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Commercial-quality TFC™ Tap-For-Cord head equipped with Green Line extra long-life nylon string. (Model 3000SS, as well as 2500, 4000, and 4500, also accept metal blades for brush cutting and tree pruning.)



MODEL 3000SS
The Pro's Choice.



MODEL 4000
The high-production trimmer, brush cutter.



MODEL 4500
The Green Machine Forestry unit.

This Green Machine has set the standard for commercial-quality trimmers. Thousands are in use by professional gardeners, grounds maintenance crews, and large-acreage owners. The 3000SS has been made even better with a new, more powerful engine and solid-state ignition. Like the 2500, these units can also be used for brush cutting and tree pruning, using the accessory metal blades. Model 3000SS comes equipped with the commercial quality TFC™ Tap-For-Cord string trimmer head—the first automatic-feed head built for the professional. Other heads available include the ultra-simple, 2-string (.105) manual head designed specifically for rental yard and other special uses. Quality features include: solid, heat-treated drive-shaft and spiral-bevel gears; anti-vibration clutch housing with dual bearings; larger, quieter muffler and air cleaner; larger gas tank.

SPECIFICATIONS:

Engine Type: Upright 2-Cycle Air Cooled Cylinder
Type: Single Alum. Alloy Chrome Plated **Displacement:** 24.1 **Bore & Stroke mm:** 32 x 30 **Compression Ratio:** 6.5:1 **Max H.P. (H.P./RPM):** 1.3/6500 **Carburetor:** Slide Type All Position **Ignition:** Solid-State-Transistor Type **Clutch Housing:** Anti-Vibration **Lubrication (Fuel Mixture):** 25 to 1 **Fuel Capacity:** (.7L) .74Qt. **Muffler:** Spark Arrestor **Shaft:** Solid type 8mm **Reduction:** 1.26 Gear Drive **Cutting Head (Std):** 6" Dia. TFC **Cutting Swath:** 18 in. **Weight (with cutting head):** 15 lbs (6.8kg)

This is the high powered Green Machine designed specifically for specialized, day-after-day trimming of grass, weeds, and brush. A harness with hip-pad and wide handle bars provides maximum operator efficiency for such demanding operations as highway road-side maintenance. The 37.4 cc easy-starting engine has power to spare to operate the commercial TFC™ head with .105 cutting string. Other heavy-duty features include larger drive shaft and larger spiral-bevel gears. With accessory blades, the swiveling center shaft of the 4000 makes it ideal for hillside brush cutting and pruning of low-hanging tree branches.

SPECIFICATIONS:

Engine Type: Inverted 2-Cycle Air Cooled Cylinder
Type: Single Alum. Alloy Chrome Plated **Displacement:** 37.4 **Bore & Stroke mm:** 38 x 33 **Compression Ratio:** 9.1:1 **Max H.P. (H.P./RPM):** 2.7/7500 **Carburetor:** Slide Type Float **Ignition:** Contact Point Type **Clutch Housing:** Direct Coupled With Swivel **Lubrication (Fuel Mixture):** 20 to 1 **Fuel Capacity:** (1.1L) 1.17Qt. **Muffler:** Spark Arrestor **Shaft:** Solid 10mm **Reduction:** 1.26 Gear Drive **Cutting Head (Std):** 6" Dia. TFC **Cutting Swath:** 20 in. **Weight (with cutting head):** 21 lbs (9.5kg)

Modern forestry practice demands fast, efficient tree and brush clearing. Here is the tool for the job. Using a combination chopping-sawing action, saplings up to 4 inches in diameter can be felled in a single stroke. One man equipped with the 4500 becomes a formidable system of forestry maintenance. This unit is specially-designed to withstand the continuous side-shock impact imposed by this type of work. Extra anti-vibration features as well as an exceptionally heavy-duty shaft are included. The special handle guards help protect the operator. The 4500 comes equipped with brush blade, saw blade and blade guard. The commercial quality TFC™ Tap-For-Cord head is available as an option.

