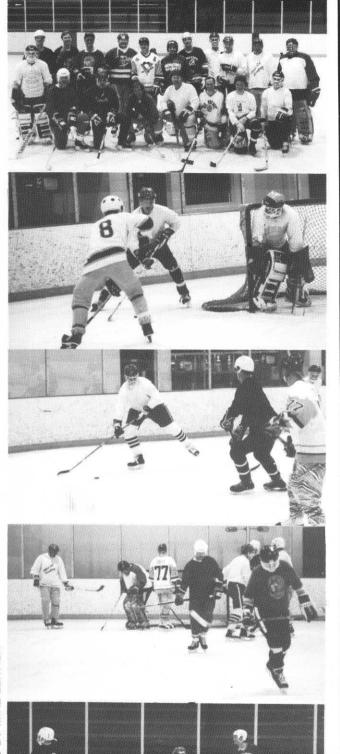
MGCSA HOCKEY CLUB





DEE P

CAN DO IT ALL!!!

We are a custom contractor selling aeriation services using the:

VERTI-DRAIN®

- Maximum depth of 12".
- Allows you to change the soil profile of your greens.

- OR -

TORO HYDROJECT®

- Quality Aeriation with No Disturbance.
 - Allows you to aeriate any time of the growing season.

In the spring or fall we can aeriate your greens with the Verti-Drain® and on the same day aeriate your tees and collars with the HydroJect®.

In the summer months, when your greens are under heavy stress and when relief is needed most, we can use the HydroJect® to re-vitalize your greens without interruption of play.

DEEP aerifying promotes improved root development, and increases water, oxygen and nutrient infiltration.

For healthier, better-looking turf, **DEEP** aerify!

WHEN YOU NEED DEEP AERIFICATION
THINK FIVE STAR!

1-800-873-1455

Keith Faber

- 1. Good championship fairway turf is tight, firm, and consistent in length, enabling a competitor to impart spin. What is the standard length of fairway grass for USGA championships? (a) 1/4 ". (b) 1/2 ". (c) 5/8". (d) 3/4".
- 2. Narrow fairways are a trademark of USGA championships. Depending on a hole's difficulty and length, fairways range in width between: (a) 28 and 35 yards. (b) 20 and 30 yards. (c) 15 and 25 yards. (d) 10 and 20 yards.

their varying grains and textures produce different green speeds. Which grass produces the fastest putting surface? (a) buffalograss. (b) bermudagrass. (c) bentgrass. (d) ryegrass.

- **4.** Maintaining a golf course has become an increasingly scientific job. The individual who performs those demanding duties is properly referred to as the: (a) golf course superintendent. (b) turfgrass engineer. (c) greenkeeper. (d) agronomist.
- 5. Golf courses use a vari-3. Different grasses with ety of means to indicate yard-

age and distances, some more effective and less disruptive of play than others. Which one of the following methods is against the Rules of Golf? (a) natural markers (trees, shrubs, etc.). (b) artificial markers, (plates, flagstick balls, etc.). (c) asking your opponent or fellow competitor. (d) pacing the distances for approach

- **6.** The prime conditioning areas of a golf course-tees, fairways, and greens-can experience a host of problems. Centipede and St. Augustine are two types of: (a) diseases that can haunt these surfaces. (b) grasses that result in poor playing conditions. (c) insects that specifically attack low-cut grasses. (d) modern maintenance machines that improve mowing standards.
- 7. Agronomy is besieged with a flood of technical and

scientific terminology. Which of the following groups of golf buzzwords are agronomists not overly concerned with? (a) synergism, cation exchange capacity, zovsia. (b) pH, evapotranspiration, percolation. (c) supination, pronation, connection. (d) aerification, volatilization, allelopathy.

8. U.S. Open rough is meant to impede the golfer to a measurable degree (ideally a half-shot penalty), but it need not inflict physical harm. How high was the primary rough at Hazeltine in 1991? (a) 3". (b) 4". (c) 5". (d) 6".

ANSWERS:

1. B. 2. B. 3. C. 4. A. 5. C., 6. B. 7. C. 8. A.

-John Lewis. The Golf School column, Golf Journal, USGA.

FOR SALE

1973 Jacobsen F-10 Fairway Mower with 7-gang, six-bladed

1988 Toro 216 Triplex with 3-wheel drive. 11 blade reels.

1977 Jacobsen Fairway Aerator. Needs Work\$500

Call 507-645-6879 . . . Ask for Bill

TURF SUPPLY COMPANY

2797 Eagandale Blvd.

Eagan, MN 55121

Are your Golf Course Supplies in Bogev Shape . . .

