2. Walk in the center of mowed trails to avoid brushing up against vegetation.

3. Conduct thorough "tick checks" on yourself and your children after spending time outdoors. Prompt removal of ticks, even after they have attached, can drastically reduce any chance of Lyme disease transmission.

4. To remove a tick that has attached, grasp it firmly with tweezers as close to the skin as possible and gently pull it straight out. If tweezers are not available, grasp the tick through a piece of tissue. In any case, avoid squeezing the tick's abdomen during the removal process. Once the tick has been removed, wash the bite area with soap and water and apply an antiseptic to the site.

5. Insect repellents containing 0.5% permethrin or 30% DEET have been shown to be effective in repelling deer ticks. If such products are used, be sure to follow the manufacturer's directions on the label.

For additional information about Lyme disease, contact your local public health agency.

My tenure as Editorial Chairman for HOLE NOTES so far, has certainly been an eye opener. Little did I realize the amount of time-consuming work and effort that was necessary to put out a publication of this size. Our newsletter goes out to 650 mailboxes each month as our members and other turf organizations receive their copies. To date, with the help of many fine people and the great work of the MGA office, our work has been kindly received and we appear to be reaching our goal of improving both the editorial quality and format of our publication. Many thanks to all involved. As always, member-generated articles are scarce and difficult to gather. Now that your course is fully staffed and things are slowing down, consider putting pen to paper and getting us an article on a subject that interests you. A $50.00 reward waits for those who submit a published article. You, and MGCSA, will greatly benefit from the knowledge.
BEFORE WE DEVELOPED THESE PROBLEM-SOLVING TURFGRASS MIXTURES, WE MARCHED THROUGH ACRES AND ACRES OF PROBLEMS.

Nobody knows the troubles we've seen.
Our Northrup King turf specialists and researchers have hoofed through salt problems, soil compaction, disease, starved turf, baked turf, cleated-to-shreds turf, and dormant winter turf—all depressing sights. But it was a road well worth our travels.

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.

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

Ask your Northrup King distributor about Medalist Turf Products to solve your turf problems. Or write Northrup King Medalist Turf Products, PO. Box 959, Minneapolis, MN 55440.
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Keith Faber
2325 Dawes,
Ashland, NE 68003

and recognition gained from such an endeavor.

Some difficulties have arisen in the land of journalism however. Questions have surfaced about our photos which are run each month. Responsibility for taking photos lies directly on my shoulders. I can take lousy photos with the best of them, my camera can malfunction, or developing labs can destroy my best efforts. The end result is a poor crop of photos which limits our choices for publication. Cover photos are particularly difficult as they must not only be suitable in subject, but shot in a vertical plane rather than horizontally.

Because of these limitations, our policy is to run the best photos available. Please accept our apologies if our photos cause you difficulties in some manner. As our publication expands and finances improve, maybe we can get professional help or at least someone who takes the lens cap off!

Other problems arise when advertisers and article writers fail to meet their deadlines. In an effort to get HOLE NOTES to your doorstep on time, deadlines have been moved to the 15th of each month. This should allow the MGA office, our publisher, more time to assemble the newsletter and get it on its way. Information should be more current and mistakes lessened, making the job easier for all parties involved.
The lightweight fairway mower with the durability and high capacity you expect. Its superb performance in ground following, grass catching and striping provide superior appearance and playing conditions your members can appreciate.
Reelmaster® 223-D Specifications*

