

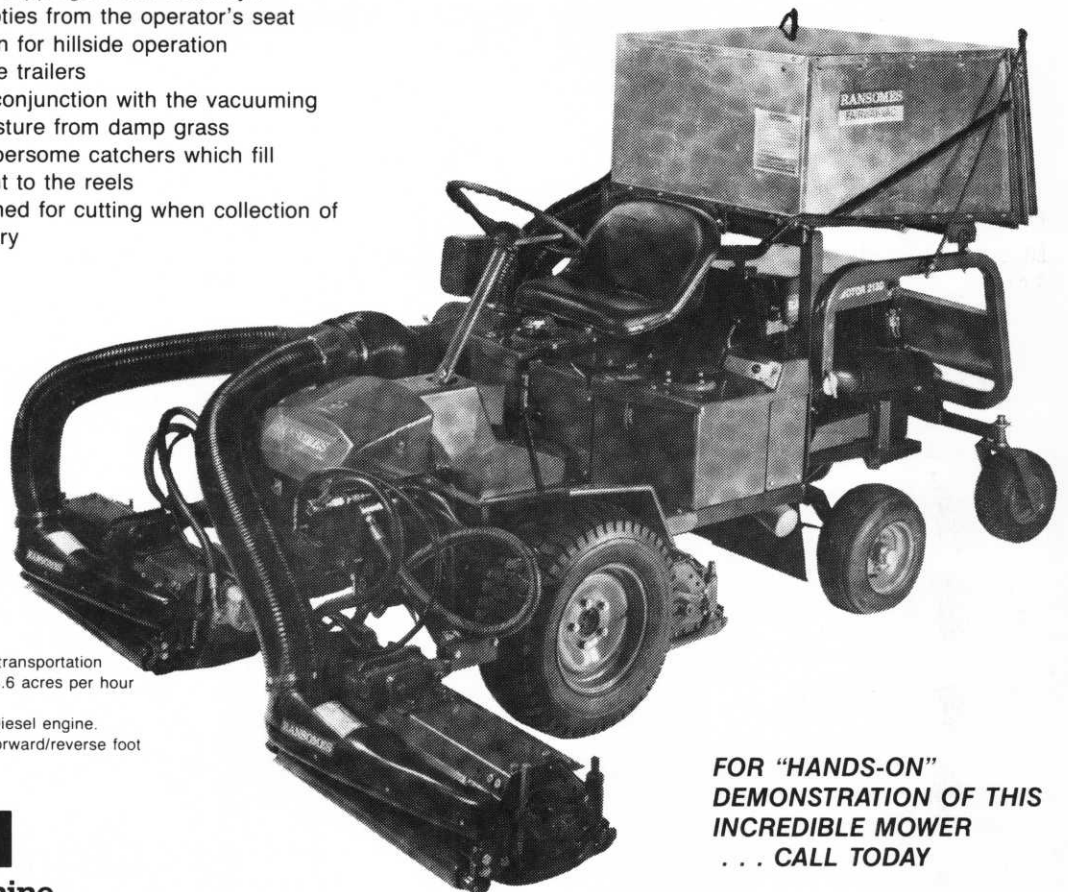
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GOLF COURSE SUPERINTENDENTS' ASSOCIATION

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FROM THE PRESIDENT'S DESK

DALE CALDWELL

This past winter I had the opportunity to visit with the staff and tour the campus of the University of Minnesota Technical College at Waseca. The Department of Horticulture at this facility is making a sincere committment to the turf industry. They have an excellent program in turf and they are continuing to improve that program. Until two years ago when I had a student from Waseca for a summer of OJT, I wasn't even aware the program existed. I came away from that meeting positively impressed with the program, the staff and the facility.

Some discussion at the last board of directors meeting centered upon the practice of M.G.C.S. members bringing guests who are not M.G.C.S. members to monthly golf outings and meetings. The general purpose of these meetings and outings is not to provide free golf at another course for yourself and your guest or guests. We have one scheduled guest event - that being the guest-member scramble in September of each year and that is the only exception to the no guest rule.

