Much of the acreage of sod at Blue Grass Lawn Farms is under water following a heavy rain. Even though ground is wet, mowing is seldom a problem with the wide rubber tire type of equipment.

lem by fabricating 48-inch wide by 48-inch diameter steel wheels. The steel wheels had the needed flotation, but little traction over the wet slick ground or during mowing operations. Gunn mows every other day.

Since adopting the new equipment combination, Gunn claims his company has encountered no wet-weather problems or no loss of sod, and work that required three men and three tractors can now be done with two tractors.

"An increase of over 53 acres of mowing a day has been accomplished," says Gunn. "In addition, the spraying operation has been increased by eight acres daily and fertilizing time has been cut from 10 to 12 days to five and six. That's a fertilizing production increase of 60 acres a day."

Gunn explained that many turf growers have to resort to use of helicopters for spraying in order to fertilize sufficiently during the growing period. "We

With early spring sod care problems solved, cutting and rolling good sod is relatively simple, according to Gunn. Sod is cut 16" x 84" with Ryan cutter and rolled with Ryan roller.
even fertilize in the rain,” says Gunn. “The fertilizer works faster when mixed with water.”

Innovation is not new to the operators of Blue Grass Farms. Harold, Jack, and Owen Gunn, co-founders of the 20-year-old firm, were the first to introduce mass-produced bluegrass sod in New Jersey. They’re considered among the leading producers of top-quality Merion bluegrass in the area. The Gunns were the first in New Jersey to cut and deliver sod in rolls of about one square yard (16x34 inches) which reduced the time factor and labor costs for landscapers. They presently operate over 735 acres, cultivating Merion and Merion-Kentucky bluegrass sod.

Warren’s Develops Hardy, New Bluegrasses

Warren’s Turf Nursery, Goshen, N.Y., has been conducting research on bluegrasses for several years at its national headquarters in Palos Park, Ill.

Warren’s Shade Bluegrass (A-34), tested under varying conditions, will tolerate up to 65 per cent shade, says the company. Its similarity to Merion (not shade-tolerant) makes it an ideal grass to plant in partially shaded areas of lawns where Merion or Kentucky bluegrass is used in sunny areas.

A bluegrass designated “A-20” has proved to be resistant to rust, mildew, smut and leafspot, says Warren’s. It makes a dense, dark green turf but does not develop thatch as readily as most bluegrass due to its upright growth characteristics.

Warren’s A-10 Bluegrass, tested in hot, humid climates where Kentucky bluegrasses do not usually grow well, has indicated a temperature adaptibility range from −20° F to +100° F, reports Warren’s. It retains a dark green color throughout the growing season.

Two other new bluegrasses—A-25 and A-26—do well with a mowing height of only ¼ inch and can be used ideally for home-putting greens, croquet courts and other play areas, according to the company.

Tour Stimulates Interest in Bluegrass Production

W. J. Walden, Kentucky’s major producer of Bluegrass, recently hosted a “Bluegrass tour” of his farm at Midway, Ky., designed to stimulate interest in Bluegrass seed and sod production.

Sponsored by the Kentucky Seed Improvement Assn., the Kentucky Department of Agriculture and the Cooperative Extension Service, the tour was attended by some 75 farmers, agronomists, county agents and state officials.

Of particular interest during the tour were the new stripper-loader unit that enables two men to do the work of 28 and the one-man sod cutter that can cut sod as fast as an operator can walk. These machines helped demonstrate how sod production—at low expense and with minimum labor — can earn $350 or more per acre, according to Walden’s reports.

Walden claims that Bluegrass grown from seed of Kentucky origin has proved superior in performance. Despite this fact, however, of the 40 million pounds of seed marked and sold as Kentucky Bluegrass last year, only 184 thousand pounds were produced in Kentucky, says Walden. Since 1960, he explains, foreign importation and competitive production of seed in northwestern states have resulted in a drastic decline in the production of Kentucky Bluegrass seed.
There's More Than One Way To Skin a Bug, Says Koval

Chemicals will probably always be used for insect control, according to Charles Koval, University of Wisconsin Extension insect control specialist, but in more refined techniques and in forms other than presently known insecticide sprays.