SPECIFICATIONS:

Engine Type: Inverted 2-Cycle Air Cooled Cylinder
Type: Single Alum. Alloy Chrome Plated **Displacement:** 37.4 **Bore & Stroke mm:** 38 x 33 **Compression Ratio:** 9.1:1 **Max H.P. (H.P./RPM):** 2.7/7500 **Carburetor:** Slide Type Float **Ignition:** Contact Point Type **Clutch Housing:** Direct Coupled With Swivel **Lubrication (Fuel Mixture):** 20 to 1 **Fuel Capacity:** (1.1L) 1.17Qt. **Muffler:** Spark Arrestor **Shaft:** Solid 12mm **Reduction:** 1.26 Gear Drive **Cutting Head (Std):** Blades **Weight (with cutting blade):** 22 lbs (10kg)

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GREEN INDUSTRY NEWS

Arborists emphasize self-help programs

Speakers at the National Arborist Association's annual meeting in Orlando accentuated the need of arborists to educate themselves and their crews through newly available materials.

"The Tail Gate Safety Program (developed by the NAA last October) provides good evidence that an employee has been instructed of the hazards he'll be involved in," said Rick Compton, safety director of

Farrens Tree Surgeons in Jacksonville, FL. He noted that there are many safety programs but the Tail Gate is the only one acceptable to OSHA requirements, based upon standards of the American National Standards Institute.

Compton and others spoke to arborists representing 140 major tree services. In his speech, "Common Accidents and How to Prevent Them," he suggested requiring each

employee take a driver's test, wait at least two weeks before operating a chain saw when starting with a company, and put aerial lifts on a regular inspection schedule.

Professor H. Dennis P. Ryan, III, of State University of New York at Farmingdale, said that arboricultural education is a problem in the schools and in small com-

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Sod farmers approach 80's optimistically

An enthusiastic attitude toward the challenges of the next decade pervaded the meeting rooms of the American Sod Producers Association's midwinter conference, held in Orlando, February 24-26.

Although speakers and members cautioned of energy shortages, increased inflation, and hampering government regulations, the majority emphasized the value of their land and their ingenuity to overcome the problems.

Dr. James Beard, in his projection of what lies ahead in the 80's, said, "I'm optimistic. I think turf will be around for a long time." The Texas A&M professor of turfgrass physiology continued, saying, "If we lose turfs and ornamentals, the country will be in bad shape."

He said that turf varieties will no longer be developed on beauty contest standards, but on low energy requirements. Advances have come from extra nitrogen, irrigation, and

other energy sources, but new cultivars will have to go the other way. Water will be scarcer, poorer quality, and more costly, and should be a special concern of the sod farmer, Beard said. There should also be increased use of effluent water and better management of irrigation systems.

In the 80's, there probably won't be any new pesticides on the turf market, Beard said. Not only are

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Conservation is golf show message

The biggest North American turf conference, the International Turfgrass Conference and Show of the Golf Course Superintendents Association of America, was held in St. Louis in February. The meeting continued its growth in attendance and number of exhibitors, as well as the number of educational topics covered during the five day show.

Attendance was estimated at 7,500, an improvement of 1,500 from the conference in Atlanta in 1979. The convention floor was filled with

nearly 300 exhibitors, from regular turf and irrigation suppliers to encyclopedia and sign companies. A person could easily spend a day just looking at exhibits.

But then, a complete range of concurrent educational sessions easily filled three other days. Conservation of water, fertilizer and energy and personal financial planning were the dominant subjects of the educational sessions. Critical basic knowledge of diseases, design, and irrigation formed a base for current interests.

If one area was weak, it was herbicide use and developments in that area. Overall, the intent of educational session planners was to help superintendents avoid pitfalls common in challenging years.

In the same conservation theme, was Toro Chairman David McLaughlin's keynote address, "Are we savers or spenders?" McLaughlin urged superintendents to promote the value of golf courses to state and local officials and to dispel believes

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LANDSCAPE

CONTRACTOR NEWS

Ohioan offers cost saving advice

Art Landseadel, past president of the National Landscape Association, has offered the following advice to fellow contractors to cut costs.

Check insurance coverage to see that your insurance man has depreciated the value of insured items and reduced premiums accordingly.

Adjust coverage seasonally of resale items such as chemicals, stocked materials, and tools during the off season when your supply and its value is reduced.

Adjust telephone service during off periods. You may need fewer lines except during the sales season.

Offer fast pay discount of two percent to those customers that pay within ten days. Take advantage of similar offers from suppliers.

Contract out work to avoid fringe benefits of fulltime employees if the job is short term. Also lease equipment for short term jobs.

Take advantage of cooperative advertising in which the manufacturer offers to pay part of the advertising to get his product in use.

Consolidate business forms and billing to reduce printing and handling costs.

Void guarantee on past due accounts by terminology on contracts and charge late payers 1 1/2 percent interest per month after 30 days.