Another somewhat related incident concerns itself with M.G.C.S. members coming to play golf and not participating in the meeting and/or staying for dinner or lunch. The host clubs provide us with the use of their facilities and golf course with the understanding that we will support them by staying for dinner and provide some bar business. When they have to block a portion of tee times for us and receive no benefit, it isn't right. In other words, when they allow 100 plus golfers to utilize their facilities and serve only 60 dinners, it reflects rather poorly on us. Enough said! Let's not let it happen in the future.

NEW TRENDS IN TURF MAINTENANCE EQUIPMENT

PART 2

by JAMES KAUFMAN
MTI DISTRIBUTING COMPANY

A subject such as this usually invites the reader to anticipate miracle products and sensational solutions to the everyday job. Advancement in technology is rather rapid when you consider it in 50 year increments. But please keep in mind, the process in bringing to market, machines that are better than 10 and 5 years ago, is a slow painstaking one. This article will discuss a variety of maintenance considerations and what better products may be available for handling them more effectively. Last month we covered weight, noise and reliability. Here are the remaining considerations.

DIESEL VERSUS GAS

There is a place for both. The preference for diesel has been driven by the perception of lower fuel costs, durability and lower maintenance. Today, fuel is less of an issue as the price of diesel and gasoline is closer. Diesel power plants have played an important role in delivering steady and powerful energy at reasonable economy and high durability. However, gas engines are improving, and the liquid cooled, durable gas engines of today are better than they were five years ago. New materials, higher attention to specific applications, better manufacturing processes, are all sending gasoline engines upward on the scale of durability. Usually, the weight of diesel engines are heavier. The option for either gas or diesel is most likely to have less preferential differences. The historic advantages of diesels lower maintenance, durability and lower fuel costs are lessening and may be offset by a gas engine's lighter weight.

ENGINES

Both American and foreign auto industries have demonstrated much in downsizing and compacting power plants. This same trend will carry into the lower horsepower ranges from three to fifty horsepower,

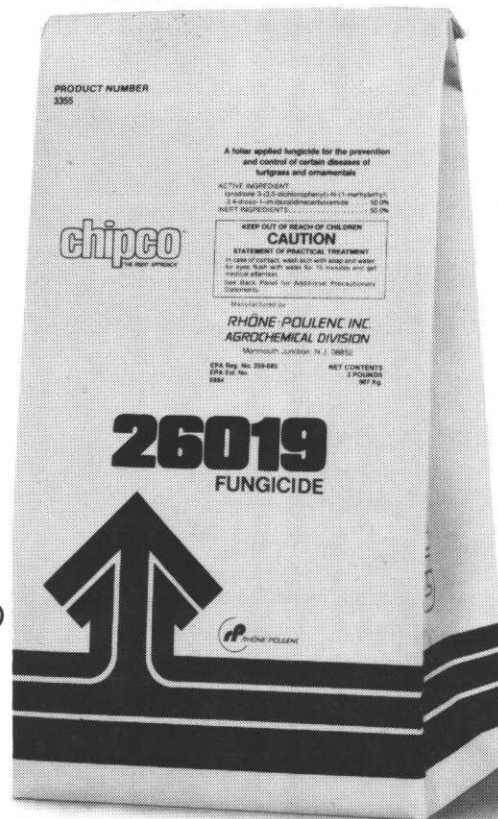
bringing stronger power plants with less weight and size. Here again, technology and materials are playing a key role. Two to twelve horsepower engines now have overhead valves, cast iron sleeves, mechanical oil pumps, are more efficient and lighter weight. Toro's 2 cycle Suzuki, Hondas 4 cycle units plus Yamaha and Kawasaki are bringing new competitive pressure on the U.S. manufacturers to increase quality and innovation. For some time the auto industry dreamed of having a turbine engine, and have been testing this concept for years. While it is unlikely at this time that the turf industry will see such power plant in a practical, affordable application, it may well be the beneficiary of this experimentation. This may include the use of ceramics, in gas powered engines, that allow operations at substantially higher heat levels than is currently possible. Other materials used in the wearing parts of pistons, valves, crankshafts, motor casings, plus solid state electrical systems, will, in a combined way, contribute to less weight, more compactness, yet yielding higher horsepower. This engine trend adds support to the forecast of lighter weight, more compact products for the turf industry.

