AERATE 10 TIMES FASTER, REMOVE 3 TIMES MORE SOIL... WITH THE NEW CUSHMAN AERATION SYSTEM.

The amazing new Cushman Greensaver attachment provides penetration down to 2-1/2", yet gets aeration and cleanup done up to 10 times faster than most methods.

Attachment is simple. Just put the two interlocking weight bins on your 3- or 4-wheel Turf Truckster chassis (equipped with hydraulic system), slide in three quick-release pull pins, add sand for weight, and you're ready to go.

You drive between work areas quickly, saving time. When you reach a green, just use the hydraulic lever at your side to lower the Greensaver into the turf. You keep moving, aerating at speeds up to 6 mph.

The inexpensive and easily-changed tines leave a neat 3-1/4" x 4" pattern of holes. The unique tine shape eliminates any pivoting action, allowing them to go deeper without damage to the green surface. So you can remove up to three times more soil than with other drum-type aerators.

But the Greensaver also makes the aerating operation faster by automatically picking up the soil cores. As the tines enter the ground, the cores are forced through the tines into the drum. When it's full, just open the large door to empty it. Or you can leave the sides of the drum open, to deposit the cores on the green.

And the Greensaver features a special turf guard and roller which smooth the turf and prevent the sod from rolling up on the drum.

The new Greensaver is just one more way to put your 18-hp Turf Truckster to work. With other accessories, your Cushman can spray, spike, dump, and top-dress. Use it. It's more than basic transportation. It's a total turf-care system.

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CUSHMAN TURF-CARE EQUIPMENT

Circle 136 on free information card
Course updates landscaping theories

Just drive down the street of any town and you can see a variety of trees and plants in homeowners' landscapes, says Fred Buscher, Ohio extension agent, horticulture. Although many of the plantings are pretty and traditional, most make up unusable landscapes that have been outdated for 70 years!

This situation, which is commonplace in urban areas, has prompted Buscher to set up a series of landscape design short courses for residential properties.

A second advanced course in the series was held in December at the Ohio Agricultural Research and Development Center. Landscape contractors and nurserymen from around the state took advantage of the course to sharpen their skills for solving landscape problems using plants, pavements, and structures.

Buscher says that Ohio ranks only third behind California and Florida in sales of nursery products, but little has been done to develop the nurseryman's skills in designing home landscapes that are functional as well as aesthetically pleasing.

Buscher and Ohio State University landscape architects Jot D. Carpenter, James Hiss, and Norman Booth asked the participants to think out landscapes in a problem solving approach. Just as rooms are carefully planned before construction of a house, Buscher says use of space outside the house should be planned equally well. Plants and trees should be placed with the overall property in mind — not just the front door of the house.

Old-style foundation plantings are still used in many home landscapes, although they are no longer necessary.

The short course participants were encouraged to use plants in their landscape designs only for definite purposes. Climate control, windbreaks, privacy, and cutting the glare from traffic lights are legitimate reasons for placing plants in particular places. Aesthetics, although just as important, should be considered only after some of these landscape problems have been dealt with.

This second landscape short course was for persons who had participated in Course 1 of the series last January or had previous experience.

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*Offer limited to one free calculator per customer upon completion of demonstration on customer property or job site. Offer expires at discretion of Vermeer Manufacturing Company.

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52 WEEDEES TREES & TURF/FEBRUARY 1977 Circle 118 on free information card
Liquid fuels can be made from agricultural wastes

Producing gasoline or diesel substitutes from wood residues and other agricultural wastes is being researched by Texas scientists as a possible energy resource. It has the potential to convert wasted or poorly utilized resources into valuable fuels to help relieve our energy situation.

The seriousness of our energy shortages has in part been masked by our agricultural exports. Since 1970, total agricultural exports have grown from 6.7 billion dollars to an estimated 22.1 billion dollars in 1976. Meanwhile, oil imports have increased from 3.4 million barrels per day (23 percent of consumption) in 1970, to 6 million barrels per day (37 percent of consumption) in 1975.