Add equipment/supervision charge to jobs to account for all overhead not considered when price structure was designed.

Every little bit helps and eventually adds up to a large savings.

California chapter selects Vandergeest

The Long Beach-Orange County chapter of the California Landscape Contractors Association, the largest chapter in the group, elected William Vandergeest of Vandergeest Landscape Care, Santa Ana, president. More than 200 landscape and irrigation contractors belong to the chapter.

Four vice-presidents were also elected to serve for 1980. They are John K. Budd, Budd Landscaping, Orange; Allen Chariton, Tierra Verde Landscape, Santa Ana; Wayne Duboise, Mission Landscape Service, Costa Mesa; and Bob Newton, Santa Ana.

Two more groups affiliate with ALCA

The Associated Contractors of Oregon and the Metropolitan Detroit Landscape Association became the 12th and 13th state and regional landscape contracting associations to formally affiliate with the Associated Landscape Contractors of America. Under the sponsoring member arrangement, member firms gain direct access to all ALCA publications and meetings.

ALCA creates interior division

A new division with its programs specifically for interior landscaping has been launched by ALCA. Lainé Craft, owner of Living Interiors, Lake Park, FL, has been installed as chairman of the division. The Interior Division has scheduled several sessions on maintenance, a fullblown conference in Denver this fall, and a newsletter of its own. Under development is a Maintenance Procedures Manual expected for release late this year.

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panies which don't have their own training programs. He urged arborists to bring the NAA's slide/cassette program to schools, where there is not the time to teach practical experience.

Four ways to improve the profession, Ryan said, are: education, good publicity (support of arbor day), hiring women, and paying more for workers to get better performance.

Charles Cissel of Guardian Tree Experts and Ted Collins of Ted Collins Tree and Landscape Service said the slide/cassette and Tail Gate safety programs can be very helpful for practical Integrated Pest Management (IPM). The question to consider for pest management, Collins said, is: "Is it safe, healthy, environmentally acceptable, and profitable?" He has promoted IPM through television, radio, public relations, advertising, and personal appearances.

Lively response came from Kenneth Morefield's talk on "The Wage and Hour Law, and Company Policies." The management consultant said, "Investigation of operations usually proves violations." Questions and disbelief from arborists showed that he was probably correct.

Speakers also shared their expertise on other governmental concerns, such as pesticide regulations and certification in the 80's; cultural practices, such as soil and foliage analysis and Dutch elm disease; and new technology, including computers. Members showed slides of innovative practices they have used to aid their operation.

The association honored the "Senator" cypress tree in Big Tree Park, Longwood, FL, with a bronze plaque. The tree is over 3,500 years old and has a dbh of 138 feet.

President Larry Holkenborg handed over his office to Bruce Walgren of Walgren Rree Experts, Inc., West Hartford, CT. Other newly elected members are: Walter E. Money, 1st vice president; Erik H. Haupt, 2nd vice president; Lee L. Lesh, secretary; Robert Mullane, treasurer; and William L. Owen, director.

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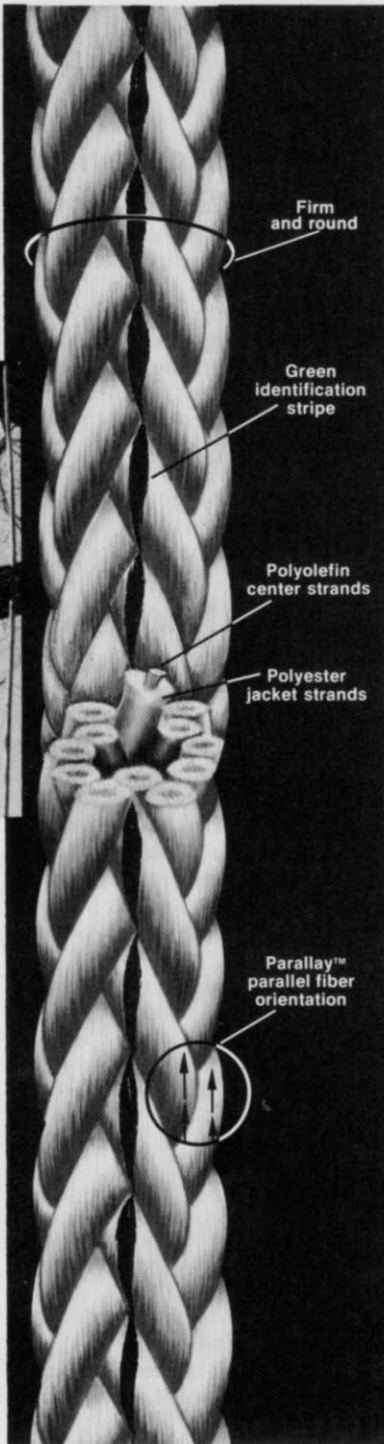
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Carter blocks fertilizer shipments to Soviets

President Carter has won support from Congress for his decision to indefinitely block the shipment of one million metric tons of phosphate fertilizers to the Soviet Union this year by the Occidental Petroleum Co.