- Be Prepared -

Call your Turf Supply Co. Representative to get them up to Par.

ORDER EARLY

The Most Complete Source of Turf Management Products for your Golf Course.

> Call Turf Supply Company (612) 454-3106 --- 1-800-551-4857

Golf Industry Needs More Support In Educating Public

By Mark Jarrell

Editors note: This article was originally pubished in GOLF WEEK Magazine (12-21-91). We have received permission from the Editor of GOLF WEEK to republish the article.

Recently, I was reminded of an incident that readers should find disturbing.

This true story was told to me several years ago by a golf course manager from an exclusive beachside golf club in the West Palm Beach, Fla., area.

Mr. C., the manager, took a call from a resident in an apartment building fronting the golf course wanting to know if any "chemicals" had recently been applied to the golf course. Several of the apartment residents were having double vision and hallucinations almost every night, usually about the same time the sprinklers were running on the course.

Mr. C. thought for a moment, then answered truthfully that nothing had been recently applied near the buildings in question. The caller then asked if any chemicals were added to the irrigation water that was applied through the sprinklers, and unlike many of us in South Florida who have fertigation systems that inject small quantities of fertilizer into the irrigation water, this club had no such system.

The caller apparently didn't believe Mr. C. A couple of weeks later an inspector from the Florida Department of Agriculture showed up with a television crew in tow. Mr. C's license was checked, his facility thoroughly inspected and he was subjected to an on-camera interrogation. Nothing faulty, incriminating or inappropriate was discovered, so the TV crew departed without apology or conclusion.

Shaken by the ordeal, Mr. C. decided to conduct his own investigation. Combing the area around the apartments, he found some used medical syringes discarded in the hedges between the apartments and the course. He called the police, who conducted another investigation and discovered the cause of the nocturnal hallucinations.

As it turned out, people renting the house next door to the apartments were engaged in illegal drug activities. Residues were found on the pool screens, which indicated large quantities of crack cocaine were being processed and the smoke was drifting up through the open windows of the apartments, causing the residents' altered states.

I was reminded of this story following recent reports about certain LPGA Tour players "suggesting" that chemicals used on golf courses might be the cause of the high incidence of breast cancer among women on the LPGA Tour.

My first reaction was to laugh, but then this sinking, depressed feeling settled in as I though of the depths to which our chemophobic society has fallen.

I suppose I shouldn't be too upset at the players who made those statements, but I am. People who derive a living from the game of golf should be more responsible about the things they say and do that can hurt the golf industry.

What ever happened to common sense? Did anyone ever check statistics to see if, in fact, there was a higher incidence of breast cancer among LPGA players in comparison to the population at large? Wouldn't it make sense to check the incidence of breast and other cancers among the people who work on golf course maintenance crews, as opposed to those who play golf courses, where the pesticides are applied in highly-diluted

quantities and watered in?

Why point fingers at "chemicals" when science tells us: (a) cancer is the leading cause of death in the U.S., and one of four Americans will die from it, (b) the causes of cancer continue to baffle the best researchers, (c) incidence of breast cancer increased 24.2 percent from 1973 to 1987 and the probable cause is ovarian hormones, and (d) despite the widespread perception that cancer is caused primarily by environmental pollution, evidence is building that the disease is mostly a matter of "personal choice," meaning diet, exercise, tobacco and ultraviolet light are the major causes.

We have so-called "environmental" groups attacking lawns and golf turf as unnecessary and frivolous environmental hazzards, despite the preponderance of evidence proving turf's extensive environmental and cultural benefits.

We have regulatory officials in positions of influence over the golf industry, such as David York of the Florida Department of Environmental Regulations, who are guided by prejudices rather than facts on issues such as water consumption and groundwater contamination. We have millions of people whose lifestyle or livelihood revolves around golf, and yet the "golf industry" has no voice in any legislative hall.

When are we ever going to wake up? If you are concerned about golf's future, help support organizations that conduct turf-grass research and development.

North Star Turf Receives Several Awards At IGC Conference

North Star Turf was the proud recipient of several awards recently given at the International Golf Course Conference and Show in New Orleans.

Textron Financial Corporation (TFC) presented North Star with its Top Volume Award. TFC officials said North Star earned the honor by financing a significant number of its Jacobsen equipment sales through TFC. TFC is the financing division of Textron Corporation.