Imported oil cost the U.S. 27 billion dollars in 1975 ($125 per person) as compared with about 3 billion dollars ($15 per person) in 1970. The December meeting of oil exporting countries is expected to result in another increase of at least 10 percent.

"About one billion tons of residues are available each year from farms, forests, agri-business, and municipal wastes. If ways can be developed to convert these to valuable fuels, it could substitute for about 15 percent of our total energy needs," says Dr. Ed Soltes, research scientist with the Texas Agricultural Experiment Station.

"That 15 percent translates into the equivalent of several hundred million barrels of oil worth billions of dollars. "And the beauty of it is that unlike oil and gas, agricultural residues are renewable; more grow each year. "In the pulp and paper industry, for example, it's estimated that if forest residues can be utilized as energy, it will make the industry self-sufficient for energy and save the nation the equivalent of 100 million barrels of oil per year," says Soltes, a woods chemist in the Department of Forest Science at Texas A&M University.

Soltes heads a research team working on developing valuable energy uses for waste. The work is sponsored by the Experiment Station, the Center for Energy and Mineral Resources at A&M, and the St. Regis Paper Company.

You get an idea of the immensity of our annual agricultural residues from recent estimates that cereal straws amount to about 145 million tons; other plant residues, 240 million tons; and cow manure, 230 million tons.

"Most farmers probably raise enough residues to make them self-sufficient for energy if they could efficiently convert these materials into liquid fuels. The 'if' is what our team is working on," Soltes says.

"Use is being made of an old process called pyrolysis (heat in absence of air). It can change low-density residues into high-density liquid and solid fuels with higher energy contents. "But the work doesn't stop there. The liquids and solid materials from pyrolysis are similar to petroleum and coal in several respects. So, petrochemical and coal conversion technology will be borrowed to transform these materials into more desirable liquid fuels and chemicals. "Despite the variability of the physical forms of agricultural and wood residues, there are many chemical similarities between them. "Pyrolysis promises to be a leveling device that takes, for example, a mixture of corn cobs, cotton wastes, tree limbs or bark, and converts them into a uniform mass of material for energy and chemical products," Soltes says.

Currently, the research team is working on an assessment of residue availability in the State of Texas and on the chemical analysis of pyrolysis oils.

Who knows, we may live to see the day when agriculture producers are worrying about their "mesquite crop."
Delaware scientists study soil's K reserve

In a continuing effort to make fertilizer recommendations more accurate in the state with respect to potassium additions, a team of researchers is now studying the potassium release characteristics of some 29 Delaware soils.

Reporting recently on this research to an audience of more than 3,000 scientists at the joint annual meetings of the American Society of Agronomy, Crop Science Society of America and the Soil Science Society of America in Houston, Tex., University of Delaware soils specialist Dr. William C. Liebhardt described steps being taken by the team to determine a way to predict reserve potassium in the soil.

The routine procedures used in soil testing, explained Lebhardt, do not appear to indicate the potential potassium supply as well as some alternative procedures, since they only measure readily available forms — water soluble fertilizer and exchangeable ions.

Mineral potassium in the soil has until now been considered to be somewhat unavailable, but the soil specialist said that he and fellow researchers are finding that, at least on the sandy soils of Delaware, it is more accurate to describe this form of potassium as "slowly available."

The Delaware scientists are studying different soil test factors to determine the most effective way to measure the release of potassium from this material. The physical structure of the soil — sand, silt and clay percentages — as well as various clay minerals, do not appear to predict this.

The amount of potassium feldspar, a potassium mineral, in the sand fraction does appear to predict reserve potassium. Knowledge of the release mechanism of this reserve potassium potential added to traditional soil test procedures may improve the accuracy of fertilizer recommendation substantially with respect to crop response.
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0217® brand Fylking Kentucky bluegrass, the famous Swedish beauty, stands out because of its many improved qualities. An outstanding feature is fast germination, rapid growth that makes sod lifting possible sooner than other varieties. Superior density of rhizomes and root system makes an almost impenetrable sod that helps strangle weeds, prevents invasion.

