Controlling Borers on White Birch Trees

Borers have destroyed many beautiful white birch trees. The bronze birch borer is a common insect pest across the midwest. Early symptoms of borer activity include yellowing of leaves at the top of the tree, then die back at the top and eventually the entire tree may die. Eggs are layed in bark crevices by a slender, 3/8″ long, bronze beetle in May of each year. Eggs hatch and the legless, white, flattened grub tunnels beneath the thin bark. The tunnelling about under the bark loosens it and also girdles the limb or trunk being fed upon.

Control alternatives include planting birch species not commonly attacked by the bronze birch borer. These include river birch, a bronze bark birch, or a white bark species called Whitespire, which appears to be resistant to borers. Fertilizing and watering to prevent drought stress appear to reduce borer activity, but birches grown in the open are under stress in mid summer.

Insecticide application is another alternative. Since 1970, entomologists at the University of Illinois have suggested the use of Cygon 2E as a spray applied in late May or early June and repeated three weeks later. This year we also suggest Dursban as an alternative insecticide spray.

Another technique which has been tried and evaluated since 1977 is the use of Cygon 2E applied as a band or collar on the trunks of white birch in late May or early June. The results for the past seven years have been favorable. The method is to simply apply Cygon 2E as a concentrate out of the original container in a 5- or 6-inch band around the trunk below the lower limbs. Apply it with a paint brush or, if there are many trees to treat, with a small, low pressure sprayer. As with spraying a dilute spray, apply on a dry day when the concentrate will dry rapidly. It will be translocated into the tree and will kill hatching borers.

Cygon will leave a slight yellow stain on the trunk but will disapper before fall. Do not come in contact with the Cygon concentrate while applying it. Do not apply a band wider than six inches. Banding is not an improved method over spraying the birch tree but is easier and can be used where spraying would be difficult. Neither spraying nor banding will save a severely borer-damaged birch tree. Also, do not band non-birch trees suspected of being infested with borers as Cygon may injure or kill other trees.

—Roscoe Randall, Extension Entomologist, University of Illinois

Imagination, Experimentation Are Keys To Creative Thinking, Problem Solving

When you have a problem to solve, you can easily attack it in the same old ways and come up with the same old solutions that sort of work or that once worked, but are you missing some new and unique solutions because you aren't thinking creatively?

The next time you're faced with a problem of any sort, serious or minor, routine or unusual, try one or more of these mental exercises in creativity:

1. Reverse the way you look at the problem. Turn it upside down, take a completely different approach to it. Don't be afraid to be absurd in your thoughts once in a while—the fanciful can lead to some very practical solutions. How would Moon Maid solve it?

2. Tear it apart. Then analyze the relationships among the pieces. How are they the same? How do they differ? What if you could change one link in the chain—what effect would it have on the whole? Try altering the color, shape, timing or size of one or more parts.

3. Change the order of the parts. Short things, massage them, jiggle them, line them up in different ways. New ways of seeing the problem will begin to emerge.

4. Find an analogy. What is this problem like? Is it like a little kid pushing an apple up a hill and every time he gets halfway up someone rolls an orange down on him? Find an analogy and you'll see the problems more clearly.

5. Challenge your assumptions. This isn't easy, but ask yourself absurd questions like, Who says it has to be like this? Why should I believe that organizational structures need a boss? Challenge every assumption you can identify; it will strengthen your understanding of the problem itself.

6. Let your thoughts run wild. Fantasize. Play a crazy game of ". . .What if?" What would I do if there were no more water available for a year? What would I do about this if I were three years old? Where would I start to build this system if I were the only survivor after a nuclear holocast?

7. Cash in on the bonus of your own odd thoughts. Carry a notebook, and keep one by the bed at night. When an idea strikes you - silly or not - write it down. When you have a brilliant idea as you are falling asleep or waking up - write it down. Then periodically go through your book of thoughts and toss out the trash. There will be more wisdom there than you might have thought, and it will all be information and ideas you might otherwise have forgotten or not noticed.

