are the Gang Mowers, the Sportcutter (a 10-unit mower) and the Magna (a 12-unit mower) for cutting grass up to five inches and eight inches high, respectively. The Certes 16-inch and the 20-inch Auto-Certes are both hand putting mowers.

York Modern Corp. introduces its Professional, Model Pro rake, which allows the rake angle to be changed hydraulically from the tractor seat to an infinite number of rake angle positions.

John Bean Div., FMC Corp., offers the Rotocast air spraying attachment mounted in conjunction with hydraulic sprayer featuring remote hydraulic controls and controlled pattern and direction.

The Turfkeeper, models 1010-G and 1010-GE, is a compact, versatile golf course sprayer designed for use with utility-type vehicles. The 1010-G has a 100-gallon fiberglass tank, a lightweight, three-section 15-foot boom with five-foot fold-away wings, 18 nozzles spaced at 10 inches. It requires 860 rpm on the power take-off to operate the Royalette Pump—10 gallons per minute at up to 500 pounds pressure; V-Belt PTO drive with guard; and a Mechanical Agitator to keep the spray solution mixed. The 1010-GE offers an alternative choice of a completely self-contained golf course sprayer with a gasoline engine drive.

TURF PRODUCTS, SPRAYERS

Agrico Chemical Company makes turf products.*

Aquatrols Corp. of America offers Aqua-Gro, Aqua-T and Aqua-Gro Granular soil wetting agents and Stoma-Seal chemical control for Wilt.

Borden Chemical Inc., announces Greens & Fairways NO PHOS 15-0-15, which is designed for Poa annua control.

Greens & Fairways 10-3-7 Bug Knocker contains Chlordane for insect control plus 1 per cent iron.

The Broyhill Company has its 960 Series of high pressure turf and industrial sprayers with a tank capacity of 230 or 300 gallons. The pumping system contains a four piston 10 gpm at 500 psi driven by nine hp engine.

The 1660 Spra-Mate Series features a 150-gallon tank with an epoxy lining. The trailer is a low silhouette with 9.50 by 8 inch flotation tires or with standard 14-inch rims.

Certified Laboratories introduces Turftec W/A, which kills and controls snow mold, dollar spot, pink patch, bluegrass blight.

Liquid chemicals include fertilizers: Ever-Green and Lawn-Green; chelated iron: Soil-I-Ron; soil penetrant: Deep Penetrant; weed killers: C-100, AS-90, C-300, C-795; crabgrass killer: C-400; soil sterilant: AS-655; fungicide: L.T.F.; insecticide: BP-977 and foliage spray: All-Safe.

In the Comet-II System, products include Com-Gro concentrated liquid plant food; Com-Pen penetrating chemical concentrate; Com-Kill weed killer; Neutra-Plus micronutrient supplement; Aptrex soil sterilant; Multi-Cide, for exceptional municipal insect control; Senti-Cide insecticide and the Comet II.

Chanderlin Seed Company, Inc.*

Chemagro Corp. offers Dyrene turf fungicide, which controls blight, leaf spot, melting-out, copper spot, rust, dollar spot, brown patch and snow mold for two weeks or longer and Dexton turf fungicide for the control of pythium cotton blight.

Chemical Systems Corp.*

W.A. Cleary Corp. makes PM-AS herbicide-fungicide for the prevention and control of crabgrass and other turf diseases. Methar products, used for killing crabgrass, are available in liquid and powder forms. Cleary also puts out Spotrete, a dry 75 per cent Thiram fungicide, Caddy, a liquid cadmium fungicide and Thimer, a dry, broad spectrum fungicide.

Cloro-Spray Corp. features Ferro-Spray Plus, a high analysis liquid fertilizer combined with an iron chelate solution, which is soluble in cold water and will remain stable. Price: $3.95 a gallon. Dew Down Xtra organic wetting agent contains chlorophyll, enabling plants to carry on photosynthesis.

Diamond Shamrock Chemical Company offers Dacthal, a pre-emergence weed control product for crabgrass and Poa annua, available as a wettable powder and a 5 per cent granule. Daconil 2787 is a broad spectrum non-mercurial fungicide. Dacamine is a proprietary postemergence weed control herbicide for controlling thistles, knotweed, dandelions and other hard to kill broadleaf weeds. Dacagin spray adjuvant is used with herbicides for minimizing drift control when spraying around shrubs and ornamentals.

Doggett Fison Company offers the Hydro-Matic System which fertilizes while watering. The system consists of a water sensing device that precisely measures each gallon of water pumped from the main well pump. This measurement is carried electronically to the Translator which directs the feed control pump to auto-

*Information was not available at press time

continued on page 82
 automatically inject a pre-set ration of fertilizer solution in direct proportion to the water flow.

E. I. DuPont de Nemours & Company, Inc., introduces two fungicides—Tersan LSR and Tersan SP. Tersan LSR is a non-mercurial turf fungicide for the prevention and control of large brown patch, rust and leaf spot. Tersan SP is also a non-mercurial fungicide, but for the control of snow mold and pythium.