PRODUCTIVITY

Sometimes this can be an over used word, but it does mean a greater yield per manhour worked, and/or a greater application of a product investment to a wider group of tasks. The return on investment is the driving force behind versatility where products offer more options for custom outfitting and more attachments for multiple tasks. The versatile, multiple task machines will most likely require a higher initial investment, but when amortized over the years of its durability, will result in a better return on investment for the end user. This trend is likely to use a more universal type prime mover, specifically tailored for turf applications with a wide variety of easy-on, easy-off functional attachments. New power trains now allow custom attachments to function as well as specialized whole machines.

One recent trend that raises a question about productivity is the use of riding greensmower tri-plexes for cutting

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fairways. This trend can add a good number of hours plus maintenance costs plus capital investment to gain the visual and horticultural benefits that are perceived by the end users. While this trend towards high care of fairways is mushrooming, industry recognizes the higher cost and lower productivity. Industry will react and you most likely will see new units of less weight and bigger mowing capacity, substantially enhancing the efficiency and still meeting the job specifications.

TRENDS IN LEVEL OF TURF CARE

In order to balance budgetary concerns, return on investment and the needs of the public we may well see less maintenance in selective areas such as parks, highways and other general purpose turf properties. Areas such as golf courses will likely have more intensive care, particularly on the higher budget golf courses where desire is affordable. Turf cultivation and aeration will most likely increase with better products coming along. The

picking up of clippings on fairways is a newly perceived benefit and products will be developed to allow grass catching, on a more affordable basis. Top dressing frequency is another care practice that will increase in intensity. All of these maintenance procedures will be pointed to extending the grass growing season, and/or the quality of turf. The extension of the season most likely has a bigger benefit in the southern areas of the country as opposed to the north.

POWER DRIVES

The use of hydrostatic and hydraulic drives is growing and are meaningful improvements over belt and chain drives. While the durability, smoothness and convenience of these drives had been well recognized, they are relatively inefficient and require more horsepower. Improvements in efficiency for power transmissions is continuing. Better and more diverse controls are being added to the hydrostatic and hydraulic drives to extend the efficiency of these systems while reducing horsepower consumption.

continued on Page 7

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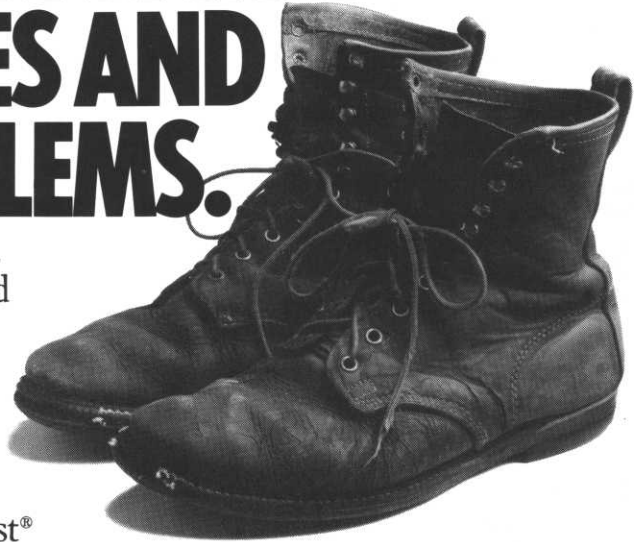
REGULAR

- CLOUD WHITE
- ELECTRIC BLUE
- REGULAR YELLOW

FLUORESCENT

- BLAZING RED ORANGE
- BRILLIANT RED CERISE
- HOT ORANGE

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The result is a complete line of Medalist® turfgrass formulas that meet the demands of the professional turf manager.

If you've been staring down at a turf problem, look up your solution here. And if you think it's a turf problem we haven't seen, just let us know.

Our business is putting your problems behind us.