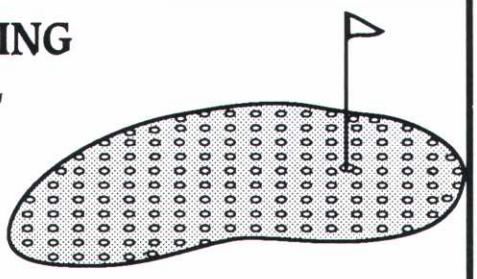
These seven steps are parts of a process called creative thinking. People who come up with good ideas use creative thinking. They aren't afraid of some silly ideas, because they know that even in the silliest, there might be a grain of wisdom to use to their advantage. Try it, you'll like it.

—Forefront

A (W)HOLE IN ONE

One-stop shopping for golf course materials

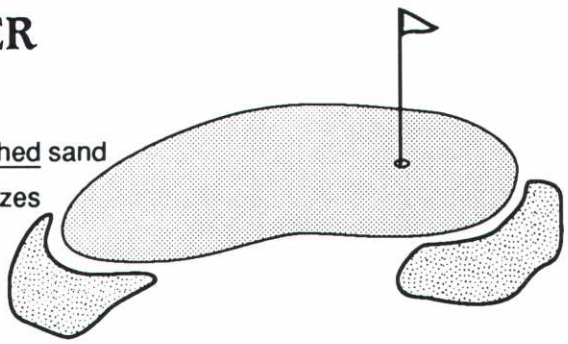
TOPDRESSING MATERIAL



- 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

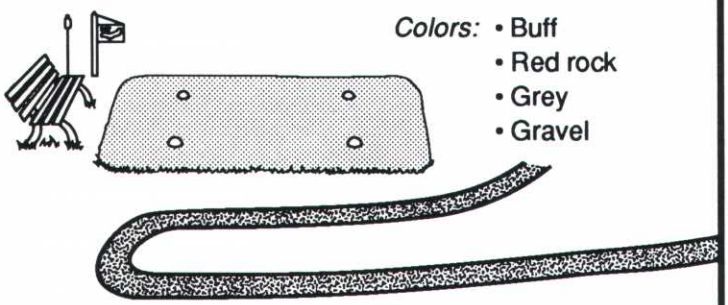
All specs available upon request

BUNKER SAND



- Clean, <u>washed</u> sand
- 2 particle sizes to choose from

CARTPATH AGGREGATE

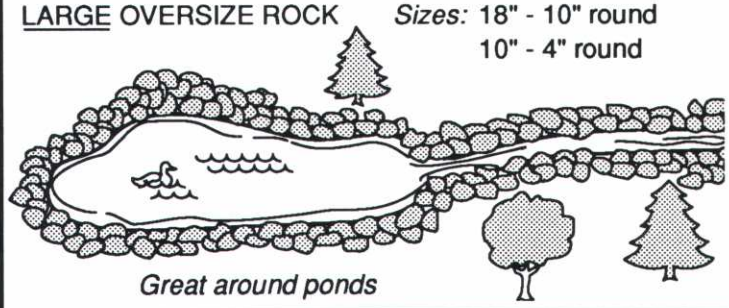


Colors:
- Buff
- Red rock
- Grey
- Gravel

RIP RAP

<u>LARGE</u> OVERSIZE ROCK

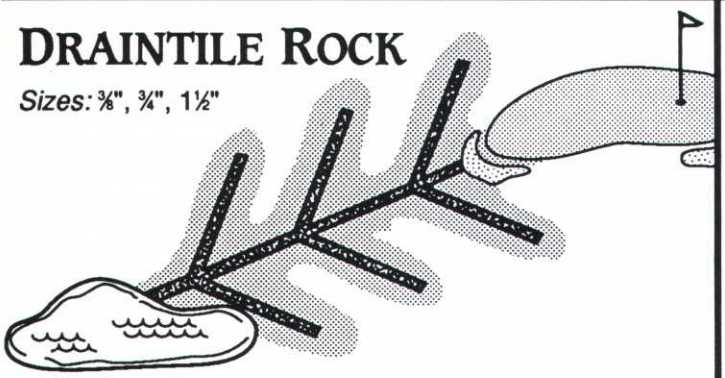
Sizes: 18" - 10" round
10" - 4" round



Great around ponds

DRAINTILE ROCK

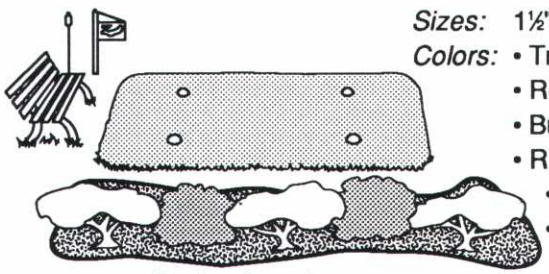
Sizes: ⅜", ¾", 1½"



DECORATIVE ROCK

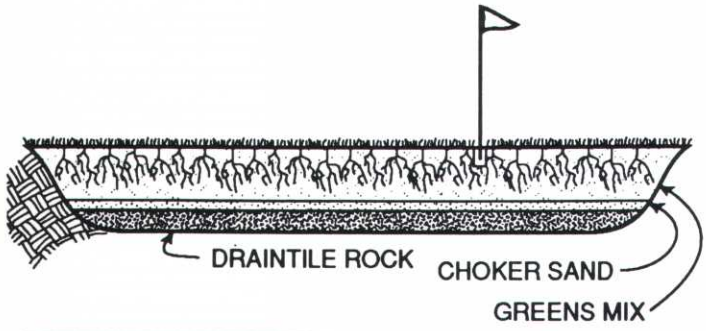
Sizes: 1½" or ¾"

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



For landscaping

NEW CONSTRUCTION



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Broadleaf Herbicide Timing Study

By ZAC RELCHER, CLARK THROSSELL, JEFF LEFTON AND DAN WELSENBERGER

Broadleaf weed control is most effective when herbicides are applied in the fall, but with new lawn care customers or areas that need a rescue treatment, broadleaf herbicides are often applied in the spring. A study, in its second year, was initiated to determine the effectiveness of spring broadleaf weed control, specifically to compare ester and amine formulations of a combination herbicide containing both 2,4-D and 2,4-DP. The ultimate objective of this study was to correlate weather conditions with weed control and develop a model to determine optimum timing for spring-applied amine and ester formulations of broadleaf weed herbicides.