Eagle Picher makes Dialoam, a turf conditioner composed of a granular diatomite material.

Elanco Products Company makes Balan Granular, a pre-emergence weed killer, which is said to control *Poa annua*, crabgrass and other annual weed grasses from germinating and growing.

Hercules Inc., introduces Azak, a crabgrass control designed for pre-emergence application on established lawn and other turf areas.

Powder Blue in fine, insoluble powder form is a slow-release nitrogen fertilizer for turf.

Nitroform fertilizer combines the proper amounts of ureas and formaldehyde for use on turf and ornamentals.

Hudson Mfg. Company offers the 200-gallon Peerless Power Sprayer with stainless steel tank and flotation tires. A wide range of accessories is available.

J.M. Huber Corp.*

Kem Mfg. Corp. offers a complete line of turf maintenance chemicals featuring the "one shot" turf treatment containing nutrients, micro-nutrients and soil conditioners in a stable homogenized blend.

Norkem 100, 200 and 300 are compatible chemicals that can be blended to rate desired. In addition, there is a selection of herbicides for weed control, grass control and soil sterilization.

Also developed by Kem is a line of preventative maintenance materials as well as protective coatings for all equipment used by superintendents.

Mallinckrodt Chemical Works introduces the Spray-Hawk mobile turf sprayer with positive on-off spray with pistol grip control. No-drip nozzles automatically close when pressure falls below three psi. Made of corrosion-resistant steel tubing, it cuts misting and wind drift to a minimum.

Also offered are turf chemicals: Kroma-Clor broad-spectrum turf fungicide with mercury, Ultra-Clor broad spectrum fungicide without a color ingredient, Kromad broad-spectrum fungicide, Calo-Clor mercuric-mercurous chloride fungicide, Calo-Gran dry granular mercurial fungicide, Cadminate cadmium fungicide, Thiramad-Plus fungicide combining 75 per cent thiram component and 10 per cent iron sulfate, Thiramad 75 per cent thiram fungicide, Phenmad 10 per cent PMA organic mercurial fungicide, Spring-Bak for control of spring dead spot of bermudagrass.

Millburn Peat Company will exhibit its peat moss for new green construction, top dressing and landscaping.

Milwaukee Sewerage Commission offers Milorganite Fertilizer, a standard organic fertilizer for golf courses.

The F. E. Myers & Bros. Company introduces the model series 7020 turf sprayers. This series consists of six trailer models with electric start engines or power take-off drive. Models are available in 300 to 400 and 500 gallon tanks with 20 gpm Myers spray pumps or the optional 10 gpm piston pump for pressure ranges to 800 psi.

Additionally, Myers will show for the first time, Mity-Mist PTO air sprayer designed for multiple chemical applications in turf club maintenance.

National Chemsearch Corp. introduces its new Computerized Soil Analysis Program designed to provide fertilizing tailored to specific turf and soil needs. Soil analysis results from its agronomist are fed into National Chemsearch's IBM System 360 Computer to determine specific turf needs.
requirements and assure more dramatic results with whatever labor and time a turf care program now has available.

In addition, National Chemicalsearch offers a complete line of liquid fertilizers, herbicides, fungicides, penetrants and supplementary fertilizers.

Northrup King & Co.*

Occidental Chemical Company, makers of turf products and custom-formulated fertilizers, introduces Zipp, a turf fertilizer using polyphosphate. It also contains chelated iron and zinc plus sulphur.

*Information was not available at press time

Oil Dri Corp. of America introduces Terra Green Special Top Dressing in addition to its Terra Green Soil Conditioner.

Pen-Gro Sales Company*

Plant Marvel Laboratories makes 100 per cent water soluble and liquid fertilizers.

Rhodia, Inc., Chipman Div., has a wide variety of dry and liquid products for use on golf courses and other turf areas. Chipco products include fungicides, insecticides, weed killers and wetting agents.

Rogers Mfg. Company, subsidiary of Jacobsen, offers the Sprayer, featuring a 130-gallon tank, high pressure centrifugal pump powered by a shock mounted five hp engine. The 15-foot spray boom comes equipped with 18 spray nozzle assemblies.

Scotts introduces four new Polyform fertilizers—ProTurf Fertilizer for balanced feeding, Nitrogen Fertilizer for an all-nitrogen feeding, Nitrogen Plus Plant Available Iron for iron-deficient soils and Super Fertilizer for extra-long lasting feeding. Other Pro-Turf products include weed controls, insecticides, fungicides and seeds. In addition, Scotts also makes the Model 100 and Rotary type spreaders and the Silent Scotts handmower.

