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MAY/JUNE 1993

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A PATCH OF GREEN

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Association

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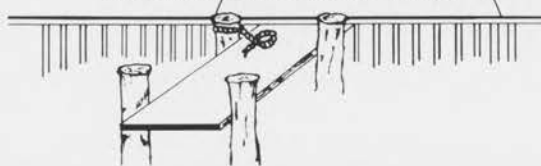


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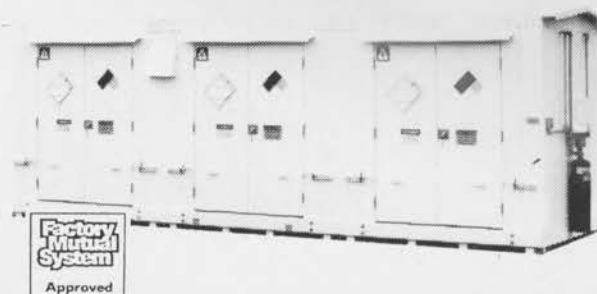


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CALENDAR OF EVENTS

MAY

- 21 **Special Olympics**
31 **thru June 6, 1993**

Bald Mountain

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Walnut Hills Country Club, East Lansing.
Kurt Thuemmal, host superintendent

JUNE

- 5 **St. Andrew's Society
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Golf Outing**
14 **Membership Meeting**
20 **Father's Day**
21-27... **Ford Senior Players
Championship**

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John Kosmalski, host superintendent

JULY

- 8 **Membership Meeting**

Dunham Hills Country Club

AUGUST

- 3 **Membership Meeting**
17 **Picnic**
19 **Michigan State Field
Day**

Riverview Highlands

SEPTEMBER

- 14 **Membership Meeting**
16 **Michigan
Superintendents
Championship**

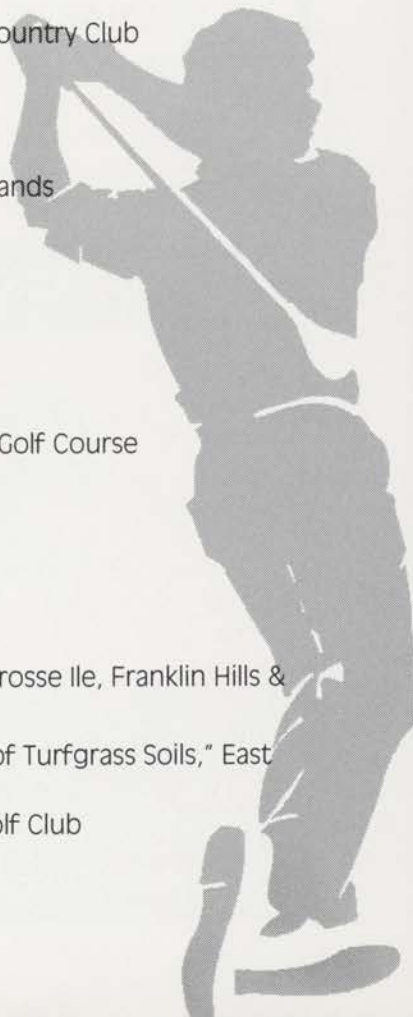
Sycamore Hills Golf Course
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OCTOBER

- 4 **Golf Day**
14 **GCSAA Seminar**
19 **Annual Meeting**

Oakland Hills, Grosse Ile, Franklin Hills &
Katke-Cousins

"Microbiology of Turfgrass Soils," East
Lansing
Maple Lanes Golf Club



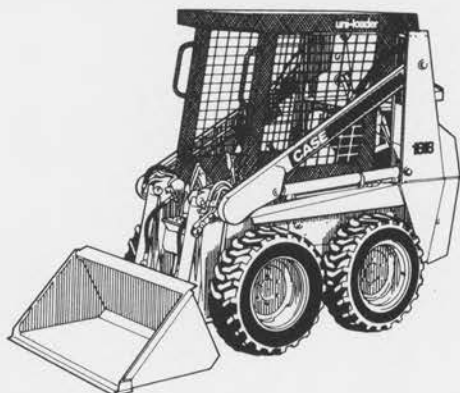
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On par with the president



Ken DeBusscher
PRESIDENT

Winter's grip was especially tight this year. But sure as the buzzards return to Hinkley, temperatures warmed as spring slowly crept in. The smell of fresh cut grass, buds bursting with new growth and the screams of Fore! ripping through our fairways. Oh, the rites of spring! What a great time to be in our profession. The grass is jumping, disease pressure is low and golfers are just happy to be beating the ball again. Irrigation systems are firing up, new equipment is being delivered and spring projects are underway. Everybody

seems rejuvenated, walking with "spring" in their step. If only we could bottle this energy and attitude so we can take steady doses later during the sure-to-come dog days of summer. Boy, August seems so far away.