Weedone DPC ester and Weedone DPS amine were applied weekly from 3 March through 11 May, 1989 and 3 March through 7 May, 1990 at 4 pts./A (0.925 lbs. al/A) in 80 gals. H20/A. This study was repeated at two locations each year, the Purdue University Jet Propulsion Laboratory and the Purdue Agronomy Research Center. Weed counts were taken in mid-April and mid-June of each year.

A number of conclusions can be drawn from the two years of data:

1) Very early spring treatments are not effective. The definition of early spring varies from year to year. Neither formulation gave adequate control when applied before 7 April 1989, but in 1990, neither formulation gave adequate control only when applied before 11 March.

2) The ester formulation is far superior to the amine formulation in the early spring. In 1989, the ester provided better control than the amine when applied from 7 April through 27 April. The ester provided better control than the amine when applied between 16 March and 28 March 1990.

3) After a certain date in the spring, control from an amine is equal to that of an ester. In 1989, this date was 28 April and in 1990, the date was 5 April.

The difference in the results from year to year demonstrate that herbicide application scheduling cannot always be based on the calendar. Rather, it should be based on a weather factor such as degree days, soil temperature, etc. With help from the National Weather Service and possibly a third year of data, a model will be developed to determine optimum timing of spring-applied broadleaf herbicides.