In addition to the financing honor presented by Textron Corporation, North Star was also presented with three awards from Jacobsen Textron Manufacturing.

North Star Turf's strong sales showing in 1991 combined with continued sales growth over the past several years helped North Star earn the distinction as a Jacobsen Textron Distributor of the Year.

For its exceptional work on behalf on their customers, Jacobsen presented North Star Turf with its Distinguished Service Award. The award cited North Star for providing expert technical support, outstanding response to customer needs and timely communication with both customers and Jacobsen.

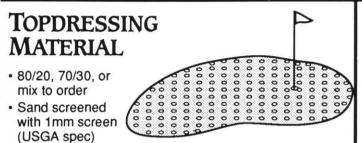
Jerry Odash, technical sales consultant for North Star Turf, was awarded the Jacobsen Textron Pacesetter Sales Award. Odash was honored for his high sales volume across the full line of Jacobsen turf equipment as well as outstanding service to his customers.

Jacobsen is a major manufacturer of turf care equipment used by professionals worldwide.

HOLE NOTES 13

A (W)HOLE IN ONE

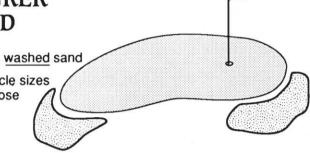
One-stop shopping for golf course materials



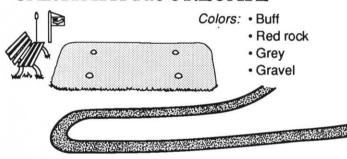
- Product blended then rescreened through 3mm screen. to assure clean mix
 - All specs available upon request

BUNKER SAND

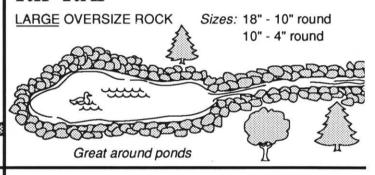
- · Clean, washed sand
- 2 particle sizes to choose from

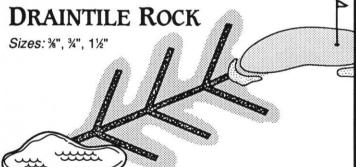


CARTPATH AGGREGATE

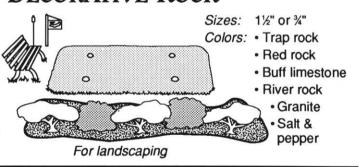


RIP RAP

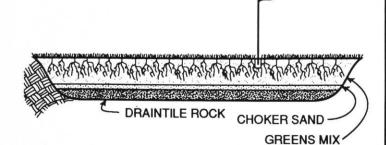




DECORATIVE ROCK









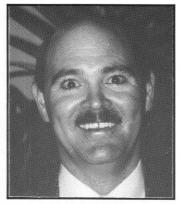
P.O. Box 332 Elk River, MN 55330

Minnesota's complete supplier of golf course materials

Todd Plaisted • John Plaisted

(612) 441-1100

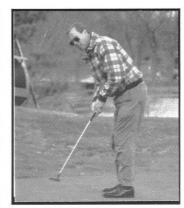
What Is Your Biggest Environmental Concern?



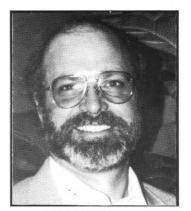
TOM McCANN Landscape and Turf



JACK MacKENZIE North Oaks G.C.



DOUG MAHAL Minikahda Club



CARY FEMRITE Pebble Creek C.C.

"Education! Governmental bodies are making decisions that will affect our industry based on the information provided to them. Therefore, we have to educate them correctly and with up-to-date information on the products we use today.

"If incorrect information is provided to these legislative people, we could lose more products from our day-to-day inventory of pest management material." "As a self-proclaimed environmentalist, I am concerned that the educated superintendent's progressive attitude toward integrated pest management, licensing and certification and common sense ecological responsibility is being overlooked. Overbearing and uneducated groups are failing to appreciate the necessary balance between economic and responsible pesticide use.

"As an association, we need to continue, and expand upon, our lobbying efforts to control those individuals who threaten our livelihood and also the game of golf as we perceive it to be." "My biggest environmentrelated concern is the inability of our industry to adequately educate the public, in general, and lawmakers specifically, before they decide the fate of the pesticides we use on our golf courses.