For example, use of attractants — food, habitat or sex or a combination of these — that draw insects from large areas into traps may replace insecticides, he says.

Artificial foods, substituted for natural foods, can be treated with non-toxic insecticides to kill insects drawn to a trap.

Habitat ammonia bait draws flies to a jar where they proceed to lay their eggs. In this manner millions of eggs can be destroyed, thus greatly reducing the population of the next fly generation.

An example of using sex attractants can be seen in peach borer control. One female borer in a trap draws large numbers of males within a half-mile radius into the trap, says Koval. With the development of synthetic materials to replace live females as the attractant, this will be one of the cheapest insect control methods available, he predicts.

Sound waves can also be used to kill insects that would be difficult to control with other methods, especially those species in stored grain, says Koval. The frequency does the killing, not the volume.

Development of new plant varieties offers another method of insect control. Some plants "taste bad" to insects and others prevent young insects from developing. The gingko tree is an insect-resistant plant virtually free of insect attacks, according to Koval.

Another method of control is to use systemic insecticides, which prevent a buildup of insect populations so that the situation never gets out of control, according to Koval. These insecticides are absorbed through plant roots and kill insects feeding on the plants. They produce no surface residue or wind drift to damage other crops and do not persist in soil, Koval points out.

A simple and cheap means of insect control for most homeowners is the washing method. A high-pressure stream of water from a garden hose knocks insects off shrubs and bushes, removing them from their food source and upsetting their life cycle so that they die, Koval said.

Plastic sheets buried 20 inches below ground level save moisture for golf green turf. Dr. W. H. Daniel, above, Purdue University turf specialist, examines core of turf-topped sand from test golf green. Plastic laid beneath ground surface serves as a "stopper" for moisture. Daniel says this is similar to the old kerosene lamp idea. The plastic barrier serves as the container, and water rather than kerosene seeps up through the sand which is the wick and helps maintain a healthy turf. Coarseness and depth of sand can be varied, according to Daniel. He finds that turf stays moist and green longer, needs less water, and develops deep roots. Also, the turf wears well. He suggests the barrier may be equally practical on athletic fields.

WEEDS TREES AND TURF, October, 1968
New Products... Designed for the Vegetation Control Industry

New addition to the line manufactured by Ramey Hydraulic Loaders, Roseburg, Ore., is the telescoping straight boom model called the "INVINCIBLE" 1-145. Truck-mounted for maximum portability to any jobsite, the new loader boasts a rated lifting capacity of 10,000 lbs., according to Ramey. Boom sections are entirely of high tensile steel; maximum horizontal reach is 36 feet, vertical reach is slightly over 46 feet. Dual-side controls allow the operator to function from either side of the unit. The full 370° swing and extra-wide outrigger spread add to the loader's versatility. The unit is currently being used in water and sewage works construction, bridge maintenance, sign erection, pipe laying, home building and railway and truck unloading, according to the company. For more details circle (701) on reply card.

Slope Tractor Co., Harper, Kans., recently introduced its Slope Runner model, a tractor-mower that can operate on steep embankments without overturning. The rugged unit features hydraulic sloping controls that provide for maximum safety. By simply adjusting a lever, the operator can adjust the wheels and mower assembly to side slopes up to 30 degrees. As the unit "leans" into an incline, weight shifts to the wheels on the uphill grade. The mower, positioned beneath the tractor and mounted from the rear axle, automatically follows the inclination of the axle and assures the operator that the mower blade is parallel to the surface being mowed, says Slope Tractor. Eight forward, two reverse speeds range from 1 to 20 miles per hour. Attachments available include: posthole digger, rear trencher, grader blade, grass seeder, sprayer, front-mounted broom and flail- and sickle-type mowers. For more details circle (703) on reply card.