Smithco, Inc., introduces the Spray Mate spray outfit for spraying greens and tees and other special turfgrass areas. It consists of a 65-gallon tank, a Hypro pump capable of developing 500 pounds pressure, a nozzle, hose and 15-foot boom. It is completely self contained on four wheels so that it can be pushed into the back of the
Red Rider by one man. List price is $750. The Red Rider for 1970 has been completely engineered so that maintenance will be minimal.

Stauffer Chemical Company offers the following crop protection chemicals: Aspon, to control chinch bugs on lawns and turf; Betasan, for pre-emergence control of crabgrass and annual bluegrass; Ep- tam, for the selective control of several hard-to-kill perennial weeds, annual grasses and many annual broadleaf weeds; Trithion, a multi-purpose insecticide for lawns and turf; Vapam, a soil fumigant which controls weeds, weed seed and certain soil-borne diseases.

Swift Agricultural Chemical Corp. makes Par-Ex Supreme, a complete plant food for greens, tees and fairways which contains a patented source of nitrogen. Swift also offers a complete line of Par-Ex pro turfgrass products and services for professionals.

Thuron Sprayer Mfg. Company introduces the Thuron Brahma-25 for 1970. It has a 25 gpm at 800 psi featuring the Brahma-25 pump. It has a 300-gallon fiberglass tank with mechanical agitation and is powered by a balanced Wisconsin TJD, 18hp engine or tractor PTO.

Also new is the Thuron Super Lark, a 10 gpm at 400 psi with five hp engine and 110-gallon fiberglass tank with mechanical agitation. Easily loaded and carried by two men and fits all trucksters, trucks and pickups, it is available with 16-foot swing-away spray boom.

The Thuron Hawk is a 10 gpm at 500 psi with the Eagle-10 pump.

Tuco, Div. of The Upjohn Company, manufactures Acti-dione turf fungicides. The Acti-dione line of broad spectrum fungicides is recommended for the prevention and control of most turf diseases on bentgrass, Kentucky and Merion bluegrasses, fescues, bermudagrass and St. Augustine-grass.

USS Agri-Chemicals offers a complete line of Vertagreen turf foods and Vertagard turf protection chemicals. For tees and greens, Vertagreen offers Tee Green and Ureaform, for fairways there is Vertagreen Tournament Plus, Tournament and Weed & Feed, for special purposes there is Vertagreen fertilizer.

In the Vertagard line there are herbicides—MCPP, MCPP/2, 4-D, 2, 4-D, 4 Lb. Amine, Betasan 4EC and Betasan 12.5%; fungicides—Fore, Thiram-PMA, Liquid Cadmium, Mercurial Turf Fungicide (granular), Mercurial Turf Fungicide (wettable powder), Thiram W.P. 75 and PMA 10%; insecticides—Chlordane 8.0 E.C. (liquid), Chlordane 25% (granular) and Malathion 5 E.C.

In addition, there is the Vertagreen Rotary Spreader, made of a rust-proof stainless steel control wire, which is said to spread evenly without having to follow wheel marks or other guides.

Velsicol Chemical Corp. introduces two products—Banvel 45, for killing deep-rooted weeds and Banvel 45 + 2, 4-D, which is said to control broadleaf weeds in turf with one application. Fungicides made by Velsicol include 2-1, Memmi 8EC, Thiram-PMA, Thiram 75 and PMA 10.

Verde Lawn, Inc.*

Vineland Chemical Sales Corp. offers a problem solver chart listing the type of turf problem and the turf product to use in order to solve the problem. Selected products include Dal-E-Rad, Super Dal-E-Rad selective dallis grass destroyers, Vi-Par herbicide for control of broadleaf weeds in turf fairways and lawns, Thiuram-M, a broad spectrum fungicide, and Vichem Green, which colors lawns a rich natural green.

Warren's Turf Nursery offers A-20 bluegrass. This stiff bluegrass is resistant to rust and striped smut and can be used for tees, greens and fairways. Available in sod or plugs.

ACCESSORIES

Container Development Corp.'s Lewis Line offers a wide selection of tee and green equipment. For ball cleaning, there are four models: the GF-68 Water Boy; the GF-52 deluxe washer with 36 square inches of nylon brushes; the compact GF-5 and GF-6 or GF-7, the Old Stanby. Lewis also makes brightly colored flags for every purpose; fluorescent poles, which can help the golfer spot the cup from 150 years out; cup cutters, the Chamfered Pole and cup, which can be used in heavy winds; practice tee and green markers in four colors; lightweight rakes; the Bulldog cleat cleaner; and the fiberglass Tee Marx.

Foley Mfg. Company offers the Rotary Mower Blade Grinder (model 398) featuring a blade balancer. It is designed to provide hollow ground cutting edges on all rotary mower blades. Equipped with an electric motor, it has sealed ball-bearing, produces one-third hp and operates at 3450rpm. Price: $105, with motor. The Lawn Mower Grinder (model 388) performs all grinding operations necessary for reel mower maintenance without dismantling mowers. Price: $498.50, with motor. The Modern Lapping Ma...