As we enter the meat of the golf season, don't neglect our need to continually improve communication. The location of our maintenance facilities keeps many of us physically detached from the clubhouse area. Don't let your office serve as your hideaway, your port away from the storm. Become obvious and available. Make it a point to have one good conversation a day with somebody with whom you don't ordinarily have much contact. Ask questions and listen. Thoroughly consider all suggestions. Though many ideas may seem outrageous or trivial, they aren't to the person who offered them. Too many people in our profession could grow grass on a rock, but lost their positions by ignoring people's concerns. Don't let your maintenance fortress be your Alamo.

In an attempt to answer your questions before they're asked, we are introducing a new column in this month's issue of A Patch of Green by our newly appointed Executive Secretary, Kate Mason. We hope this "Q&A" format will satisfy your queries about her position with our organization as it relates to you. Please feel free to call her regarding any association matters. Kate can get you the answers you're looking for. Remember—the executive secretary position was created to help our organization run more efficiently and better serve our membership.

I just wanted to mention again how much I appreciate the work and dedication shown by the present Board of Directors. It's a pleasure to get together and work with these professionals who devote their own time and service for our betterment. Thank you for your support and your commitment to serve.

Sincerely,

Ken

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PERSONAL PROTECTIVE EQUIPMENT

by Tim Doppel

The Pesticide Use Regulation (Reg. 673) of the Michigan Pesticide Control Act lays out specific criteria for personal protective equipment when making pesticide applications.

As that time of the season for lots of spraying begins, I thought it might be useful to review what is required for all applicators to wear when applying pesticides. The Pesticide Use Regulation (Reg. 673) of the Michigan Pesticide Control Act lays out specific criteria for personal protective equipment when making pesticide applications. Even

though the specifics of the rule pertain to commercial applicators, they provide a good guide for every applicator. What is important to remember is that these are considered minimums. There will be those instances when you will need to use even more personal equipment. As always, the applicator must decide for him or herself what is appropriate.

The minimum requirements begin with a mandate for long pants. As obvious as they may sound, we all know of someone who has made applications of pesticides in shorts. But when you look closely at the exposure information that is available, you know that the majority of any deposition of pesticides occurs on the legs. The best and easiest way to limit pesticide exposure is to wear long pants.

In the same manner, the rule requires protective footwear. That means boots. If you re-read the paragraph above, you'll get the drift (no pun intended) about the obvious nature of this requirement. What may not be quite as obvious is that boots cannot be made of leather. I know how comfortable a well broken in pair of leather work boots feels; I love to wear mine. But when making pesticide applications, those become the worst kind of footwear. Boots must be impervious to the pesticides. That generally means that you'll want to wear rubber neoprene boots specifically made for pesticide applications.

A shirt must also be worn. Here, however, the rules give us a choice. The first preference is for you to wear a long sleeve shirt for maximum protection. You may wear a short sleeve shirt, though, if you have wash water or waterless soap immediately available. This means on site with you, not back at the shop. This caveat is important for lawn care operators who spray 8-10 hours every day. They are allowed to wear short sleeve shirts to stay cool in the summer heat as long as they have waterless soap on the truck. However, if you are making applications on a relatively small or infrequent basis, wearing long sleeve shirts

should not be a hardship.

The last requirement is for the use of gloves. Again, this should be a no-brainer, yet it

is amazing how few applicators actually wear them. The excuses are vast and numerous. They're too hot, too cold, too smelly, too sticky, too dirty, too stiff, too loose, too...whatever! But, if you want to eliminate 90% of your total exposure potential, you will wear rubber, impervious gloves when making applications. It should be your club policy that gloves be worn at all times, even if enforcement may be tough. All you can do is train your applicators and then issue them a good pair of gloves. It will be up to them to have them on.

