1992 MGCSA Meeting Sites and Events

Date	Location	Event
October 12	Island View Country Club	Golf & Lunch
November 18, 19, 20	Northland Inn	Annual Turf Conference

Guidelines for Controlling Moss In Greens

By Norman Hummel
Cornell University

The quality of golf course greens by present day standards is often determined by greens' speed. Golf course superintendents are mowing greens shorter and keeping the nitrogen fertility lower than ever before to obtain faster speeds. A consequence of these practices has been a reduction in turfgrass vigor to a point whereby the greens are much more prone to weed encroachment. One of the more troublesome weeds to have become a problem is moss.

Until recently, the only known means of controlling moss was through the use of mercury products. With the support of the Metropolitan Golf Association, research was conducted to look at means of controlling this serious weed. This research identified both chemical and cultural tools that could be used in a moss eradicating program.

Chemical Control

Pesticides and other materials offer hope in controlling moss on bentgrass greens. In the early spring, moss commences its growth much earlier than bentgrass, giving it an early competitive advantage. Hydrated lime applied in late March at 3 to 5 pounds per 1000 square feet will burn back the moss during this period. The lime can be spread easily if mixed with a dry sand topdressing.

An effective treatment for moss control would be the Scotts Goosegrass Control; a betasan-ronstar combination. Labelled for use on bentgrass greens, this product provided 83% control from only a single application. While this product will cause some discoloration, it appears to be one of the more promising moss control products.

Siduron (Tupersan) and bentazon (Basagran) provided from 53 to 74% control of moss. While they were not quite as effective as the Scotts product, both siduron and bentazon were much safer since no injury occurred for either product.

You should note that with the exception of bentazon the most effective treatments are pre-emergence herbicides. While it can't be determined from these trials whether the effect is pre- or post-emergent, it should be mentioned that the herbicidal activity of these materials on moss was chronic. It was several weeks before we noticed any significant decrease in moss populations.

Cultural Control

Chemicals only offer a partial solution to the moss problem. Unless cultural steps are taken to increase turfgrass vigor, chemical control of moss will be an ongoing battle. We designed studies to look at the effects of cultivation techniques and fertility on moss eradication. The results clearly demonstrated that culture can be changed to the detriment of moss.

While silvery thread moss will tolerate dry conditions, it is favored by an abundance of free water. Core cultivation immediately followed by sand topdressing would create a system of "vertical drains" that would facilitate a rapid water removal of the surface. We found that moss removal was hastened where this practice was followed compared to core cultivation alone. Deep spiking was also beneficial compared to core cultivation alone.

Nitrogen and iron are the most important tools in a moss eradication program. Moss control improved as the rate of nitrogen was increased. Moss was eliminated over two growing season from plots that were initially 40% moss by increasing nitrogen rates to about 0.8 lbs. per 1000 square feet per growing month (6 lbs. N/year). Iron applications at a rate of 6 ounces per 100 sq. ft. per month were beneficial during the first year, especially at the higher rates of nitrogen. Iron had no effect on moss in the second year.

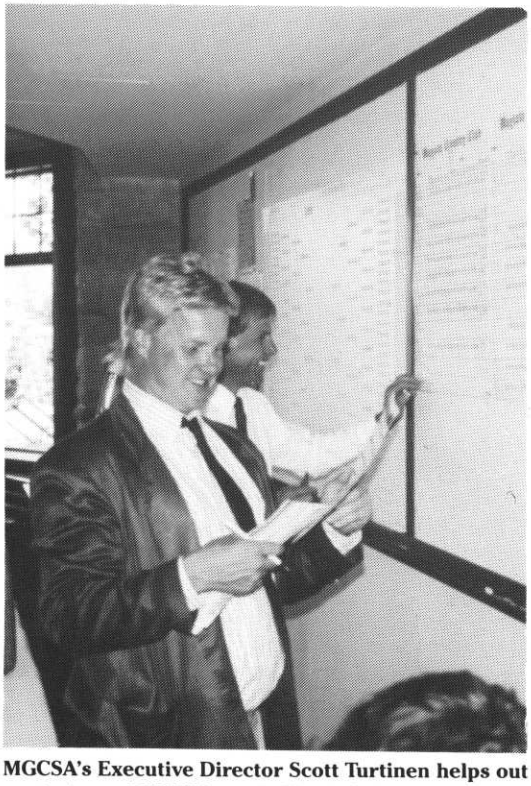
While we don't measure greens' speeds, these high nitrogen treatments no doubt resulted in slower speeds. The bottom line though, is if you have moss, you are going to have to at least temporarily increase nitrogen rates. Effects on greens' speeds can be minimized by careful control of water, double cutting, or increasing potassium levels.