MEDALIST TURF PRODUCT	MAJOR AREAS OF USE	SPECIAL FEATURES
Athletic Pro and Athletic Pro II	For athletic turf.	Well suited for new seeding or overseeding. Fast establishing, traffic tolerant, rapid recovery. Both provide good footing.
Boulevard Mix	Any area with high pH (roadsides, sidewalks, boulevards, alkaline soils, etc.).	Contains 'Fults' and Dawson red fescue for beautiful salt-tolerant turf. Performs at low to high fertility levels.
Landscape Pro Mix	School grounds, cemeteries, golf course roughs, home lawns.	Establishes fast. Adapts to broad range of conditions and management levels. Low to moderate fertility needs.
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Medalist North Mix	Fairways, tees, cart paths, wear areas.	Quality turf for high traffic areas. Clean mowing and disease resistant.
Premium Sod Blend	Commercial sod production.	Exceptional dark green color. Tolerates light shade. Superior disease resistance. Rapid sod producer.
Renovator Pro Mix	Problem solver for heavy traffic areas (athletic fields, golf tees, and fairways).	Penetrates compacted soils and combats <i>Poa annua</i> . Adaptable to most geographic regions.
Medalist Brand Overseeding Products	Winter overseeding of dormant bermudagrass.	Establishes rapidly and evenly. Tolerates traffic while providing a superior putting surface. Smooth spring transition.

Ask your Northrup King distributor about Medalist Turf Products to solve your turf problems. Or write Northrup King Medalist Turf Products, P.O. Box 959, Minneapolis, MN 55440.

ELECTRICAL DRIVE

Oil spills from the seldom but occasional break in a hydraulic line continues as a high concern to the turf industry. The frequency of occurrence is low, but the memory of the problem is big. Electrical drives have been used many years in a variety of products but have never really reached the turf industry. Railroad locomotives are a very visible application. New developments in electric motors and electric controls suggest this could be a beneficial application for turf equipment. The efficiency of such power systems could be better, smoother, and deliver a more exacting end result in terms of close tolerances of cut, not to mention the reduction of the oil spill problem.

ELECTRONICS

No where has there been a more rapid advance in the past twenty years than in the field of electronics. Setting aside moon shots and the computer industry (and you can't), agriculture specifically, and all industry in general, are making higher use of electronic components. Electronic instruments will contribute to a better sensing of the operation of reels and rotaries, automatically signaling the need to adjust settings to changing conditions. A whole array of sensors that feed back to a central control will bring about machine monitoring that will improve the adaption to the environment or the terrain. An obvious application is automatic frequency of clip adjustment. The camera industry has shown us a lot about compact, minute circuitry with automatic feedback systems. The automotive industry is moving fast in several areas: Active suspension systems, computer controlled sensors in the suspension components that calibrate and improve response to road or ground conditions. Combustion sensors that monitor air to fuel mixture and many other engine performance factors, all leading to better performance, economy and longer life. This is all possible with electronic on board controls. The state of the art is here, it is only for the adaptation to our turf products, which can and will come in the near term.

As stated earlier in the article, many of

these ideas are often thought to be dreams. But most of the suggestions are already on the drawing boards or on prototypes in an array of industries and products.

Both manufacturers and distributor-suppliers must be thinking about these changes and be ready to fully support the technical aspects of training, service and parts. Likewise, golf course superintendents must plan for stepped up turf maintenance practices and shop repair requirements. New and different types of shop test equipment will undoubtedly be a part of this trend. Desk top computers within the larger and smaller golf course maintenance organizations will be an important tool to efficiently track manhours, maintenance procedures, turf maintenance cycles and chemical fertilizer applications. While computer software, specifically for the golf superintendent, is somewhat sparse at this time, easy to use, pre-arrange file schedules are available in the marketplace to speed up the efficiency and accuracy of good record keeping and planning.

The personal computer is already in use as a central control for the irrigation system and while still performing that function, can easily be used for other bookkeeping/record keeping/planning of maintenance programs.

You can expect a lot of newness in the near and long term. In a sense, it can add interest and excitement to one's work. It will ease the performing of difficult tasks with a better end result. The overall trend is to improved productivity and improved return on investment.

These trends can add substantially to career satisfaction of having the job done well.



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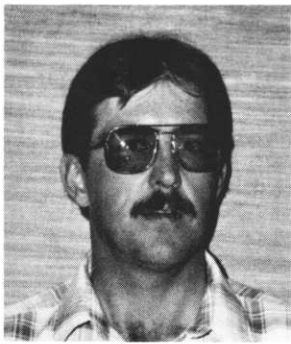
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WATER SOURCE

BY MARK POPPITZ
ISLAND VIEW C.C.