Rite Hardware of Glendale, Calif., has added a disposable, air-supported hood to its Whitecap line. Ideal for situations requiring respiratory safety but not necessarily hard-hat protection, says the manufacturer. The durable, polyethylene hood assures an airtight fit, has Mylar faceplate bonded in front for wide, clear vision. Snug-fitting, reinforced vinyl vest resists most solvents and chemicals. For more details circle (702) on reply card.
Asplundh Tree Expert Co., Jenkintown, Pa., has developed a combination tree wound dressing/sprout growth inhibitor that is packaged in an all-weather operational aerosol. Asplundh Inhibitor-Fortified Tree Paint can be effectively applied at any time during the year. For more details circle (708) on reply card.

Ryan Equipment Co. has made available Ren-O-Thin, a new rental thatch-cutting and turf-renovating machine that limits user-adjustments to merely raising or lowering the cutting blades. The unit incorporates the design and construction of the institutional Ren-O-Thin but has eliminated the clutch and throttle for more maintenance-free operation in the rental market, says Ryan. Quick-change flail reels reduce costly down-time. For more details circle (706) on reply card.

Smithco, Inc., Wayne, Pa., has introduced two separate Two-Wheel Vehicle Trailers designed especially for large carrying capacities required by golf courses and parks. Available in 16 or 23 cu. ft. capacities, the units are equipped with ramp-type tail gates for easy loading and hitches that fit most mobile carriers. A "train" of these trailers can be delivered to various locations in the morning, then can be picked up individually throughout the day. This, says Smithco, permits the driving unit to provide other functions while trailers are being loaded by personnel. For more details circle (704) on reply card.

Rain Bird Mfg. Corp., Glendora, Calif., is now marketing a moisture-sensing device that "tells" an automatic sprinkler controller when water is needed in the soil. Called an "Urometer," the device can reduce the amount of water used in automatic irrigation by as much as half, says Rain Bird. For more details circle (707) on reply card.

A new TH model series of Goebel Scissors Hoists can be installed on any straight truck with a 1 to 2½-ton chassis. Goebel's dashboard-controlled hydraulic system enables a driver to deposit any load up to 13 tons in just 20 seconds... without having to leave the cab, says Summers Mfg. Co., Maddox, N.D. Goebel's 45° dumping angle ordinarily requires no manual clean out. For more details circle (705) on reply card.
KNOW YOUR SPECIES

HIMALAYA BLACKBERRY
(Rubus procerus)

There are many species of blackberry (all in the genus Rubus in the Rose Family), but the specific one referred to here is the Himalaya blackberry (R. procerus). Native to Europe and parts of Asia and North Africa and now widely spread throughout the world, it has escaped from cultivation and become a serious weed problem in this country—especially along the Pacific Coast. What appears to be the same plant, but given a different specific name (R. fruticosus), escaped from cultivation in Australia and New Zealand, where it is considered a noxious weed. It is sometimes said that the western side of New Zealand's South Island has only one blackberry bush, but that bush is 100 miles long.

Himalaya blackberry is a sprawling evergreen bush that may reach a height of 10 feet, with trailing stems up to 20 feet long. The stems or canes vary from green to reddish-purple in color and have numerous hooked or straight thorns or prickles from ½ to 1½-inch long. Prickles also occur on the leaf petioles. The leaves generally have five leaflets, although those on the flowering canes sometimes have only three. Leaflets are roundish to oblong, 4 to 5 inches long, serrate, with tapering apices. The flowers are formed in large terminal panicles, each flower being about 1 inch across and having five white or pink petals and numerous stamens and pistils. The fruits are roundish—red when young and shiny black at maturity—with large, succulent drupelets.

New canes are produced each year from the crown, replacing those which die naturally within a few years time. New plants are started by rooting from the tips of parent plants as well as by seeds that germinate in the fall or spring. These seeds, however, generally will not survive unless they happen to fall on bare ground or where moisture conditions remain good. If they do survive their first year they become vigorous, especially in moist areas. It is noteworthy that although Himalaya blackberries are most troublesome in moist sites or along ditches containing flowing water, they can also occur on the margins of such areas, where they are on dry ground in the summer.