—MRTF Newsletter

Polymers—

(Continued from Page 6)

tals in order to more uniformly distribute water in the turfgrass root zone. No "negatives" have been found with regard to CPA use, except where they are used at excessively high rates (more than 10 pounds of CPA per 1000 square feet per inch of depth to which it its incorporated). When too much is used, the ground becomes unstable and jelly-like. On the positive side, we have seen increased root production where CPA is used, as well as decreased soil compaction. The CPA materials also demonstrate great potential for enhancing the safety of high-use athletic fields by providing a cushioning effect for the athlete. Thus, we are optimistic that the CPAs and other polymers may provide important advantages for turfgrass culture, even if their use does not provide substantial water savings. However, at CSU, we continue to be optimistic about finding a way to utilize polymers as watersaving tools.

Source: Ornamental & Turf Newsletter, Vol. 1, No. 1 April, 1992. Iowa State University Extension Horticulture Department.

Fungicide/Growth Regulator Interaction

The use of related products can cause problems. In the past, use of three forms of a fungicide and low rates lead to the development of "Benlate Resistance." This is well documented and did occur in Minnesota, but I believe the development of resistant strains of Dollar Spot was not widespread and in many locations the MBC fungicides are still effective in controlling Dollar Spot.

The use of other related products can also result in problems and, after some calls about potential problems, I was able to determine that the concerns were about the use of the growth regulator TGR and Banner or sterol inhibiting fungicides. Ciba Geigy has data on very high rates of Banner on turf showing growth regulator effects. This rate is not labeled for use and would not be seen given the present label and use rates. The problem was reported when the growth regulator and the fungicide were applied at the highest rates at nearly the same time. With the use of these two products - Banner at the highest rate and TGR for Poa Control — a high rate is not compatible; however lower rates of both products, when used 5-7 days between applications, is OK. The use of Banner for Patch control, a high rate is recommended only with the low rate of TGR with two weeks between application or if no TGR is being used. The recommended spacing of the application date is being studied this year.

The information on this interaction was provided by Ciba-Geigy and specifically deals with the two products Scott's TGR and Banner from Ciba-Geigy. I expect that an interaction of this type can occur with other related products also. Anyone using Plant Growth Regulators (PGR) and sterol inhibiting fungicides should carefully monitor the turf for symptoms and check with the supplier for the latest information. The development of symptoms in the northeast and DC area is believed to be mostly related to the PGR product at high label rate or above in environments that are stressful-hot and dry. The production of symptoms from fungicide application alone was very limited in tests this year and Banner did not kill Poa annua. I don't expect this interaction to be a problem in Minnesota and believe the danger of a similar outbreak to be very limited given out normal climate.

"Semper Graminis Morbidis"

— Ward Stienstra,
Department of Plant Pathology, University of Minnesota

MEMBERSHIP REPORT

JULY 13, 1992
TARTAN PARK GOLF CLUB

NEW MEMBERS—JULY 13, 1992

Kevin Mear	Benson Golf Club	Class BII
Joe Anderson	Eau Claire Golf & CC	BII
Douglas Bakke	Rolling Hills Golf Club	A
Arlyn Boddy	Sleepy Eye Golf Club	A
Richard Dawson	Windom Country Club	E
Brian John Deyak	Veterans Golf Course	E
Dave Haack	City of North Mankato	E
Thomas Wade	Sartell Golf Club	B
Wallace Huff	Greenswood Turf Services	F
Barry Larson	Medalist America	F

RECLASSIFICATIONS—JULY 13, 1992

Rob Heggernes	Kimball Golf Club	D to BII
Jack Krech	Watonwan Country Club	B to A
Kevan Tusa	Nordic Trails Golf Course	C to BII