"I have a concern that eventually the visual appearance of a pesticide sprayer on the course will no longer be tolerated and that midnight applications will be the norm.

"I think we, as superintendents, have a large responsibility for some of this public education, particularly to the portion that are members of our clubs. Let them know what you're applying and what it's controlling. Let them know what compliance issues you have undertaken. Make this information available upon request. Make them know they employ an environmentally responsible superintendent.

"It's important that we hide nothing if, in fact, we are storing, handling and applying legally. We can not allow ourselves to be above the law in this regard or we certainly won't be able to blame lawmakers or the general public for our woes." "My biggest environmental concerns start with public awareness. Awareness raises issues that people rarely consider, and stimulates conversation in people's day-to-day lives.

"Media attention raises awareness through public meetings which, in turn, generate conversation on environmental issues. The gaps occur with misinformation and unfound claims. So then, education and training—which we in the MGCSA have drawn attention to—provides us, the professionals, with data and findings to help educate our public bodies.

"Water, air quality and food processing are the biggest concerns I have because our golf course is located on a river, adjacent to agricultural fields, with a power plant within a mile. I'm pleased and relieved that NSP is very conscientious to addressing these issues in our area and deal with them sincerely and professionally.

"I try to do my part by talking with my committee on the necessary issues and our alternatives, plus future concerns.

"Communication, education and awareness lead to better understanding and positive results."



SCHOLARSHIP APPLICATIONS

CAN BE OBTAINED FROM THE MGCSA BUSINESS OFFICE BY CALLING:

(612) 473-0557

COMPARING APPLES TO APPLES??? YOU SHOULD BE COMPARING

"THE CORES"

Faster is not always better. The speed of an aerifier is not a true indicator of aerifying performance! Other factors to be considered in aerifier selection are: **DEPTH OF PENETRATION** and **NUMBER OF HOLES PER SQUARE FOOT.**

The Ryan GA-30 penetrates turf to a depth of 3³/₄". A full ³/₄" to 1" deeper than other models. Aeration patterns can be adjusted from 1" hole spacing for intensive aerifying and renovation, on up to a full 5" spacing for general purpose uses.

You ride instead of walk, and transport between areas at a full 6 MPH



If you are in the process of trying to compare one aerifier to another, GIVE US A CALL. We'll show you how to compare **THE CORES**, so you don't end up with a bad apple!!!

RYAN[®]
BUILT TO LAST

Distributed Exclusively By:

(800) 592-9513 (612) 484-8411



3080 Centerville Road St. Paul, MN 55117



BUILT BECAUSE OTHER UTILITY TRUCKS JUST DON'T GO FAR ENOUGH.

J-15-0



NORTH STAR TURF, INC.

"We Initiate Satisfaction"

(612) 484-8411 (800) 592-9513

CUSHMAN TURF SPRAYER



MODEL LP 100 LOW PROFILE TURF SPRAYER

Minnesota Wanner's unique mounting system makes taking sprayer in or out of vehicle box a breeze. Better visibility and handling are the result of the new low-profile tank and base.

COMPONENTS AND SPECIFICATIONS

- 100 gallon premium style fiberglass tank features large sump and multi jet agitator.
- Easy to use slide-in-box mounting system.
- Rugged PTO-driven centrifugal pump has stainless steel shaft and viton seals. Handles a wide variety of turf chemicals, including powders.
- Large capacity strainer and liquid-filled pressure gauge are included.
- 15' three section boom features adjustable tension "breakaway" hinges and full-length tree guard. Includes QuickJet nozzle system with flat fan or raindrop type tips.
- 7-way free valve provides complete control of boom sections.
- Trigger-type spray gun and 50' of high pressure lightweight spray hose.



\equiv CUSHMAN MOTOR (O., INC. \equiv CUSH

VOLES WERE BUSY IN TURF, THANKS TO HEAVY SNOWFALL

By ROBERT J. MUGAAS

County Extension Agent – Environmental Horticulture University of Minnesota Minnesota Extension Service – Hennepin County

As the snow cover melts, many turf managers in Minnesota are alarmed to find that meadow voles were busy in their lawns and turf areas over the winter.

Meadow voles, rodents with rather short tails, are common throughout Minnesota. Often mistakenly called "field mice" or "meadow mice," meadow voles are usually found in areas with a heavy, protective cover of grass, grass-like plants or leaf litter.