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Fylking Kentucky bluegrass seed costs less than most other elite bluegrasses. Fine-textured, brilliant green turf from early spring to late fall, Fylking is more drought, disease, traffic, heat, cold and smog resistant.

Low-growing, low-mowing characteristics result in fine professional golf tees and home putting greens; can be mowed low as 1/2-inch.

0217® brand Fylking Kentucky bluegrass is a shoo-in for first choice in any lawn seed mix. Specify the Swedish beauty, Fylking, at your local wholesale seed or sod distributor.

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Another fine, quality-controlled product of Jacklin Seed Company.
Creating colonial landscapes

The restoration of a colonial garden demands authenticity if the site is part of a museum or other place open to the public.

However, on private property the owner must decide whether he wants authenticity at the expense of improved varieties of flowers and shrubs. Will it be sufficient to create a "colonial feeling" without being entirely authentic?

One thing to avoid is forsythia. It was not introduced in American gardens until the 1830's and its use is a dead giveaway that the user doesn't know his plants. Lilacs, however, came to America with the earliest settlers and have been used ever since.

Avoid many evergreens such as yew rhododendron and juniper. They were used more extensively in the Victorian era. The colonial period specialized in roses, flowering quince, flowering almond, snowberry and sweet shrubs. Heavy plantings were not the order of the day in colonial times.

Most of the small trees and shrubs used in colonial landscaping had a dual purpose. They were planted to provide fruit for the table. Blossoms and fall color were incidental.

If you want a feeling of colonial authenticity, don't use a foundation planting. That also arrived in the Victorian era when foundations were high. In colonial times, foundations were close to the ground.

Herbs were rarely used in a special garden except in churches, monasteries or medical schools. Instead, they were usually mixed in with flowers and vegetables in the regular garden.

Colonial landscape plants were functional. Gardens were placed where they would capture spring sun or summer moisture, not with an eye to where they looked best. Walks were usually the shortest distance between two points.
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Over forty actual and unretouched full-color photographs in a new 16-page catalog illustrate Rain Jet’s Group “C” line of patented “Custom Crafted” fountains. These new high efficiency fountains achieve breathtaking Water Sculpture® in an infinite array of motion, texture and color, and are designed for economical use of electric power.

This new Group “C” color catalog, accompanied by an 8-page specification brochure and a price list, is available free on request from Rain Jet Corporation, 301 South Flower Street, Burbank, California 91503.

Rain Jet “Custom Crafted” fountains operate on a new principle never before used in fountain design. Multichannel nozzles expand solid water streams into fountains of prismatic crystals many times larger than the original streams. Because of the light reflecting properties of these thousands of magnifying prismatic crystals, more brilliant illumination is produced with considerably less electrical energy.

Two models of rear mounted rotary mowers for cutting grass and light brush have been approved by the Simplicity Manufacturing Co. for application with its 19½ hp 9000 Series garden tractor. The equipment comes in 48 in. and 60 in. widths. All are attached by Category O three-point hitches for quick hook-up.

High speed suction blades lift the grass and brush for clean cutting. Full swivel caster wheels follow ground contour for uniform trim and avoidance of scalping. Free swinging blades retract on striking hard objects, protecting the blades and the entire machine. Cutting heights are adjustable from 1 to 9 in.

Western’s Super Spreader features an adjustable mounting height for on-the-job flexibility. A low height setting allows the salt to get directly under parked vehicles, while a high setting gives one-pass coverage with a maximum spread width.

Nursery Supplies Inc. recently introduced their new Poly-tainer Classic line of plant containers. Sculptured sides not only make the container attractive, but direct the roots inward and down, resulting in healthy, well-nourished plants. Special drain hole configuration insures proper drainage.

