment.”

A tree defoliator usually controlled by aerial applications of DDT, the spruce budworm, has already been effectively controlled with Zectran. A carbamate insecticide, Zectran is reported to be effective in small amounts, as little as 2 oz. per acre, and it breaks down in the environment.

Pyrethrum is another insecticide the research group finds promising for control of tree defoliators. It shows extreme toxicity to the insects and is one of the safest insecticides known for control of plant pests. The problem pyrethrum presents is that it is very unstable in air and sunlight. Dr. Casida believes a synergist may give pyrethrum stability until it reaches the pest, and for a brief period thereafter.

Although the group is concentrating on insecticides for use against forest pests, its basic research will apply to all phases of insect control.

Florida Flood District Sees
Growing Weed Control Costs

Sea cows, $3,000 “Ducks,” and $229,173 spent for weed control last fiscal year are among weed control items covered in Central and Southern Florida Flood Control District's annual report for 1965.

Noting that sea cows (mang-tees) eat not only aquatic weeds, but even their roots, the publication explains the only problem encountered so far in the district's 3-year study is to feasibility of the animals for weed control is their slow reproduction rate.

Addition of many miles of new canals in the FCD created a need for more equipment. During the year, the district purchased two amphibious vehicles, known to the military as “Ducks,” at a cost of just under $3,000 each. The FCD uses the “Ducks” to tow heavy steel A-frames suspended by cable to the canal bottom for aquatic “plowing.” Other measures the district's 20-man crew uses in the battle against weeds.
include chemical spraying from boats, trucks, and afoot, and mechanical mowing and chopping operations.

Cost of $229,173 for weed control during the past fiscal year was almost $70,000 over the district's 1963-64 figure of $160,000, but the annual report points out that costs obviously increase each year as the FCD accepts more canals for operation and maintenance.

Casoron Aq Granules Best When Used On Pond Bottoms

Test results on dichlobenil, registered in late 1965 as a pre-emergence aquatic herbicide by the U. S. Department of Agriculture, showed best results when it was used on exposed pond bottoms just after the spring thaw.

Presented in a report compiled by Illinois Natural History Survey Section of Aquatic Biology, the test findings indicate that the chemical is effective against sago pondweed, southern naiad, and chara.

Dichlobenil is sold by Thompson-Hayward Chemical Co. under the trade name Casoron Aq Granules. One formulation of Casoron is available as a heavy aquatic granule containing 4% active ingredient or 4 lbs. of dichlobenil per 100 lbs. of granules.

This Casoron formulation is effective when applied either to the water or to an exposed pond bottom, though slightly higher rates may be required for water application, the survey report indicates. Effective control was achieved against aquatic plants when Casoron was applied as soon as the ground (pond bottoms) had thawed and by mid-March for application through water.

Included in the survey report, titled "The Chemical Control of Some Aquatic Plants," is a Thompson-Hayward listing of other water plants Casoron Aq Granules can be used against. Suggested application rates are also given.

For complete information on the tests write for Supplement No. 5, The Chemical Control of Some Aquatic Plants, Illinois Natural History Survey Section of Aquatic Biology, Urbana, Ill.

Hudson Updates Catalog

New 20-foot spray booms with adjustable or fixed nozzle spacing are just one of the up-to-date listings in the H. D. Hudson catalog now available.

Introducing the company's over-the-road sprayers, special 150- and 200-gal. units fitted with accessories to adapt them for trailing over roads at normal speeds, the publication includes the company's complete Peerless Power sprayer and duster line. For a free copy write H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill. 60611.

Mott Introduces 88" Flail Mower

Rugged unitized construction, large diameter, a thick-walled tubular cutter shaft, and oversized bearings are features said to make the new Mott Model "88" ideally suited for heavy duty mowing.

Other strong points claimed for the new mower include a 60 hp. Timken roller bearing equipped gear box, a totally enclosed output drive shaft, and safety engineered guards. Roller adjusts height of cut from 1" to 6." Mounting is by 3-point hitch. Free-swinging knives fold back in the face of obstructions and automatically return to cutting position when clear, thus reducing danger of throwing struck object.

For complete information about the new model "88," write Mott Corp., 500 Shawmut Ave., LaGrange, Ill. 60525.

Now meet the Super Custom, the newest in SOLO's line of sprayers designed to the exacting specifications of professional spraymen. You may couple the Super Custom to any size tank or drum exactly as you wish and need.

Now meet the Super Custom, the newest in SOLO's line of sprayers designed to the exacting specifications of professional spraymen. You may couple the Super Custom to any size tank or drum exactly as you wish and need.

Below is the famous SOLO Motor Scythe with 3½ ft. cutter bar, a self-propelled workhorse for mowing stubborn grass and weeds. Excellent for those hard-to-reach places like steep slopes, bridge abutments, drainage ditches, underfence areas, etc. Dealer inquiries invited. Send the coupon for details.