The first step in controlling Himalaya blackberries is to drain the land, if possible, or at least to attempt to improve the drainage. Control is difficult—and in many cases totally unsuccessful—when the plants are allowed to remain in water. If the veins are growing on banks or on dry land, however, effective control can be achieved with persistence; the following discussion refers to plants growing under these conditions.

The plants should be thoroughly sprayed in June or July while in the flowering or fruiting stage of growth. Picloram or ester forms of either 2,4,5-T or silvex are effective sprays. Burning the dead canes in November or later, when burning conditions are good, will greatly aid in treatment of the regrowth. The sprouts should then be sprayed the following June or July, after they have become well established. Some retreatment the third year may be required to achieve complete control.

Of the herbicides mentioned, picloram is the most effective, as a relatively high degree of control may be attained after a single application (when the plants are not standing in wet ground). However, hazards involved in its use are important considerations, and as a consequence 2,4,5-T and silvex are currently in more common usage.
Suppliers’ Changes

The National Fertilizer Solutions Assn., Peoria, Ill., announced two personnel changes. Richard L. Gilliland was named Editor of Fertilizer SOLUTIONS Magazine, the association’s official publication. Nancy Chamberlain was named Advertising Manager of the magazine. The association represents chemical manufacturers, major oil companies, equipment manufacturers and dealers of the liquid fertilizer industry.

Dr. Robert J. Schramm, Jr., has been appointed associate professor of ornamental horticulture in the College of Agriculture plant science department at the University of Connecticut.

E. J. Lott, Purdue University extension forester, is the new secretary-treasurer of the Indiana Hardwood Lumbermen’s Association.

Victor P. Moore has been promoted to Manager, Manpower Development of the Agricultural Chemicals Division of Geigy Chemical Corp. He will be responsible for management training, salary administration, job evaluation and organization planning.

Diamond Shamrock Corp., Cleveland, O., has established a regional sales office in Fresno, Calif. Harold A. Branson has been appointed regional sales manager of the new office.

The company has also appointed Charles L. Troph as manager-market analysis and planning for the Agricultural Chemicals Division and Ronald L. Dezember as product manager for the Division. Succeeding Dezember as agricultural sales specialist in the Ohio area is Roger E. Gilmore.

Elanco Products Company, Indianapolis, has announced that Robert B. Love, John W. Garrett and David E. Smith have joined the company as agricultural chemicals sales representatives.

John R. McCloud has been named Area Manager for Nutro Turf & Garden Products, Bord- den, Inc., Chemical Division, which markets the NUTRO line of plant foods for home and garden use and Greens & Fairways Turf Foods for institutional and golf course use.

Melvin C. Tucker, Director of the Division of Plant Industry of the Arkansas State Plant Board, has been elected Chairman of the Southern Plant Board. Vice-chairman is Halwin L. Jones of Florida; Secretary-Treasurer is Carl M. Scott, Jr. of Georgia.

California’s Rain Bird Sprinkler Mfg. Corp. has named Jimmie Blackledge their Florida Sales representative.

The Eastern Chapter of the National Agricultural Advertising and Marketing Assn. recently elected Raymond E. Evans a Director for a two-year term. Mr. Evans is Advertising Supervisor of the Agricultural Chemicals Division, Amchem Products, Inc., Ambler, Pa.

The University of Delaware’s Cooperative Extension Service has announced two staff changes: Frank E. Boys will assume the duties of extension entomologist Donald MacCreary, who recently retired; replacing Boys as agricultural chemicals specialist is John S. McDaniel, who has been in the agribusiness community since 1950.

The university’s College of Agricultural Sciences announced its establishment of two new departments. The department of agricultural engineering, to be headed by professor Ernest N. Scarborough, will deal with engineering problems involved in the production, processing and handling of food and fiber; the department of plant science, with Dr. Merle R. Teel, chairman, and Dr. Wayne Kussow, will increase coordination in teaching, research and extension programs in plant pathology, agronomy and horticulture.