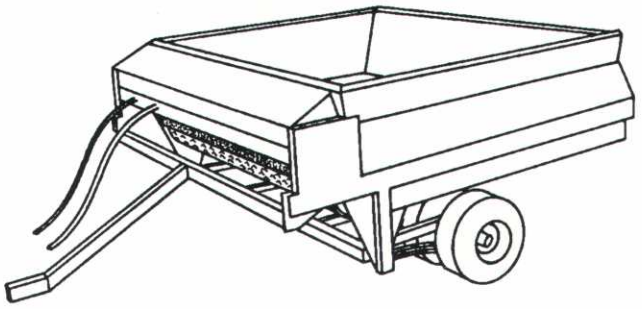
Mike Olson, Membership Chairman

Summer Patch—

(Continued from Page 9)

summer patch. Use mixtures or blends of resistant turf cultivars or species for best results. Conversions of golf areas from *Poa* to *Agrotis* spp. will also reduce disease incidence.

Fungicides are available that can effectively control summer patch. Applications should commence on a preventative basis in late spring or early summer when soil temperatures stabilize between 18 and 20C. Systemic fungicides have proven to be most effective but must be applied at high label rates and repeated two to three times at 21-28 day intervals. Efficacy is enhanced when products are applied in at least 1600 L of water per hectare. Certain contact fungicides may stimulate symptom severity when used repeatedly at high rates.



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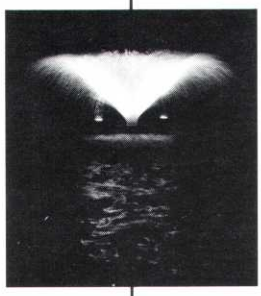

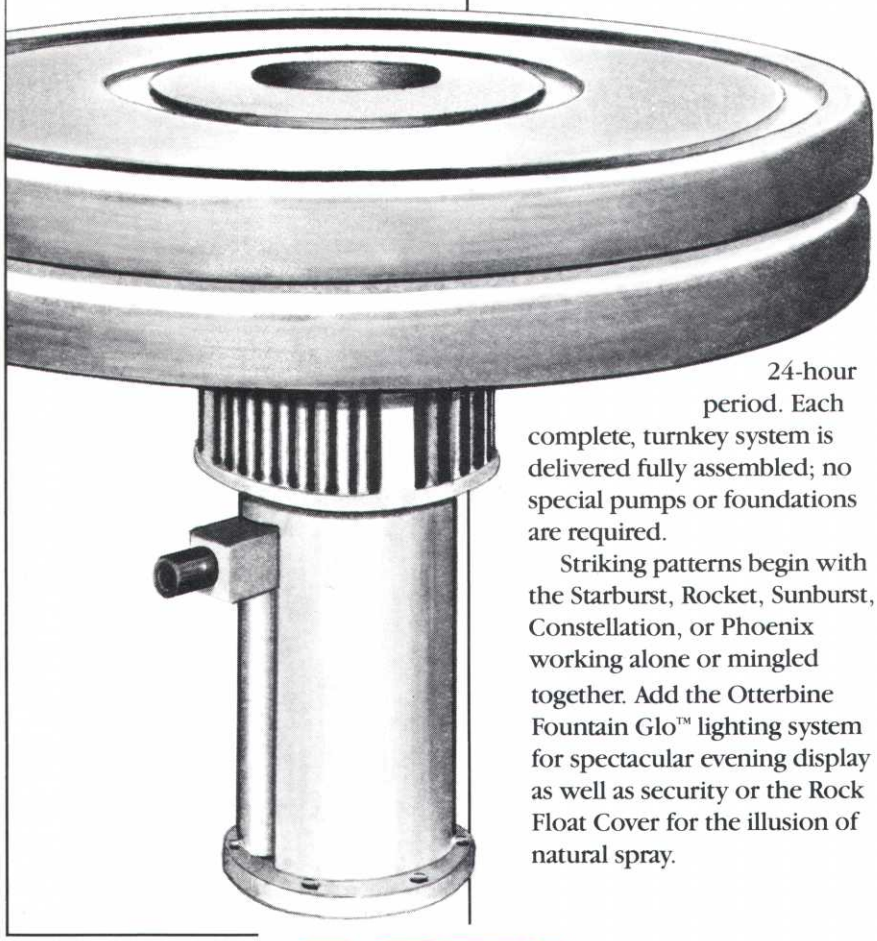

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1992 MGCSA Meeting Sites and Events