INDUSTRIES

Mr. J. Jung, Manager
SOLO Industries, Inc.
P.O. Box 128, Dept. 76
Woodside, N.Y.

Dear Mr. Jung: I want to know more about your complete line of equipment for weed, tree, and turf work. Please send catalog sheets and specifications. I'm particularly interested in

Now meet the Super Custom, the newest in SOLO's line of sprayers designed to the exacting specifications of professional spraymen. You may couple the Super Custom to any size tank or drum exactly as you wish and need.

UNITIZED CONSTRUCTION IS ONE OF THE BUILT-IN STRONG POINTS OF THE NEW MOTT "88" MOWER.
Classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 1900 Euclid Avenue, Cleveland, Ohio 44115.

Rates: "Position Wanted" 5c per word, minimum $2.00. All other classifications, 10c per word, minimum $2.00. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment.

POSITION WANTED

HERBICIDE MARKETING Specialist, experienced in sales through western distributors, sales management, advertising, sales promotion, and marketing research, desires creative sales opportunity. Western location preferred. Résumé upon request. Box 19, Weeds Trees and Turf magazine.

FOR SALE

CHIPPER, 12-inch, 6-cylinder Ford. Never used. For information, write Box 441, R.D.#1, Egg Harbor, N.J.

Storage Danger Noted

Storage of volatile herbicides near fertilizer and other agricultural chemicals can result in crop injury, reports Dr. Kurt C. Feltner, agronomist, Kansas State University.

Dr. Feltner reminds spraymen that a volatile material is one that can change rapidly from the liquid to the vapor phase. By doing so, it can move readily through the air and contaminate materials stored nearby, he warns.

Scheu Introduces Portable Flamethrower

A quick-igniting flame that carries up to 25 ft. to burn off weeds, brush, or debris makes its new portable flamethrower lighting torch ideal for cleanup operations, according to Scheu Products Co.

A pressurized tank, with safety valve system and hose attached to hand gun, powers the flamethrower. For mobile use the operator can attach the tank to a tractor, jeep, or any truck or trailer flat bed.

The new trigger-controlled flamethrower has a runner mounted 25-gal. tank, 16 in. in diameter by 32 in. long. Total weight, with 10 ft. of hose and the gun, is 93 lbs. Write for complete information to Scheu Products Co., Bin 1, Upland, Calif.

Advertisements

INDEX TO ADVERTISEMENTS

Amchem Products, Inc. 2nd Cover
The Ansul Co. 23
John Bean Div., FMC 21
Burton Supply Co., Inc. 10
Chevron Chemical Co. 26
Colloidal Products Corp. 6
Diamond Alkali Co. 31
Eagle-Picher Co. 29
Fairfield Chemicals 4
Pittsburgh Engineering Corp. 14
Hardie Sprayers 33
Hercules Incorporated 11, 45
H. D. Hudson Mfg. Co. 7
International Harvester Co. 24, 25
Mitts & Merrill, Inc. 35
Morton Chemical Co. 4th Cover
Mott Corp. 4
S. B. Penick & Co. 3rd Cover
Pheps Dodge Refining Corp. 15
Robert B. Peters Co., Inc. 44
B. G. Pratt Co. 10
Ryan Equipment Co. 5
Solo Industries 39, 41, 43
Stauffer Chemical Co. 8, 9
Thompson-Hayward Chemical Co. 3
Union Carbide Corp. 18, 19
Universal Metal Products 34
Vermeer Manufacturing Co. 42

Keep Your Weeds Trees and Turf magazines

In specially designed Permanent Binders

Helps You Keep 24 Full Issues of Weeds Trees and Turf In One Neat Package

Keeps back numbers handy for quick reference
Protects issues from needless damage. Holds 24 issues.
Gives your bookshelf a neat appearance
Magazines can be inserted as they are received

Still Just $3.25

Please send check or money order to
WEEDS TREES AND TURF
1900 Euclid Ave. Cleveland, Ohio 44115

PETERS SPECIAL SOLUBLE FERTILIZERS

Completely chelated all purpose feeds
Contain all necessary trace elements in a completely available form. - - - Contain very effective color tracers - - - Contain effective penetrating agents. - -
Ideal for all types of foliar, turf and root feeding.
Compatible with all commonly used spray materials.
The finest soluble fertilizers ever made! Try them and see!
Inquire from your jobber or write direct to us for further information.

ROBERT B. PETERS CO., INC.
2833 PENNSYLVANIA ST. ALLENTOWN, PA.
Reduce Herbicide Drift
the low-cost way with

VISTIK*

Hydroxyethyl Cellulose

VISTIK is an economical water-soluble thickening agent which efficiently reduces herbicide spray drift. For example, when spraying herbicide at a rate of 12 gallons per acre, the cost of using VISTIK is only 60¢ per acre. No special or expensive equipment needed. Your present air and ground equipment can be employed to apply VISTIK sprays. More profitably, too, for VISTIK can be used under conditions which ordinary sprays will not tolerate.