To insure a tough container for shipping and handling, Nursery Supplies Inc. is manufacturing the Poly-tainer Classic line from higher molecular weight polyethylene than is used in comparable injection-molded nursery containers. This is the same durable material that is used on industrial containers.

Western Products has announced the addition of a new salt spreader to their line. The Super Spreader is a rear bumper mounted, hopper type unit designed for commercial and industrial ice melting. Spreading speed is variable, slow to fast, and is regulated by an in-cab rheostat. Salt is fanned to the side and rear of the vehicle from 5 ft. up to 50 ft.
The "Rota-Shear" comes with 50 feet of .065" diameter nylon cutting cord. The cord is instantly adjustable, without tools, and replacement spools are easy to install.

Circle 705 on free information card

A new spreader in a 21-inch width, with a long-life epoxy finish and precision flow control, has been introduced by O. M. Scott & Sons.

The new model is wider than the previous one, allowing faster application of lawn fertilizers, control products, and seed. The Scott's precision flow control and calibrated settings allow lawn care products to be distributed evenly and precisely.

The spreader is constructed of heavy-gauge metal, coated with a rust-resistant epoxy finish. Other features include bronze graphite bearings, a spring-loaded on/off control, and the ability to be recalibrated.

Circle 706 in free information card

Massey-Ferguson's new-from-the-grass up MF lawn tractor will ease yardwork and light farm chores. One of MF's family of five new lawn and garden tractors designed for performance and operator comfort, this 8-hp machine can be used with 36-in. side or rear side-discharge rotary mowers.

A wide range of specialized lawn care and snow removal attachments makes it a versatile machine. Inline transmission has five forward speeds and one reverse, with a speed range from 1.7 to near 6 mph. A foot pedal controls six different mower cutting heights.

Circle 709 on free information card

Melnor Industries announces the addition of brass jet nozzles on two of their oscillating lawn sprinklers. The nozzles have been added to ensure even water distribution and controlled spray.

The models involved are Nos. 525, which waters up to 2,200 sq. ft. in one setting, and 610, which covers up to 2,500 sq. ft. in a setting.

Circle 707 on free information card

Red Cross needs individual volunteers, and donors of blood and money, by the millions.

But we need even more help. We need the solid support of American Business. And we never needed it more.

If your business is already helping, by organizing blood drives, and by supporting payroll deductions—either directly for the Red Cross, or through the local combined fund drive—the whole community owes you thanks. And we thank you, too.

Last year, with help from our friends, we offered major aid at over 30,000 disasters—from typhoons, to local (but just as devastating) house fires.

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Circle 114 on free information card

Meeting Dates


48th G.C.S.A.A. International Turfgrass Conference & Show, Memorial Coliseum Complex, Portland, OR, Feb. 6-12.

Rhode Island Nurserymen's Association, Annual Winter Meeting, Sheraton Islander Inn, Goat Island, Newport, R.I., Feb. 17.


American Institute of Landscape Architects 20th Annual Convention, South Coast Plaza Hotel, Costa Mesa, CA, Feb. 17-19.

National Landscape Association and Garden Centers of America Joint Management Clinic, the Galt House, Louisville, KY, Feb. 20-23.

Urban Forestry Workshop, University of Wisconsin, Stevens Point, Mar. 3-4.

Nassau-Suffolk Landscape Gardener's Association 9th Annual Meeting, Farmingdale College, Farmingdale, NY, Mar. 5.

Wisconsin Landscape Federation Annual Conference, Marriott Motor Inn, Brookfield, WI, Mar. 6-7.

Northcentral Pennsylvania Turf School, Holiday Inn, Bradford, PA, Mar. 22.


31st Annual Southeastern Turfgrass Conference, Rural Development Center, Tifton, GA, Apr. 11-12.


California Association of Nurserymen Annual Refresher Course, Cal Poly, San Luis Obispo, CA., June 1-3.

Oregon Seed Trade Association Annual Convention, Sunriver Lodge, Sun River, OR., June 10-12.