Neil R. Mitchell has been appointed Assistant General Counsel for Velsicol Chemical Corporation, Chicago. Mr. Mitchell recently returned from Brussels, Belgium, where he had served as staff attorney for the European area for Dow Corning Corporation.

Ralph P. Mickow has been promoted from General Credit Manager to Director of Distribution for Velsicol. Mr. Mickow will now be responsible for the handling and distribution of all Velsicol products in the United States and 70 foreign countries.

Thompson-Hayward Chemical Co., Kansas City, Kan., has designated R. Shaw Fletcher agricultural technical sales representative of its Planter’s Chemical Division at the Americus, Ga., branch office.

Thomas J. White has been appointed Manager of American Cyanamid Co.’s (Princeton, N. J.) newly created Pesticide Department. Reporting to Mr. White will be Pesticide Dept. Sales Manager, Morton McDonald, plus Product Managers A. R. Hoagland, E. B. Potter and N. D. Tankersley.

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Research Impressive. Spent an enlightening day recently at Marysville, O., with Dick Bangs, who is an agronomist at Scotts. This visit was a first for me and the Scotts research program is far greater than I anticipated. Was especially impressed with their shade studies which encompass trials among forest type trees with varying degrees of sunlight. Their turf studies and fertilizer plots are extensive as expected but they also have some new basic research which will prove helpful in the industry. And if anyone is at all skeptical, that Windsor sod on concrete continues to thrive after three years. It receives Scotts Turf Builder and water as needed and looks better than anything around.

* * *

A Real Pro. Met Tom Graham this month for the first time and found that he lives up to his reputation as a professional sprayman. He is a veteran pest control operator who started a new business in contract application some 20 years ago and has become one of the foremost in the business with his Industrial Weed Control Company, as well as maintaining his PC business. His contracts with industry are extensive and his record for maintaining capable, experienced and loyal employees is hard to beat. He has a profit-sharing plan patterned somewhat after that of Sears and his people get the job done. He is moving rapidly into aquatic weed control because of need and demand and foresees a big increase for this phase of weed control. We'll have a complete story shortly.

Note for Bird Watchers. If a noted ornithologist is right in his belief that half the bird population has to die each year or serious overpopulation results, then we can quit worrying about the few which might be killed by chemical spraying. We read this heretofore unknown facet of birdlife with special interest, and in almost the same week, the fact that Ohio farmers alone suffer $15 million yearly in crop damage from blackbirds. Changing land-use patterns by the citizenry is the greatest hazard to our birds, again quoting the same ornithologist.

* * *

Licensed For Spraymen. About 35 states now require that spraymen be licensed and this proves to be extremely important to contract applicators who cross state lines as business demands. We are putting together a round-up of state requirements for benefit of applicators and will feature it shortly. This past week, I spent the day with Freeman E. Biery, state regulatory agent in charge of the Kansas noxious weed program. He is typical of the state regulatory agency personnel who regularly appear before state legislators to help guide and keep in perspective the constant demands for restrictive legislation regarding weed control. The scope of such activities is impressive and Kansas spraymen are fortunate to have a man of Biery's capabilities at this level of state government.

Insect Report

- WTT's compilation of insect problems occurring in turfgrasses, trees, and ornamentals throughout the country.

Turf Insects

- CHINCH BUG
  - (Blissus leucopterus)
  - Abilene: Heavy, damaged 2 St. Augustine grass lawns in Montgomery and Dallas Counties.
  - New York: Still active in Nassau County lawns; bentgrass most affected.

- LYGAEID BUGS
  - (Blissus hirtus)
  - Pennsylvania: Moderate to heavy in lawns of housing development in Venango County; problem past few years.

- (Nysius sp)
  - Nevada: Migrating from vacant lots and rangelands into yards and buildings in Washoe and Douglas Counties.

- GRASSHOPPERS
  - Illinois: Abundant in some roadways, ditches, fencerows, and grass waterways. Some migration into corn, soybeans, and hay.