Easy to handle and to mix, VISTIK spray solutions can be prepared readily for use in less than 10 minutes. Herbicide potency is unaffected... VISTIK simply thickens the water phase used as a carrier.

See a demonstration for yourself.** Contact the Hercules sales office nearest you, or fill out the coupon below. **Cellulose and Protein Products Department, Hercules Incorporated, Wilmington, Delaware 19899.

**A new sound-color movie of an actual VISTIK field trial, available through your local Hercules representative. Just fill out the coupon, and we will be happy to arrange a showing right in your office!

Applications for clearance of Vistik by State and Federal regulatory agencies are currently in progress.

When Writing to Advertisers Please Mention WEEDS TREES AND TURF
Trimmings

Decided. When officers of the Northeastern Weed Control Conference, who had just about decided the Astor Hotel in New York City was a mighty fine place to hold their annual meetings, learned the Astor would not be available in '67 because it was to be torn down, they set out to find another location. Some thought the conference should be held away from the Big City, but most agreed that Manhattan has overwhelming advantages to most delegates. Its easy accessibility, wide selection of eating places, and proximity to the headquarters of many chemical companies won out. The "search" committee decided upon the Hotel Commodore at 42nd and Lexington Avenues. Dates are January 4-6.

A break for CAs? The upcoming pending amendments to the Fair Labor Standards Act will set increasing minimum wages for employees in firms using more than 500 man-days of labor in any quarter during the previous calendar year. No piecework rates will be allowed which pay an employee less than the to-be-established minimums per hour. Also, the amendments will require payment of 1.5 times the regular rate for overtime. This latter requirement may be a real backbreaker for contract applicators whose on-the-road service employees can pretty well pace themselves, and may have to juggle working hours to suit their clients. CAs should obtain legislation relief so their employees can be completely exempted from the overtime provisions on the basis that they work without supervision and sometimes are off in distant places, etc. We understand this same problem faces other "independent workers," such as routemen for soft drink manufacturers, and that well-organized companies in these fields are attempting to get the Labor Dept. to give them relief on this provision. The contract vegetation maintenance and control field should watch these developments carefully. Wouldn't it be nice if there were a national association of spraymen who could have a representative in Washington to speak for their interests?

"Biggest Ever." Another record-breaking convention is coming up, this one by the American Association of Nurserymen at the Palmer House in Chicago, July 16-20. General convention chairman, Elmer Palmgren, says they'll have the largest exhibit of commercial products in history. The formal program is centering around "Management Opportunities"—understanding insurance, how to sell better, how to handle credit, what customers want, etc. And, of course, there'll be the past presidents' banquet and dance with headline entertainment.

Looking for employees? All of us are. Let us help you find them through our Classified columns. Manpower shortages are a major problem throughout the vegetation maintenance and control field.

Fine Soil Combination

An assembly that combines a vibrating screen deck and an elevating conveyor to operate from one power source is now available from Royer Foundry & Machine Co.

Called the Powerscreen 42, the device is designed for preparation of uniformly fine, homogeneous, trash-free top dressing and planting mixtures.

Vibrating action of the screen is produced by an enclosed eccentric, transmitting 1600 cycles-per-minute. Eight coiled springs under the screen deck alternately store and release this energy to achieve a smooth steady screen rhythm. The unit's over 17 sq. ft. of woven steel-screen surface pass processed soil directly onto an elevating conveyor. Utilizing a 16-inch wide troughing-type rubber belt, sealed to prevent leakage, the conveyor assembly extends 12 ft. for truck loading or stockpiling.

Power units available are either a 5 h.p. gasoline engine, or a 3 h.p. electric motor. For additional information on the new screen-conveyor combination, request bulletin PS-42 from Royer Foundry & Machine Co., Kingston, Pa.

Outlines Betasan Data

An 8-page illustrated booklet describing weed control for lawns with Betasan, a selective preemergence herbicide, is now available.

Drawings of 9 annual weeds controlled by Betasan, and explanations of how the herbicide affects weeds at germination, are included in the information piece.

Titled "Betasan Control for Crabgrass and Poa annua in Greens and Turf," the publication has a table giving application rates and a special section on golf courses. Copies of the booklet are available from Stauffer Chemical Co., 380 Madison Ave., New York, N. Y. 10017.

Markal "B" makes a permanent, legible mark on both rough and smooth-bark trees, according to the producer. The paintstick is said to be effective in hot or cold, wet or dry weather. It comes in 10 colors, ideal for color coding. For a free sample write to Markal Co., 250 N. Washtenaw Ave., Chicago, Ill. 60612.
Penick offers a comprehensive variety of formulations for the control of mosquitos, including resistant strains and disease-bearing species, small flying insects, mealybugs, aphids and other turf pests. Combining high killing power with very low mammalian toxicity, these stable, low-odor pesticides are quick-acting and can be stored for extended periods. They’re economical, too. Malathion’s unique ‘reach-out’ capability is just one economy factor. We can tell you about a number of others. Just ask us.