**TRACTION UNIT, MODEL 03500**

| **ENGINE** | Mitsubishi Model L3E, liquid cooled diesel engine. Mitsubishi rating of 23.0 hp; governed to a maximum rpm speed of 3200. 58.1 cu.in. (952 cc) displacement. Heavy duty, 3-phase, remote mounted air cleaner. Electric (transistor type) fuel pump, 12 volt, mounted on frame with replaceable fuel filter. High water temperature shutdown switch. |  
| **RADIATOR** | Mid-mounted radiator with industrial tube and fin construction; 7 fins per inch. Approx. 6 quart (.57 liter) capacity. Remote mounted 1 quart (.55 liter) expansion tank. |  
| **ELECTRICAL FEATURES** | 12 volt, cold cranking 530 amperes at 0°F (-18° C), 85 minute reserve capacity at 80°F (27°C), maintenance free battery. 40 amp alternator with I.C. regulator/rectifier. Automotive type electrical system. Seat switch, PTO and traction interlock switches. |  
| **FUEL CAPACITY** | 12 gallons (45 liters) diesel fuel. |  
| **CONTROLS** | Foot operated traction and brake pedals. Hand operated throttle, parking brake lock, glow plug switch, ignition switch, single lever control for cutting unit on/off and lift/lower, cutting unit backlap switch and reel speed controls. |  
| **GAUGES & DIAGNOSTICS** | Hour meter, fuel gauge, temperature gauge. 4 bank warning lamp cluster: oil pressure, water temperature, amps, and glow plug. |  
| **TRACTION DRIVE** | Sundstrand Model M25 hydrostatic transmission mounted on Dana Model GT20 axle 20.9:1 ratio. Foot pedal control of forward/reverse ground speed. 25 micron filter mounted directly on transmission housing. Axle is used as reservoir for hydrostatic transmission. |  
| **GROUND SPEED** | 0-10 mph (0-16.1 km/hr) forward, 0-4 mph (0-6.4 km/hr) reverse. |  
| **TIRES/WHEELS/ PRESURES** | Two rear steering tires: 18 x 8.50-8, tubeless, 4-ply rating. Two front traction drive tires: 26 x 12.00-12, tubeless, 4-ply rating, demountable rims. Recommended tire pressure: 10-15 psi (69-103 kPa). |  
| **MAIN FRAME** | All welded formed steel. |  
| **BRAKES** | Individual 7" x 1.75" (17.8 x 4.4 cm) drum type wheel brakes and parking brakes on front traction wheels. Dynamic braking through traction drive. |  
| **STEERING** | Power steering. |  
| **CUTTING UNIT SUSPENSION** | Equal length lift arms with free floating, trailing cutting unit attachments. Adjustable spring applied down pressure system. |  
| **SEAT** | Deluxe high back suspension seat. |  
| **OVERALL DIMENSIONS** | Length — w/grass baskets: 119" (302 cm); — without grass baskets: 106" (269 cm) |  
| **WEIGHT** | Approx. 2000 lbs. (907 kg). |  
| **WARRANTY** | One year limited warranty. |  
| **CERTIFICATION** | Certified to meet the American National Standard Institute's (ANSI) specifications B71.4-1984 and applicable Federal and State regulations based thereon. |  

**5 AND 8 BLADE CUTTING UNITS, MODELS 03505 AND 03508**

| **TYPE OF CUTTER** | Five 21” (53 cm) reels. |  
| **HEIGHT OF CUT RANGE** | ¼" (6.3 mm) to ⅜" (19.1 mm) |  
| **HOC & ROLLER ADJUSTMENT** | Front Roller: fixed position |  
| **REEL/FRAME CONSTRUCTION** | Rear Roller: screw adjustable with bolt clamp lock. |  
| **REEL DRIVE** | Fairway designed reels with 5 or 8 high carbon steel blades. All welded construction. 5” (13 cm) diameter reels. |  
| **BEDKNIFE AND BEDBAR** | Reel motors feature quick disconnect for removal/installation onto cutting unit. |  
| **CLIP FREQUENCY (ADJUSTABLE)** | Opposed screw adjustment, replaceable bedknife mounted on a cast iron bedbar. Bedknife cutting edge hardness is Rc 48-55. |  
| **ROLLERS** | Model 03505: 59” → 1.17” (15 mm → 29.7 mm); 5 blade reel at 5 mph (8.04 km/h). |  
| **GRASS BASKETS** | Model 03508: 37” → .73” (9.4 mm → 18.5 mm); 8 blade reel at 5 mph (8.04 km/h). |  
| **CLIP FREQUENCY** | Front cutting unit rollers are 2.5" (6.35 cm) diameter Wiehle rollers. Rear rollers are 2” (5.1 cm) diameter full rollers; both have regreasable water pump type bearings. |  

*Specifications and design subject to change without notice. "Toro" and "Reelmaster" are registered trademarks of The Toro Company, 8111 Lyndale Avenue South, Minneapolis, Minnesota 55420.

**COMMERCIAL PRODUCTS**

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Discussions are now under way with the MGA to determine future directions this publication will take. As our circulation grows and editing becomes more complex, more and more time is going to have to be devoted to this newsletter, from both editorial and mechanics standpoint. We are currently investigating some combination of additional funding and/or staff for the MGA to lessen their workload of not only HOLE NOTES, but other services provided to members as well. Other options of hiring an advertising agency or even an executive director to handle the extreme workload are being explored as well. Please let your Board of Directors know about your thoughts on these matters.

What we have, are not insurmountable difficulties, but problems of success. As our organization becomes increasingly larger and more active in responding to the issues of the day, we simply need more help to respond to our members desires. The MGA should be gratefully thanked for their fine efforts in the past, but now they need our help. As we set our goals higher and higher and respond to the need for increased member services, we must devote more and more resources to their attainment. We will keep you posted on our discussions.

WHAT MOTIVATES YOUR EMPLOYEES?