- TWO-LINED SPITTLEBUG
  - (Prosapia bicincta)
  - South Carolina: Adults unusually numerous in Clemson area. Yellowing appearing and heavy damage imminent. Damaged 3 acres of Coastal Bermuda grass.

Insects of Ornamentals

ARMORED SCALES

- COOLEY SPRUCE GALL APHID
  - (Adelges Cooleyi)

- SOUTHERN PINE BEETLE
  - (Dendroctonus frontalis)

- VIRGINIA: No increase in beetle activity evident except in Mecklenburg County where 6 new infestations reported during July.

- A LEAFHOPPER
  - (Japonanus hyalinus)

- OREGON: Late instars and adults common on ornamental maple at Corvallis, Benton County. Previously recorded in State from Portland only. This is a new county record.

- LOCUST LEAF MINER
  - (Xenochalepus dorsalis)

- VIRGINIA: Moderate to heavy on locust trees in Montgomery, Roanoke, Botetourt, Bedford, and Campbell Counties.

- GELECHIID MOTHS
  - (Exoteleia nepheos)

- MICHIGAN: Collected at Jenison, Ottawa County, for third known infestation in State. Noted at West Olive, Ottawa County, this summer and at Bellville, Wayne County, in 1966.

- AN ARMORED SCALE
  - (Fiorinia externa)

- MARYLAND: Found on hemlock planting near Chestertown, Kent County, Aug. 19, 1968. This is a new county record.

- FALL WEBWORM
  - (Hyphantria cunea)

- NEW MEXICO: Minor problem on shade trees at Santa Fe, Santa Fe County.

- WISCONSIN: Caused slight damage to variety of trees in several counties.

- OREGON: Yellowing common through central to eastern counties. Defoliation of various deciduous trees heavy this year. Larval numbers appear near seasonal peak.

- ASIATIC OAK WEEVIL
  - (Cyrtepistomus castaneus)

- ARKANSAS: Collected on 'trees and shrubs in Garland County July 22 for new State record.

- ADULTS heavy and annoying about houses in Cleburne County; no damage to trees or shrubs.

Compiled from information furnished by the U.S. Department of Agriculture, university staffs, and WTT readers. Turf and tree specialists are urged to send reports of insect problems noted in their areas to: Insect Reports, WEEDS TREES AND TURF, 9800 Detroit Ave., Cleveland, Ohio 44102.

Tree Insects

- COOLEY SPRUCE GALL APHID
  - (Adelges Cooleyi)

- WYOMING: Heavy on Colorado spruce at Laramie, Albany County; emergence of early August continues.

- SOUTHERN PINE BEETLE
  - (Dendroctonus frontalis)
Here is the most precise grass seeder made...

**The NEW Brilllion TURF-MAKER with exclusive Micro-Meter adjustment**

The Turf-Maker is the best money-maker available to professional landscapers, turfmen and sod growers. It combines ruggedness and Swiss watch calibration for precise seeding of the finest grasses and lawn mixtures over large areas — and assures full, thick stands at about half the seeding rates of conventional methods. Because it crushes, seeds and rolls in one operation, Turf-Maker enables one man to seed up to 50 acres per day without extra help, equipment or other seedbed conditioning.

Look at the exclusives. Brillion's unique Micro-Meter adjustment provides an infinite number of settings for precise metering of the finest seeds. The fluted feed rolls — one of the most accurate seeding mechanisms known — dole out even the tiniest seeds with miserly accuracy. Reversible two-speed sprockets give you an additional range of seeding rates to match any requirement. The specially designed and slightly offset notched wheels tuck the accurately metered seed into the top $\frac{1}{2}$ of the gently-firmed, moisture-retaining seedbed for rapid germination and growth.

Turf-Maker is available in 8' and 10' seeding widths, with drawbars and 6½ and 7½ bushel seed boxes. Options include transport wheels for both sizes, and 3-point Category II pick-up for the 8' seeder. Buy Turf-Maker, the money-maker. Mail coupon for details.