Moss control research has until now looked at fertility and herbicides independently. Studies will be conducted this year to look at combinations and nitrogen fertility in moss eradication "programs". Perhaps this research will identify more reasonable nitrogen rates to use in conjunction with a herbicide program to eliminate moss from greens.

In summary, enough information is known for a superintendent to develop a legal moss control program. Early spring application of hydrated lime, followed about a month later and in the early fall with a herbicide are the first steps in controlling moss. Increasing your nitrogen levels during this period will no doubt improve the competitive advantage of desirable grasses at the expense of moss. Furthermore, control your soil moisture levels through careful irrigation and by providing good drainage throughout the soil profile.

—Credit: Our Collaborator, Northeastern GCSA

Paul Diegnau. . ."it's me!"



MGCSA's Executive Director Scott Turtinen helps out co-chairman Bill Whitworth, North Oaks, with scoring at the Stodola Scramble.

A (W)HOLE IN ONE

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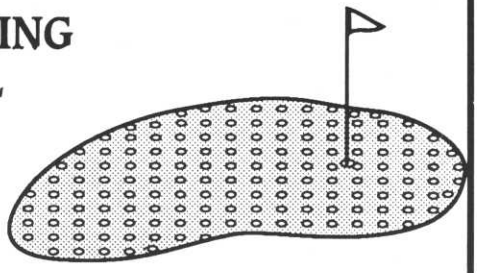
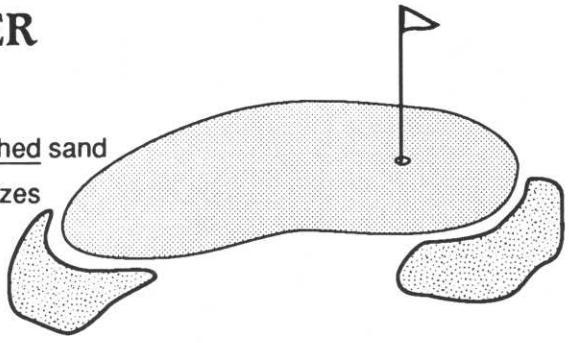
TOPDRESSING MATERIAL



- 80/20, 70/30, or mix to order
- Sand screened with 1mm screen (USGA spec)
- Product blended then rescreened through 3mm screen to assure clean mix