Date	Location	Event
August 17	Midland Hills Country Club	MGCSA Championship
September 14	Wayzata Country Club & Rolling Green Country Club	Stodola Scramble Research Fund
October 12	Island View Country Club	Golf & Lunch
November 18, 19, 20	Northland Inn	Annual Turf Conference

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Hydrolysis Releasable	■		■	■	■
Microbial Releasable	■	■			
Not dependent on coating or particle size for release	■	■			■
Nonburning	■	■	■	■*	
Low Salt	■	■	■		
Minimal Leaching	■	■	■		
Minimal Volatilization	■	■	■	■	

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25-0-18	5-6 months
0-0-47	5-6 months
15-12-13	5-6 months

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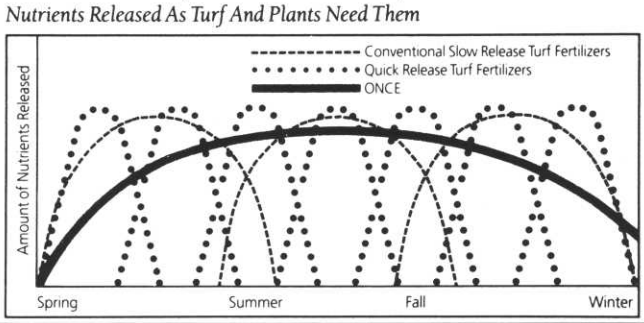

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Control of Pythium Blight with Fungicide Treatments

By P. L. Sanders & M. D. Soika
Dept. of Plant Pathology
The Pennsylvania State University

Fungicides were evaluated at the Valentine Turfgrass Research Center, University Park, Penn., on perennial ryegrass, maintained under home lawn/golf course fairway management conditions.

Two applications of Prograss, at a rate of 2 lbs. per acre, were applied for **Poa annua** control on 14 and 30 October, 1988. The experimental area was fertilized on 4 and 18 May, 1989, with 0.5 lbs. actual N (NH_4NO_3) per 1000 sq. ft. Tersan 1991 at 2 oz. per 1000 sq. ft. was applied on 23 June to control large brown patch in the experimental area.

Individual treatment plots, 3 ft. x 18 ft., were arranged in a randomized complete block design with three replications. Fungicides were applied with a CO_2-powered, boom sprayer using T-jet 8004 nozzles, at 30 psi, in water equivalent to 2 gal. per 1000 sq. ft. Two separate tests were carried out.

Fungicide applications were made on 27 June in Test 2. Three days after fungicide applications (30 June), a 3 ft.-wide strip across all treatments was inoculated with a 6-isolate pool of Pythium aphanidermatum grown on autoclaved rye grain. Following inoculation, the 3 ft.-wide inoculated strip was covered with PVC pipe-framed, translucent, plastic-covered humidity chambers to increase relative humidity and minimize radiational cooling at night.

Humidity chambers were equipped with intermittent mist to maintain a saturated atmosphere. Chamber ends were open and a 1-minute mist was applied over 20 min. during daylight hours. At night, chamber ends were closed and no mist was applied.