The rule also includes a few other important statements about what proper personal protective equipment should include. Because these are general and not very specific, they are open to interpretation. You and your applicators will have to decide for yourselves what you want to do. The first, of course, is that you must read and follow label directions for personal protective equipment. If the label indicates certain equipment when making applications then everything else that has been discussed is moot, and you are legally bound to do what the label says. No further discussion is needed. For example, be sure to watch the labels of weed control products containing MCP. Requirements for goggles and long sleeves may be appearing very soon. Read all your labels carefully.

You also want to be sure that the personal protective equipment you choose is appropriate for the kind of application you are making. If you are spraying trees overhead, then a simple pair of long pants may not be the best choice. A fully waterproof spray suit may be better suited to give you confidence that you are protected. If you are spraying in a relatively enclosed area, a respirator may be called for. If the likelihood of exposure exists, then you are obligated to protect the applicator from that exposure.

The appropriate use of personal protective equipment is one of those things that falls into the "common sense" category. Yet isn't common sense one of those commodities in shortest supply? Don't assume that your applicator knows what to do in every instance. For your own protection and that of your applicators, really scrutinize your current procedures and policies regarding personal protective equipment. ▴

The rule also includes a few other important statements about what proper personal protective equipment should include.

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MEMBERSHIP MEETING UPDATE

FEBRUARY: Meeting at Selfridge Air National Guard Base

The membership meeting on February 23, 1993, was held at Selfridge Air National Guard Base in New Baltimore. Frank Bartlett, Jr. was the host superintendent.

Frank talked about the history of Selfridge and noted that Lake St. Clair, which borders the base, is at a higher sea level than the base. Selfridge ANG involves all military departments, covers 3,000 acres and has a \$1 billion per year impact on the community economy. He welcomed anyone to come out and visit the base, with a personal tour included!

Greg Lyman from the Cooperative Extension Service at Michigan State University discussed the 637 Pesticide Law and the 1st

Annual Clean Sweep that will take place in our area later this year.

The Clean Sweep is sponsored by the Michigan Department of Agriculture. The fee will be approximately \$5 per pound of material, and any material with an unreadable label can be tested for an additional fee. This spring, do some cleaning and write down the chemical and amount to be disposed.

Greg mentioned that, through networking, we might be able to find someone who would use your unwanted chemicals in their business. Details to come from the Association.

Note: Ken DeBusscher recommended the reading of *Silent Spring* by Rachel Carson to learn about environmental issues back in the 1960s. An update on the book was written by Frank Graham, Jr. in the 1970s and is called *Silent Spring Revisited*.

A buffet lunch was served, and we commend the staff at Selfridge for a job well done. ▴



Frank Bartlett Jr., host superintendent, with Michael Edgerton of Meadowbrook Country Club.

MARCH: Meeting at Salt River

"On line" and "in the pocket" were the themes for the March 15th MBCGCSA meeting held at Salt River Golf Club. Seventy-eight attended and listened to Pete Cookingham explain the TGIF "Turfgrass Information File" located at Michigan State University. Pete, who is the project manager at the Turfgrass Information Center, brought with him a portable computer and presented a live demonstration of how the TGIF file can be accessed from a personal computer via modem and telephone line. Topics like "winter desiccation" and "ice damage" were searched and abstracts of the articles that dealt with those topics were then viewed at the meeting. Pete explained the options available for individuals who subscribe to the service. More information is available from the Turfgrass Information Center at 517-353-7209.

The meeting was followed by a great, as always, hot buffet lunch and bowling in the afternoon, which is an annual event at Salt River. ▴



Mark McKinley, Detroit Golf Club, shows off his mystery game winnings!

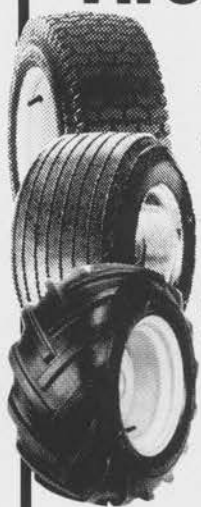
Mike Kaltz (left), Lakewood Shores Resort, & Craig Roggeman, Sycamore Hills Golf Club, enjoy a few spirits.



Salt River accommodated the 39 bowlers and provided an excellent buffet lunch.