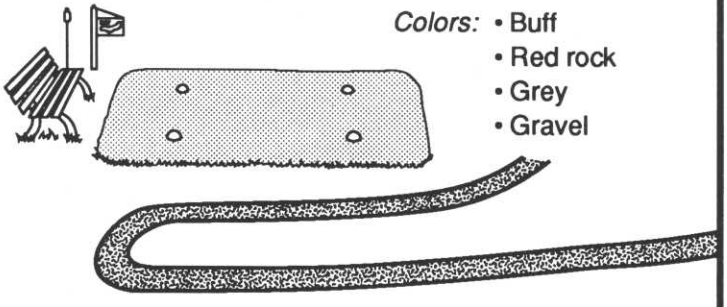
All specs available upon request

BUNKER SAND



- Clean, washed sand
- 2 particle sizes to choose from

CARTPATH AGGREGATE

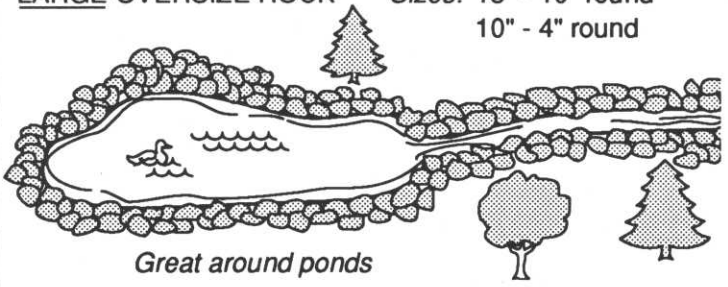


Colors:
- Buff
- Red rock
- Grey
- Gravel

RIP RAP

LARGE OVERSIZE ROCK

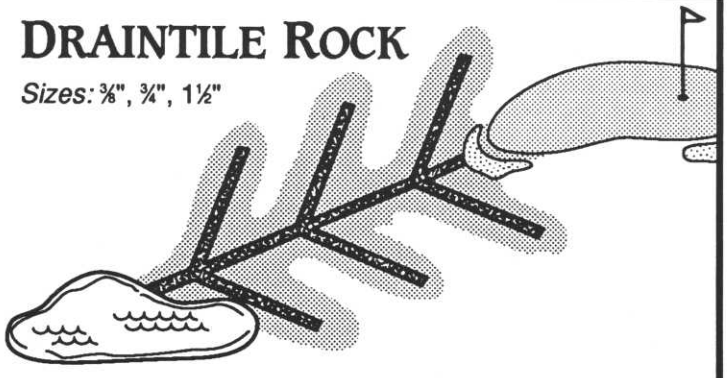
Sizes: 18" - 10" round
10" - 4" round



Great around ponds

DRAINTILE ROCK

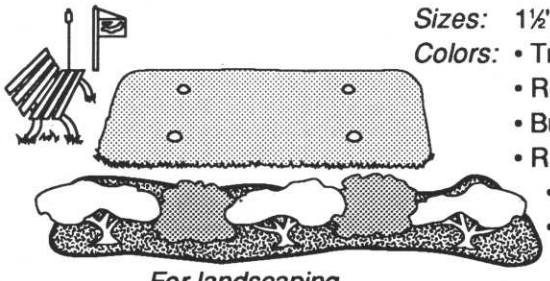
Sizes: ⅜", ¾", 1½"



DECORATIVE ROCK

Sizes: 1½" or ¾"

Colors:
- Trap rock
- Red rock
- Buff limestone
- River rock
- Granite
- Salt & pepper



For landscaping

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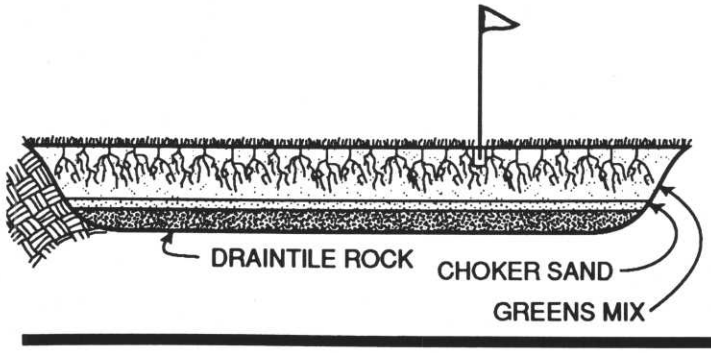

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Oil Maintenance Practices

Engine oil is a major factor affecting the performance and service life of your engines. Monitoring the oil levels and frequent oil changes are essential for maintaining and prolonging the life of your commercial equipment.

Equipment operators often are responsible for monitoring and changing the oil. At the beginning of each season, train operators in proper oil maintenance procedures. Use this article to explain the importance of a clean, adequate engine oil supply.

Engine oil performs the following vital functions:

Lubrication - Oil maintains a film between moving parts to help prevent metal-to-metal contact, which causes friction and engine wear. The key to an oil's ability to lubricate is its viscosity, or resistance to flow. The higher an oil's number, the higher its viscosity will be. For example, a 40 weight oil is thicker than 20 weight.

Sealing - The same oil film that provides lubrication also assists sealing to maintain engine efficiency. Oil provides sealing both in the combustion chamber and with seals and shafts. It helps the piston rings seal pressure in the combustion chamber.

Cooling - Your engine's oil also carries heat away from the hot areas, especially the piston and cylinder head.

Cleaning - The term "detergent oil" refers to the cleaning capabilities of engine oil. Many engine oil additives assist in keeping the engine clean. About half the test criteria an engine oil must meet concern detergent properties. These detergents are necessary because of combustion by-products that find their way into the oil. Detergents keep varnish and deposits from forming in the engine, and to some degree remove existing deposits.

Checking the Oil

Running your lawn mower's engine with insufficient oil can cause serious engine damage, resulting in costly repairs or down time. Therefore, it is important to check the engine oil every time you use equipment.

The following is a typical procedure for checking a lawn mower's engine oil. Refer to your operator's manual for the proper procedure for your mower.