After one week incubation, the chambers were removed and the inoculated areas were visually rated (nine days post-treatment). A second inoculation in test 1 was made nine days after treatment (6 July), in the manner described above. Chambers were removed and this inoculation was rated 16 days post-treatment, (13 July). Fungicides were applied in test 2 on 11 July, inoculation/incubation were carried out two days post-treatment (13 July), and inoculation termination/rating were done nine days post-treatment (20 July). All data were subjected to analysis of variance and Waller-Duncan K-ratio t test. Data from tests 1 and 2 are presented.

In test 1, disease pressure was low in the first inoculation (37% mean blight in non-treated checks), with the result that there was little separation among chemical treatments. By 16 days post-treatment in test 1, only Aliette and Koban + Aliette were providing acceptable levels of disease control. In test 2 at nine days post-treatment, most of the chemical treatments were giving excellent control of Pythium blight, except the low rate of P368 and the individual applications of the reduced-rate mixture components. Disclaimer: These results should not be considered by anyone as an endorsement by The Pennsylvania State University.

EDITOR'S CORNER

By Dale Wysocki
Faribault Golf & Country Club

Here it is the Fourth of July. I am waiting for dusk so the family and myself can go out and enjoy our nation's 216th birthday and the spectacular fireworks. As we check our supplies, I find no Minnesota state bird repellant, and a thermos with hot water for tea. What's wrong with this picture? This year we have seen some of the strangest weather ever, we talk of a devasting frost that destroyed many hundreds of acres of corn and soybeans on Father's Day, but what about our comrades in the northern portion of Minnesota and Wisconsin? Soil temperatures must warm for fine turfgrass to grow, and the temp's up north are not getting too warm. Remember, however, all things even out.

* * * *

Have you ever seen a Golf Course Manager just give 50% or 80% of themselves? I never met a single Golf Course Manager who gives no less than 100% of themselves. Why is that? Could it be that our feeling of Pride in our golf courses? Could it be the satisfaction of really being able to see the Results from our Leadership? Is it the love of being outdoors, being able to see and listen to a Yellow-headed Blackbird around our water hazards? When 5.50" of rain should fall from the skies, whose going to be there manning trash pumps, assessing the damage from the sudden sky burst? A Golf Course Manager never gives up the ship. Regardless of what is ahead, today's Golf Course Manager will be on the scene.

* * * *

Congratulations to Rick Smith, the new Golf Course Manager at Owatonna Brooktree Golf Course.

* * * *

LeSueur Country Club is pleased to appoint Rick Hoffman as its new Golf Course Manager.

* * * *

In a recent discussion with some close personal friends, the subject focused on being a certified pesticide applicator, and there are many varied ideas about this. So, in order to either add to the confusion or just maybe I might be able to clear something up, here are some thoughts.

If you should use a **RESTRICTED USE** pesticide, you have to have a **CERTIFIED APPLICATOR'S LICENSE.** A vendor cannot sell you a restricted use pesticide unless you have a license.

As we enter the '90s, we have to be aware that we are being observed on how we treat the environment. Part of being responsible to the environment is making sure that the person or persons applying plant protectants are Certified Applicators. Remember, should there ever be an environmental accident around your facility, the buck is going to eventually stop at your office door. Please consider what is at stake if you should make the decision not to get a Certified Applicator's license for yourself or for the person doing the application.

* * * *

The members of the MGCSA would like to thank MTI Distributing and Par Aide Golf Products Co. for providing the complimentary beverages at Tartan Park.

* * * *

Soon the early hours of the mornings are going to echo with a sound of machinery that has only been heard once this year, the sound of aerifiers doing their thing. That sound to many people is the sound that indicates golf in Minnesota is coming to an end. But, autumn is a glorious time of year. We are able to look at what was accomplished during the season, look at the goals that we set earlier in the year and look to see what changes are necessary regarding our turfgrass. Don't forget to notice the colors every year there are new colors that standout for us to notice.

* * * *

Once again I wish to thank all the Associate Members who help make *Hole Notes* possible. Associate Members offer more than just merchandise to make our golf courses a nicer facility.

* * * *

— Dale Wysocki
Editor