"The President has doubled the effect of the grain embargo," said U.S. Congressman Tom Harkin (D-IA). "And he has done so in a way that does not further penalize farmers, but instead, helps them by increasing the phosphate fertilizers available here at home."

Harkin led congressional efforts to convince the President to block the shipments until the Soviets remove their troops from Afghanistan. He argued that it made no sense to withhold 17 million metric tons of American grain through an embargo if we then allowed the Soviets to receive enough American fertilizer to boost their own production by about 20 million metric tons.

EPA responds to Dow's request for 2,4,5-T

Dow Chemical's request for EPA to withdraw its emergency suspensions of 2,4,5-T and silvex should be rejected, according to EPA's lawyer Dorothy E. Patton.

Patton cited several procedural and factual shortcomings in the Dow suspension request. She said, for example, that before the administrator could reconsider his suspension orders, Dow must show that new evidence is available to support its request. Patton argued that Dow failed to meet that test and that its request relies only on examples showing that some scientists disagree with EPA's regulatory decisions on 2,4,5-T and silvex.

She said that EPA's recently completed TCDD mother's milk studies could be construed as new evidence, but the significance of the study, which showed no TCDD residues, was "highly questionable."

USDA establishes energy centers

Two agricultural energy centers to make farmers and ranchers energy self-sufficient in ten years are being established in Tifton, GA, and Peoria, IL, by the U.S. Department of Agriculture.

At Tifton, scientists will seek new and better ways to generate energy on the farm and better ways for farmers and ranchers to put that energy to work. The programs at the Peoria center will concentrate on converting farm- or forest-produced biomass into fuel alcohol or petrochemical substitutes.

At the centers, scientists and extension officials from USDA's Science and Education Administration (SEA) will work in cooperation with a number of state agricultural experiment stations and universities.

The research will cost about \$6.2 million. The SEA will fund the research at the Tifton energy center for the first three quarters of 1980 with \$1.6 million, plus \$200,000 for extension activities. In Peoria, the agency will spend \$2 million, including \$100,000 for extension work. Another \$2.4 million will be awarded for university research projects on agricultural energy.

Sod from page 13

some countries doing a pretty good job without them, their cost is expected to rise 25 to 30 percent in the next few years. Target use will be the style of application.

Beard doesn't think mowers will be changed, but popularity of energy efficient models will. Energy is the major factor in the type of turf-grasses to be used. These will be of two types, Beard said: fast growing for high stress areas, such as athletic fields, and slow growing for aesthetic areas and lawns, which subsequently won't have to be mowed as often.

Beard also headed a session on warm season grasses. Dr. Richard Smiley from the department of plant pathology at Cornell University, and Dr. Robert Shearman, extension turfgrass specialist at the University of Nebraska, shared their knowledge in a session on cool season grasses.

Panel discussions by ASPA members on fuel saving tips and netting suggested changes in practices for the future. M.L. Beck from Alabama, said, "Saving fuel is a case of changing habits." Yet sometimes you have no choice but to do a job regardless of the energy costs. The panel on netting showed slides of the foibles and successes from using it, and all are convinced that its help in increasing production make it more attractive for the next 10 years.

Ralph White from Georgia explained how his company, Southern Turf Nurseries, is using brewery waste from Anheuser-Busch to raise sod. John Patton of Maryland showed the audience how he used aircraft to spread fertilizer over his fields. Other members talked about adapting their equipment and preparing their fields in less conventional ways.

Other stimulating talks came from Michelle Williams from Utah and Mike Swanson from Florida on their ways of marketing sod, and Richard Underwood from the Lyndon B. Johnson Space Center in Houston, TX, gave a dazzling display of what NASA is doing to help the farmer.