- Stop the engine and position the mower on a level surface.
- Clean the area around the oil filler cap/dipstick.
- Remove the oil filter cap and wipe the dipstick clean.
- Insert the dipstick into the oil filler neck, but do not screw in.
- Check the oil level shown on the dipstick. If the level is low, add the recommended oil to the upper mark on the dipstick. Do not overfill.

Commercial equipment is operated under the toughest conditions, so it's helpful to have a mower equipped with a system such as Honda's Oil Alert. An alert system warns the operator when the engine oil level begins to fall below a safe liimit, indication the operator should stop the engine immediately and add oil.

Why Change The Oil?

Adding oil regularly isn't enough. You need periodically to drain the old oil and replace it with clean oil. As crankcase oil lubricates, seals, cools and cleans, it becomes contaminated with acids, dirt and abrasives. These contaminants stay in the oil and can damage the engine. Also, prolonged use depletes many oil additives, rendering them ineffective.

Grounds care equipment works extremely hard for each hour of operation, requiring frequent oil changes. For example, you probably will run an air-cooled commercial lawn mower at or near full throttle for long periods of time. After 100 hours of operation the small quantity of oil in the crankcase can work the equivalent of an automobile engine traveling 5,000 hard miles. Also, consider that your automobile's engine runs in a relatively clean environment. A lawn mower's engine can be exposed to extremely dusty conditions, which further dirty the oil.

With the quality of today's engine oil, change the oil every 100 hours to provide adequate protection against premature engine wear. Make it a practice to log the hours of operation for equipment to determine proper maintenance intervals.

New engines are the one important exception to this recommendation. Newly machined surfaces moving against one another in a new engine produce abrasive powdered metal particles that will enter the engine's oil within the first few hours of usage. To prolong engine life, change the engine oil after the first 20 hours of use on a new machine.

Which Oil to Use

In selecting an engine oil, two questions that typically arise relate to the viscosity and American Petroleum Institute (API) rating.

Selecting the proper oil viscosity for an air-cooled lawn mower engine becomes especially important because ambient (surrounding) temperature greatly affects oil temperature. Most manufacturers have a chart in the operator's manual showing the recommended viscosity to use for certain ambient temperatures.

You want to use the thinnest oil that maintains sufficient film strength to keep engine parts from touching. The thinner the oil, the lower its internal friction and the better its ability to flow quickly when you first start the engine.

How to Change the Oil

Below is a typical procedure for changing the oil in a lawn mower. Always consult the owner's manual of your particular model for any variation from the steps below.

- Start the mower and allow the engine to reach normal operating temperature. Shut off the mower and disconnect the spark-plug before proceeding.
- Place a suitable container under the mower deck to catch the used oil. Check to make sure the drain hole in the mower deck is not clogged. Remove grass and debris, if necessary.
- Clean any dirt from around the oil filler cap/dipstick and remove the cap. The biggest enemy of a commercial lawn mower engine is dirt, and any dirt that falls through the filler opening will contribute to engine wear.
- Remove the oil drain bolt. The used oil will flow along the mower deck channel to the drain hole. Allow it to drain completely. Get as much of the old oil out of the engine as possible.
- Install the oil drain bolt and tighten it securely. Do not overtighten.

(Continued on Page 19)