Vole damage to turf may be especially noticeable this spring because of the heavy snow cover that persisted over the winter. Voles generally do not venture into open places, such as lawns, to avoid being exposed to predators. But when there's good snow cover, voles may feed on lawns. As they feed, they create tunnels or runways 1 to 2 inches wide between the ground and the snow, leaving tell-tale depressions filled with grass clippings.

Although vole damage to turf can look terrible, it's seldom serious. The crowns of grass plants are usually below the soil surface and the damage caused by vole feeding will be repaired when the grass resumes growth in the spring. After two or three mowings, the damage will probably not be noticeable.

However, vole feeding on trees and shrubs is often a more serious matter; woody plants can be badly disfigured or even killed if their stems are girdled, or stripped of bark all the way around.

What can be done to control voles? Some feed stores and garden centers sell poisons listed for their control. These poisons should be placed only where voles are likely to be. After the snow melts, voles aren't likely to be on your turf, so DO NOT put poison on your turf. Instead, poison can be placed in areas with a good cover of tall grass, other plants or leaf litter. Follow directions on the labels carefully **to avoid poisoning pets and other wildlife**.

New Turf/Water Quality Publications - NOW AVAILABLE -

Six new publications are now available from the Minnesota Extension Service dealing with the issues of turf maintenance practices and their impact on water quality. Their titles are:

AG-BU-5726-ETurfgrass Management for Protecting Surface Water Quality
AG-FO-5889-B Using Lawn Fertilizers and Pesticides Responsibly
AG-FO-5890-B Lawn Care Practices to Reduce the Need for Fertilizers & Pesticides
AG-FO-5891-B Responsible Use of Lawn Care Pesticides
AG-FO-5892-B Phosporous Management Practices for Lawns
AG-FO-5893-B Nitrogen Fertilizer Use for Lawns

The larger publication (AG-BU-5726-E) includes a more thorough discussion of the smaller publication topics, a section on turfgrass benefits and a listing of the various articles referenced in the publication. All of the publications can be helpful to inform and educate your golf course employees and members about the positive aspects of turfgrass and the environmentally responsible practices you use at your golf course.

All publications can be ordered from your local county extension offices or the University of Minnesota Extension Service Distribution Center, 3 Coffey Hall, University of Minnesota, St. Paul, MN 55108.

Snap mouse traps, baited with a peanut butter-oatmeal mixture or apple slices, can be used also to control low populations of voles. However, trapping is a pretty inefficient control, probably best used to protect only a few, high-value trees and shrubs.

Also, dropped bird seed serves as both an attractant and food source for voles during the winter.

Finally, to prevent damage to trees and shrubs, before the weather gets cold in the fall, surround their stems with a cylinder of quarter-inch hardware cloth sunk 6 inches into the ground, Remove the hardware cloth cylinders a couple of inches larger in diameter than the stems they are to protect.

Vole populations peak periodically — every two to five years, even though snakes, hawks, owls, foxes and weasels all prey on voles. Voles eat a variety of plants, mostly grasses and perennial plants. But they also eat bark, especially in fall and winter.

Adapted from article by Jim Kitts, Extension Specialist-Wildlife/Fisheries, Minnesota Extension Service.

Plants Enhance Landscape, Help Protect Environment

Trees, shrubs and turfgrass provide environmental, social and economic benefits. They enhance air and water quality, provide biodiversity and wildlife habitat and reduce soil erosion. Data point to improved health and safety and reduced crime as other benefits of urban landscaping.

All green plants remove carbon dioxide and certain impurities from the atmosphere and store carbon in their tissues and release oxygen as part of the photosynthetic process. In this way, they serve as natural air cleaners.

Trees provide shade and shelter from wind and improve golf course landscape aesthetics.

Turfgrass plants, through their great numbers, help cool surrounding areas through evapotranspiration. Turfgrasses, with their extensive, gound-level leaf and root systems, also entrap particulate pollution from the air and water. The microbes that grow in association with grasses convert these pollutants into energy for themselves and, ultimately, into harmless, soil-building by-products.

Local nurseries can provide the trees and shrubs to help enhance golf course settings. Local purchases will generally assure high-quality plant materials well adapted to thriving in the local environment. These same nurseries can provide the technical assistance necessary for proper placement and maintenance of these plants.

Our most beautiful community settings, including golf courses, owe their attractiveness not only to the architectural skills of the designers, but also to the plants that provide the functional and aesthetic enhancement that make them more amenable for human habitation.

Adapted from article by Ron Smith, Professor, North Dakota State University Extension Service.