After the two days of talks, more than 100 participants out of the more than 700 who attended the conference, took advantage of the tour through R&D Sod Farms, Inc. given by Ed Davis. On a sunny Florida day, Davis led the tour to various levels of production on his 900-acre farm.



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THE GREEN CARPET RATIONALE COLLEGE MANAGERS TRY TO SURVIVE

By John L. Hart

College and university Grounds Managers are finding their budgets severely tightened. Here are the reasons why grounds funding is shrinking, a bold approach to reverse the trend and help your institution at the same time, and some specific strategies to employ in attaining this goal.

The situation in higher education

Higher education is being forced to consider days of declining enrollments and declining interest in the college degree. The harsh facts are that the number of 18-year-olds in the population has begun to drop, and among that lessening number the proportion enrolling in college has been declining for some time. Whether a home-town college of 500 students or a mega-versity of 50,000, the pinch is here or gravely anticipated.

Reactions may vary from the "see-no-evil" syndrome or blind fear to sound fiscal planning, but regardless of the approach, the golden years of the Fifties and Sixties are one to three decades in the past. Budgets will be cut and staffs will be reduced. Public or private, small or large, sectarian or secular, a decrease in services (administrative, academic, and auxiliary) is inevitable.

What does this mean for grounds maintenance personnel and for you, the grounds manager? To a large extent it depends on your institution's approach to the exterior campus, and on your ability to demonstrate to superiors the continuing and increasing value of yourself, your staff, and your services. Since this is not necessarily a clear-cut task, some background material on the campus situation may help clarify the problem.

When the budget cuts come, the maintenance/support staff is usually particularly hard-hit. Academic departments argue that declining faculty will force students to go elsewhere for better programs; administrators, who finally make the budgetary decisions, feel that top management cannot realistically be pared—who would then make the management decisions which would save the institution? The area that remains is the physical plant, including the Grounds Department. The faulty argument is that the facilities and grounds can slide a few years without apparent damage.

So when the crunch comes to the college, the physical plant is usually dealt a disproportionate share of the reductions. Where can cutbacks be made? Unfortunately, it is usually in the support

personnel staff itself. Most plant departments cannot cut back significantly and continually on supplies such as fuel, paper products, floor wax and lawn mowers. Indeed, given the astronomical rise in the costs of such materials, this budget might more sanely be expanded.

Conservation can undoubtedly help, but selling a large conversion program is difficult when money is scarce. Further, supplies are only a portion of the budget. Excluding utilities, most of the cost of running the plant is tied up in personnel. Thus, the maintenance staff often bears the burden of financial cutbacks directly — people are simply ruled a lower priority.

The top decision-makers realize of course that on-going maintenance of buildings and grounds is important and necessary, but there are additional reasons — some good and some not so good — for reducing the service budget.

Firstly, it is undeniable that there are often inefficiencies in that (or any) department. If productivity and efficiency can be increased, so it is reasoned, the work can be done by fewer people. The transition period in such a situation is difficult indeed. Supervisors and foremen must be prepared for the difficult decisions of where to cut staff and/or services and how to achieve a new and sufficient stability. There may also be significant staff morale problems, and the manager will certainly have to work a lot harder at efficient yet responsive supervision.

The ability to successfully relate to and manage the people resource, and to correctly identify priorities, will be — as always — the supervisor's principal responsibilities. The importance of a good manager cannot be overemphasized; to a large extent he will be the difference between the program succeeding or failing. But in spite of such problems a shift to reduced staffing has been successfully undertaken and accomplished. That it can be done in all situations, or even that such a radical approach is in most cases the most reasonable and effective one, is highly questionable.

Secondly, it is commonly rationalized by upper management personnel that "temporary" cuts in maintenance services can be weathered: some services can be cut back and preventative maintenance programs can be curtailed or put on hold until the fiscal sky brightens again.

The problem here is that the weather outlook is pretty damn gloomy. Reductions in services and preventative maintenance programs may well be permanent, resulting in rather stormy predictions for the long-term condition of buildings and grounds. The permanence of the reductions, as well as the resultant decline of facilities, would seem apparent to all. The contrary is often the case. Even at this late date many institutions, especially those who feel they cater to a particular group (based on religion, social class, locale, race, etc.)

John L. Hart served as Director of Grounds for Augustana College in Sioux Falls, S.D., where he developed innovative yet inexpensive landscape structures to add character to the campus, as well as other methods of maximizing productivity of the campus grounds crew. He has an M.S. in forestry from Michigan State University.