When the decision was made to automate our irrigation system, we had to decide where our water supply would come from. A new well would have to be drilled or use lake water. We are fortunate to have Lake Waconia directly across the road from Island View.

Drawing water from the lake was not my first choice. After drilling a test well in October of '83 we found there wasn't enough available water. Two wells would have to be drilled for an adequate water supply. The cost factor involved in drilling two wells made us concentrate our efforts on drawing our water supply from Lake Waconia.

This was the beginning of many phone calls, miles, and paper work. After talking to LeRoy Young at Minnesota Toro he designed our present system. On the lake we have a 500 gpm low pressure floating pump, with a 6" discharge line, which pumps the water under the road, onto the golf course and into the pumphouse. In the pumphouse we have a 3' diameter 16'deep wet well, with an 18" culvert 275' long connected to one of our ponds which serves as a reservoir. In the pumphouse I have my central controller, and my pump control panel. Water is pumped from the wet well by two 30 h.p. pumps which have a 650 g.p.m. capacity. These pumps can be run in union with my existing 8" well which has a 250 g.p.m. capacity. My well can also be used to fill the pond if necessary.

With finding out it was possible to get lake water onto the golf course, I made first contact with the D.N.R. in late October '83. After my first discussion with the D.N.R., I was told it should be no problem using lake water. After a few days I received various applications and instructions for other information.

continued on Page 11

TURF SUPPLY COMPANY



—IBDU—

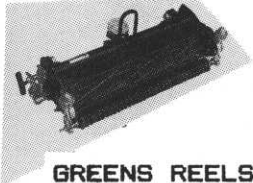
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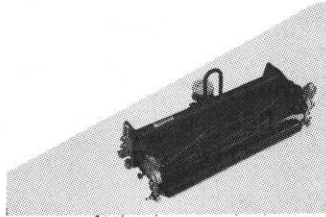
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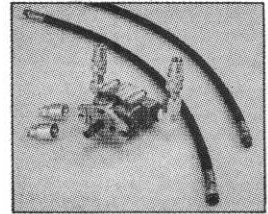


GREENS REELS

New



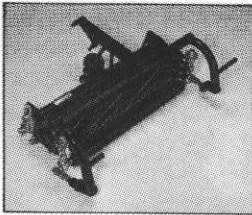
TEE REELS



NEW BACKLAPPING KIT
Model 04425
Backlapping Kit for
Greensmaster 300.

Cutting Units

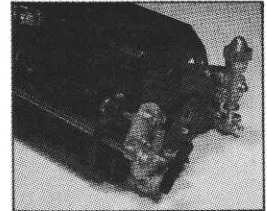
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NEW PULL FRAME —
LIMITED FLOATATION
Model 04452
Replaces standard floating
carrier frame for special cutting
applications requiring more
down force.

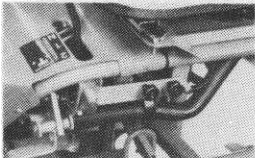
New Options

NEW QUICK HEIGHT-OF-CUT
CONVERSION KIT MODEL 04451
Quick Height-of-Cut Kit allows 6 cam
setting by flip of a handle, each
altering H.O.C. by .100 inch, total
range of 1/2 inch above base setting
of cutting unit.



Rear Roller Cleaner Kit

Reel Shut-Off Kit



Allows operator to shut off one
or two reel assemblies when
cutting around greens.

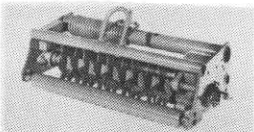


New

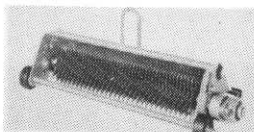
Greensmaster 300



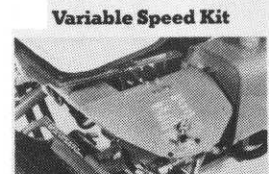
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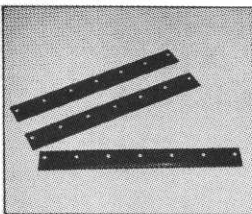


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adjustments in meeting varying
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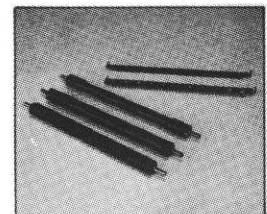
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