HOLE NOTES

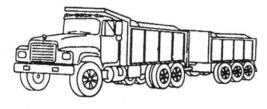
Construction Experiences At River Oaks

By Tom Parent

When people ask me about the construction of River Oaks I tell them it was a wonderful experience...but I never want to do it again, at least not anytime soon. I missed not having any grass to nurture. I felt like a fish out of water, although I was doing productive and important work. I've always been a hands-on superintendent and spending a summer watching people work was frustrating. Although I've dealt with contractors before, it was never on this scale.

Unfortunately, I was not involved in the design and planning stage, and the tree and earth movers arrived two weeks before I did on June 11, 1990. In addition to the normal stress of moving and starting a new job, construction was well underway. My world consisted of a Gelco trailer, several yellow note pads, a couple of pencils, a rough graded first and second holes, and an army of salespersons who all wanted to get the first crack at me.

Fortunately for me, the city had what many people have told me is Don Herfort's best design, and awarded the construction bid to Park Construction Company. I have nothing but praise for this organization. I soon learned that they knew a lot more about their job than I did, and they did their jobs in such an unnreprochable manner that the best thing I could do was leave them alone. That's not to say there was no input. Each day countless decisions needed to be made and work to be inspected and approved or altered. I was also blessed with a city management



LEITNER COMPANY

Specializing In Soils For Golf Course Maintenance & Construction

Soil mixing and processing specialists.

Supplying the Golf Course Industry with soil and sand products for over 50 years.

From 10 yards to 10,000 yards — material to specification for topdressing and construction.

Quality — Reliability — Experience

MIKE LEITNER

LEITNER COMPANY

945 Randolph Avenue St. Paul, Minnesota 55102

(612) 291-2655

who hired me to be their expert and let me do my job.

I had many other things in my favor as well. First of all, was the property. River Oaks is situated on the bluffs of the Mississippi River halfway between the cities of Cottage Grove and Hastings which have some spectacular river views. Secondly is the soil. The top two feet is a loamy sand which overlays up to ninety feet of USGA greens specification sand. All the sand for greens, tees and bunkers was quarried on site. We constructed modified USGA sand greens with an 8-2-1 (sand, peat, native soil) mixture directly on top of the native sand with drainage into dry wells. The greens matured very rapidly and have superb root depth, mass and playability. June and July of 1990 had record or near record rainfall, yet we lost only nine days due to wet conditions. Several rainfalls caused washouts that you could hide a semi in. I kept thinking how depressed I would be if it were my crew doing the work, but it was not my problem, it was the contractor's problem...thank God!

If any of you heard my talk last fall at the Minnesota Conference, you heard some of the down side of construction. Coordinating multiple contractors — who all have their own self interest in mind and usually want to perform mutally exclusive projects in the same place at the same time — will definitely cause you to sprout a few new gray hairs. I already had more than I cared to admit. Now the expression salt and pepper hair started to be mentioned about me. My beard even started going gray. At the end of construction, we had up to seven contractors on site, each working on the heels of each other. When people interested in building a golf course consult me, I always tell them to have one general contractor in charge. That way all scheduling problems are the contractor's problem, not yours. This will cost a little more, but I believe the project will run more smoothly.

In addition to the demands of the construction of the golf course proper, all the things you take for granted in regard to infrastructure need to be designed, built or purchased. We needed a maintenance building, club house, roads, parking lots, turn lanes, gas, phone and electrical hook-up, equipment, mowers, tools, etc... Somehow you need to write a budget with no historical data, with nothing but guesses to guide you. I told my supervisor it was my S.W.A.G. (scientific wild-ass guess) budget. You need to purchase equipment. Salespersons are more than happy to guide you in your efforts. Fortunately, for me, I have nothing but respect for the people I have had the pleasure to work with. For some reason, they don't come to lunch anymore. I think I must of gained five pounds. Working for a municipality requires that everything must have specs and bids. It seemed like an endless task, but the though of a new maintenance building full of brand new equipment spurred me on. It was an experience few of us ever dare dream of.

Toward the end of July and into August, the contractors were working 14-hour days to bring the project to the point where they could start seeding. The work was progressing at such a rapid rate it was next to impossible to keep up with them. Usually my day started with Stan Folie from Northern Irrigation staking irrigation head locations. Looking for agates is about the only thing that slows Stan down. Toward the end of August, Stan's men were installing a hole or more a day. The seeders arrived

(Continued on Page 22)