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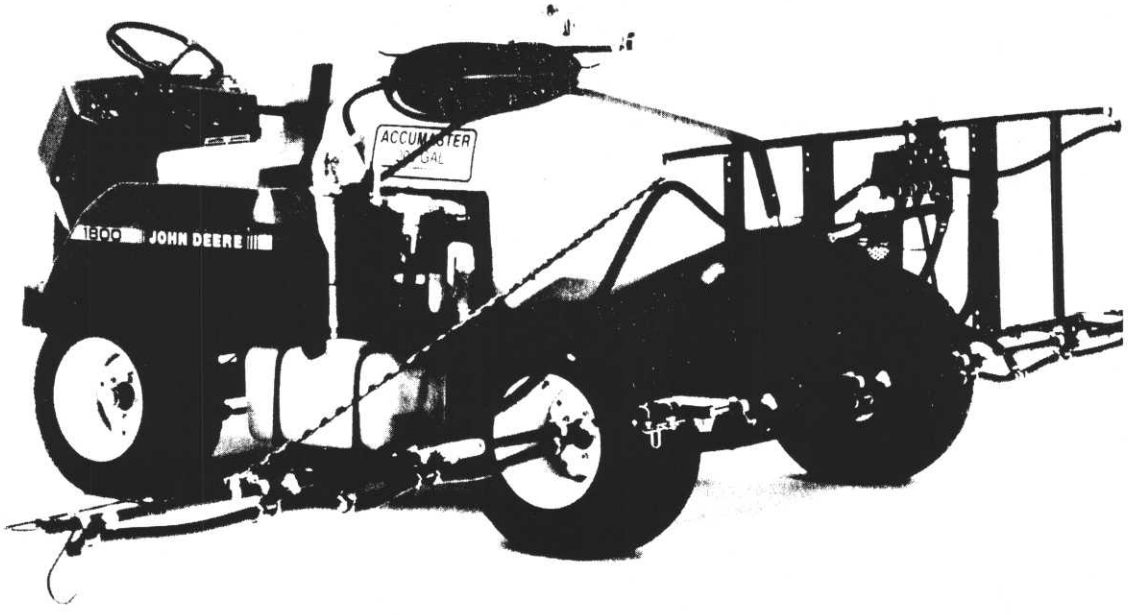

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Three R's of Hiring The Right Employee: Recruitment, Review and References

Good equipment and chemicals are important tools for golf course maintenance, but the most valuable assets to a superintendent are good employees.

Some superintendents may not spend much time considering potential crew members, but filling vacant positions is one of their most important jobs. Training new employees is expensive so hiring-and keeping-good people is imperative.

According ot Ed Walsh, Superintendent at Ridgewood Country Club in Daramus, N.J., the secret to success is finding the right people and providing an environment that encourages them to stay.

"When I hire someone, it's because I have high expectations for them," says Walsh. "If that person does a good job, I want them to be a long-term member of our team."

Start by recruiting

Finding good employees starts with the search for candidates. Walsh says superintendents often overlook the best recruitment tools: existing staff members.

"When I plan to hire a person, I'll often post the job listing in the shop," says Walsh. "The people who work here know the type of employee we're looking for, and they won't recommend someone who doesn't meet our standards."

In addition to internal postings, advertising in local newspapers may provide leads. To ensure that you attract qualified applicants, include an accurate job description.

Review applicants

The purpose of an interview is to evaluate potential employees. You want to determine—in a short time—whether applicants can handle the job responsibilities and if they will fit in with current employees.

"I ask them about their experience and expectations," says Walsh. "It's important to find out their potential."

Walsh recommends asking questions that require more than a yes or no answer. For example:

- With what type of mangement style do you work best?
- What is your strongest attribute?
- Do you prefer working in a group or by yourself?
- How will working here challenge your abilities?

In addition to getting to know the candidates, an interview should give the applicant a chance to learn more about the job. Walsh says candidates who ask meaningful questions show that they are genuinely interested in the position.

References help ensure a good hire

Together with an interview, references provide a good picture of the potential employee's work habits. Talking to previous employers can give you valuable insight about the candidate's attendance record, experience and skills.

While questions to former employers can't be too specific or personal, you do have the right to ask work-related questions. If possible, check references after the interview. This allows you to target specific issues concerning that person.

An experienced and well-trained maintenance crew keeps a golf course in top condition. But the value of a skilled maintenance team doesn't necessarily show up on the bottom line. It does, however, show up on the course.

Credit: Ed Walsh, Ridgewood Country Club as seen in The Ballmark, Winter 1991.

1992 Scholarships

(Continued from Page 6)

be awarded a scholarship."

U of M Professor White described Mark "as a mature student who is solidly focused on becoming a golf course superintendent. He works hard and is supporting himself through school. I am confident that he will be a positive contributor to the golf profession.

Said Simeon: "I have grown up on a golf course. I started caddying at age 10 and then proceeded to grounds maintenance. I find this profession very rewarding and beneficial. I expect a college education to give me a scientific background to the cultural practices done on a golf course."

Oil Maintenance Practices

(Continued from Page 14)

- Fill with the recommended oiil to the upper level on the dipstick. Do not overfill. An engine with too much oil will smoke, foul spark plugs and run poorly.
- Install the filler cap/dipstick.
- Wipe up any oil from the mower deck to reduce dirt and grass build up when you use the mower. Reconnect the spark plug wire.
- Dispose of the used engine oil in a way that is compatible with the environment. We suggest taking it in a sealed container to your local service station or recycling center for reclamation. If you have several pieces of equipment, start an oil-collection drum. Some recycling companies will drive to your site for pickup. Whichever method you choose, do not throw it in the trash or pour it on the ground.