The following 10 factors were presented in a National Survey to employees and again to employers. Each group was asked to rank each category on a scale of 1-10 with 1 being the most important and 10 being least important. As you can see, the bosses and employees did not agree very often:

<table>
<thead>
<tr>
<th>Employee Response</th>
<th>Employer Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Full Appreciation of Work Done</td>
<td>8</td>
</tr>
<tr>
<td>2 Feeling &quot;In&quot; on things</td>
<td>10</td>
</tr>
<tr>
<td>3 Sympathetic help on problems</td>
<td>9</td>
</tr>
<tr>
<td>4 Job Security</td>
<td>2</td>
</tr>
<tr>
<td>5 Good Wages</td>
<td>1</td>
</tr>
<tr>
<td>6 Work that is interesting</td>
<td>5</td>
</tr>
<tr>
<td>7 Promotion and Growth</td>
<td>3</td>
</tr>
<tr>
<td>8 Personal loyalty to workers</td>
<td>6</td>
</tr>
<tr>
<td>9 Good working conditions</td>
<td>4</td>
</tr>
<tr>
<td>10 Tactful disciplining</td>
<td>7</td>
</tr>
</tbody>
</table>

Versatile Motor 180 Adds Power 3-Wheel Drive Option.

The Ransomes legend in reel mowing began more than 150 years ago, with Robert Ransome's manufacture of the world's first reel mower. Since that original great idea, Ransomes has made one improvement after another.

Take the Motor 180 as an example. It has always been one of the most versatile, compact triplex riders you can find. But now we've added a smoother, more powerful engine - the Vanguard V-twin. And the good news doesn't stop there.

We've also developed a new Motor 180 model with all of the premium features demanded by high-use operators. We call the new model the TR5B. Its standard features include hydraulic cutter lifts and a powerful 15HP engine. And three-wheel drive is available as an option.

For superb mowing performance on golf courses, parks, athletic fields, or formal gardens, the Motor 180 is the easy choice - for lots of good reasons.

Most importantly, it produces great-looking turf. A wide 71-inch cut is provided by its three cutting units, two located out-front for better visibility and maneuverability. An independent cutter drive assures that proper cutting speed is maintained, even during low speed maneuvers.

Your choice of five or seven-knife reels for the right finish on any turf. The five-knife unit is built for general purpose mowing. It features fixed head configuration and full width roller for turf protection. Height of cutting adjustable from 1/2" to 2 1/2".

The optional seven-knife cutting unit is designed for fine cutting applications. The floating head with full-width front and rear rollers allows the unit to closely follow ground contours. Height of cut adjustable from 1/4" to 1 3/4". Both five and seven-knife reels are 6 1/2" diameter.

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KEITH SCOTT

SPOUSE - Sandra.

CHILDREN - Mike, age 15; and Carla, age 13; Kevin, age 7.

CLUB AFFILIATION - Oak Ridge Country Club.


EDUCATION - Associate Degree in Horticulture, University of Guelph, Ontario. Bachelor of Science Degree, Iowa State University.

INTERESTS & HOBBIES - Skiing, Golf, Tennis, and Woodworking.

AWARDS / HONORS - Achieved certification status (Certified Golf Course Superintendent). MGCSA Past President.

COMMITTEE ASSIGNMENTS - President, Research Committee Member, Water Use Impact Study Committee Member and Ethics Committee Chairperson.

COMMITTEE GOALS - To continually push for completion of all the programs that are underway.

MGCSA GOALS - Continue to upgrade the HOLE NOTES, to make sure the Employee Right to Know program is well in place and to be very active on the Water Use / Impact Study Committee.

PAST MGCSA POSITIONS - Have held all positions.

MEMBERSHIP IN OTHER ORGANIZATIONS - Golf Course Superintendents Association of America, United States Golf Association Green Section Committee Member, Minnesota Golf Association Director, O.J. Noer Committee Member.

CAREER GOALS - As Superintendent, to provide my membership with the best playing conditions, and to be always involved with the MGCSA.
THE EXTENSION LINE

Bob Mugaas of the University of Minnesota Extension Service is a regular contributor to Hole Hotes. As Hennepin County Extension Agent, Mr. Mugaas compiles various articles related to golf for our information. Bob is an excellent source for answers to many questions on horticultural problems. He may be reached at 612/542-1420. Written requests should be sent to:

Bob Mugaas
Minnesota Extension Service-Hennepin County
701 Decatur Ave. N.
Suite 105
Minneapolis, MN 55427

This month's articles cover Nectria Canker and the Honeylocust tree, Bronze Birch Borer, Concern on Pesticides.

NECTRIA CANKER CAN DAMAGE HONEYLOCUST

by Cynthia Ash
Assistant Extension Specialist
Plant Pathology
Minnesota Extension Service

Honeylocusts are beautiful trees which many homeowners are adding to their landscape. Unfortunately, a disease called nectria canker is causing loss of branches or entire trees. The nectria fungus invades wounds--many of which occur during planting--and continues to invade and kill tissues as long as the tree is under stress. Stress can be caused by transplanting, lack of root establishment, improper care, and adverse environmental or soil conditions.