A routine oil change is also a good time to inspect the crankcase breather hose to be sure it is securely fastened and undamaged. A torn or disconnected breather hose will allow dirt to enter the engine, which will result in rapid engine wear.

Oil is the lifeblood of your lawn mower's engine. You can help ensure long engine life and many hours of trouble free operation by performing proper oil maintenance.

This article was written by service engineers at Honda Poser Equipment, Duluth, GA. Article seen in SportsTurf, February, 1992.

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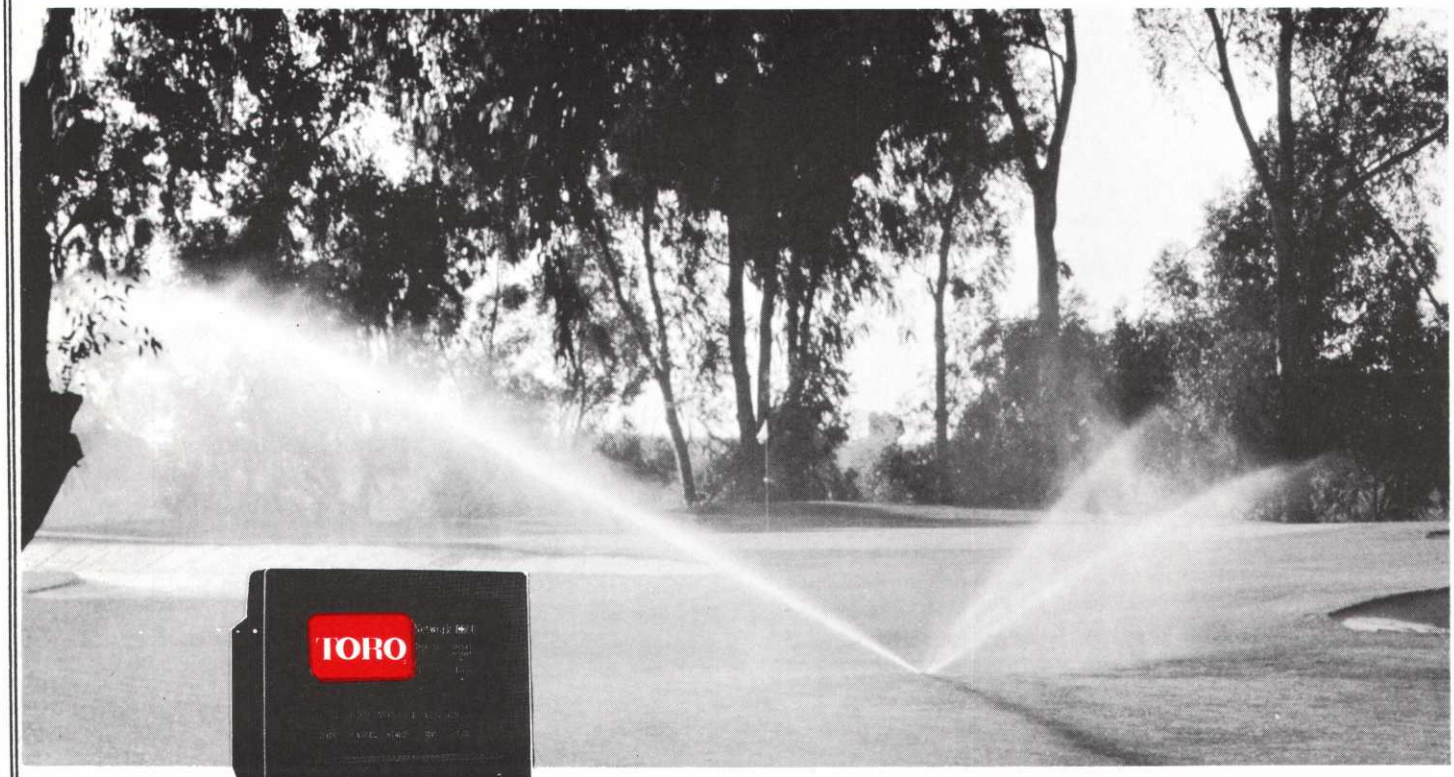

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