Several steps can be taken to prevent nectria canker damage to honeylocusts. First, plant fully hardy selections in good locations. Before purchasing the tree check the trunk for mechanical damage. Avoid purchasing damaged trees. Plant the tree properly and encourage its growth and establishment by regular watering. A wood chip mulch around the tree's base helps retain moisture, reduces competition from the grass and keeps lawn mowers and week whips away from the trunk.

BRONZE BIRCH BORER DAMAGE IS EVIDENT NOW

by Jeffrey D. Hahan
Assistant Extension Specialist
Entomology
Minnesota Extension Service

Birch trees under attack by the bronze birch borer should be exhibiting symptoms now. Branch dieback, due to...
larvae tunneling and girdling the inner bark of the tree, is usually the first symptom. Raised ridges in the bark due to the girdling and D-shaped exit holes may be visible to indicate bronze birch borer activity.

Bronze birch borers only survive in weakened or stressed birch. Birch, native to the northern forests of Minnesota, enjoy cool, shaded conditions. However, when planted in the urban environment, birch often are placed in the open with little or no ground cover to protect their shallow roots. As a result, the birch becomes weakened and loses vigor. Water once a week if there is not sufficient rainfall. Add a layer of mulch around the tree under the canopy to reduce moisture loss and help keep the soil temperature cool. Older trees on poor soil should be fertilized in the spring every two to three years.

Small branches that have died should be pruned in August, cutting the limb two feet beyond the point of damage to ensure all bronze birch borer larvae are taken out. August is the best time to do this because the adults are not laying eggs and the wound heals better during reduced sap flow at that time. If the damage is in a large limb or trunk, the tree is probably too far gone to be helped.

There is no effective insecticidal control this late in the season. Professional applicators could have applied ben-diocarb (Turcam) starting the end of May. These applications will not protect the birch if it remains unhealthy.

---

**U of M GROUP ADDRESSES PUBLIC CONCERN ON PESTICIDES**

Too much of almost anything -- table salt, aspirin, water, vitamin D -- can be harmful to humans.

But recent public alarm over pesticide residues in the food supply and what this could be doing to the health of children and adults has more than 20 people involved at the University of Minnesota. They are taking time from other duties to collect information and ponder all sides of the residue problem. Their group is informally called: Pesticide Education: Residue vs. Risk.

Jim Cink, Assistant Entomologist with the Minnesota Extension Service, is coordinating these efforts. Cink's group is putting together three brief publications to explain dosages and chemicals to a public that Cink says is "chemically illiterate." The publications will cover pesticides and their toxicity, establishing food tolerances and pesticide risk perception. Cink emphasizes, "The group's pesticide education project is not out to promote or con-
demn the use of any pesticide product."

While the campus participants include representatives from agronomy, entomology, food science and nutrition, home economics, horticulture and plant pathology, there is input from agencies such as the Environmental Protection Agency (EPA), Minnesota Department of Agriculture, Food and Drug Administration (FDA), Hennepin County Poison Control Center and National Agricultural Chemical Association among others.

"Any chemicals can be labeled a pesticide if it is used to control or destroy a pest problem," Cink says. He mentions boric acid, used in a variety of products, as an example. "It can be a disinfectant in eye washes, a flame retardant in clothing and an insecticide to kill cockroaches." Table salt has been used by farmers and ranchers in the southwest to kill cactus. Beer is sometimes used to control garden slugs.

However, not all the chemicals used in food production actually kill pests. Growth regulators, such as daminozide (Alar), are an example. These chemicals control how insect or plants develop or allow timed harvesting so that the crop matures simultaneously and labor and transportation costs can be dealt with efficiently. Cink calls this "a chemical being used as a management tool."

The FDA and EPA are quiet on their testing, but they are constantly on the alert to problems, Cink says. Something he believes the public should know about is the Tolerance Assessment System (referred to as TAS), which the EPA began in 1987. It is a computerized database program in which chemical residues in food and their set tolerances take into account ethnic backgrounds, age groups and dietary habits to assure that no group is exposed to unacceptable risk levels--currently, greater than 1 in a million.

In agriculture, Cink notes that recommended application rates in some chemical families are being reduced. Some older pesticides that used to call for a gallon or a pint to treat an acre of small grain are being replaced with chemicals applied at a rate of 1/16 ounce per acre.

A third of the United States' agricultural production is lost each year to insects, weeds, flood or drought. Today's philosophy seems to be toward integrated pest management, managing the crop to avoid the use of chemicals when possible.

All new pesticides are tested to establish the kind of toxicity and dosage which would produce a toxic reaction. The burden of proof for safety is placed on the manufacturer of the pesticide, Cink says. Toxicity tests are based on two premises: that toxicity in laboratory...