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Around the Course

Member Activities



Mike Hahn is the new superintendent at Scalawags Country Club in Mount Clemens.



Jerry McVety is the new superintendent at Salt River Golf Club in New Baltimore.



Brett Marshall is the new executive director of the Golf Association of Michigan. He began his new post on April 5.



John Standish from Country Club of Detroit is the new president of the Golf Association of Michigan.



Congratulations to Turfgrass, Inc. Turfgrass, Inc. representatives returned from the 1993 GCSAA Conference with the title of World's #1 Tee Time distributor. The Andersons, makers of Tee Time fertilizers, each year present their Gold Award to the previous year's top distributor. For the second year in a row, this award was presented to Gene Johanningsmeier, president of Turfgrass, Inc. ▴

kate speaking

This column introduces a new feature by the MBCGCSA Executive Secretary Kate Mason, who will answer representative questions from the membership. Kate can be reached at 313-362-1108.

"Michigan & Border Cities...Kate speaking."

"Hi, Kate. Hope you can help me. This is Pete Miller."

"Hi, Pete. What's the problem?"

"Well, I'm looking for a new assistant. I hear the Association provides a referral service."

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"Ah...YESTERDAY!" (Chuckle.)

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"No problem. No problem. Can you bill us?"

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"Sounds great! You'll get it back today. Thanks, Kate."

"Sure. Anytime."

Employment referrals are mailed to all A, B, D, I & S members. Any other member can call Kate at 362-1108 and be added to the mailing list. ▴



MBCGCSA SUPPORTS SPECIAL OLYMPICS WITH 12TH ANNUAL GOLF OUTING

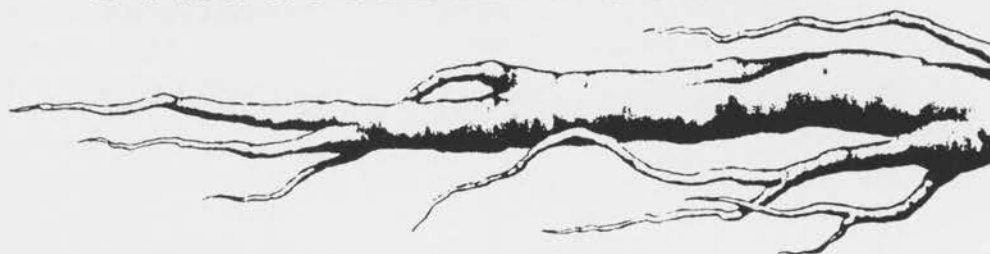
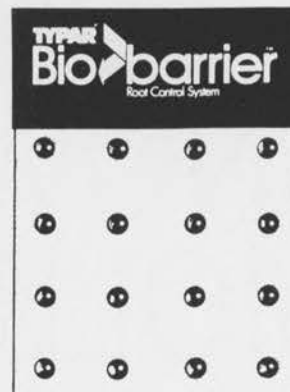
MBCGCSA will hold its Annual Golf Outing on Friday, May 21, to raise funds for the Special Olympics. The outing will take place at Bald Mountain Golf Club. Entrance fee is \$65 per person, \$260 per team, and includes: golf, cart, continental breakfast, luncheon on the course and a steak dinner. Participants may choose to attend just the steak dinner for \$25. A post-golf auction will include paraphernalia from the Detroit Lions and Tigers, and additional prizes and drawings will be awarded.

"The MBCGCSA is one of the longest-contributing organizations to support the Special Olympics, which is celebrating its 25th anniversary," said Carey Mitchelson, chairman of the Golf Outing. "Our goal is to have a large turnout to help support the Special Olympics through our donations and the auction."

The first national games established by Special Olympics Inc. took place at Chicago's Soldier Field in July 1968. Today more than one million special athletes train and compete in community-based programs in all 50 states and in 85 foreign countries to share the joy of competition. The First State Summer Games of the Special Olympics in Michigan were held at Western Michigan University in Kalamazoo in 1969.

For further information about the MBCGCSA Golf Outing, call Mitchelson at 313-881-1000. ▴

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PREVENTING TREE ROOT DAMAGE

By Dan Banks, Benham Chemical Corp.

The gentle arc of tree branches, the fragrance and color of the flowers, the mottled patches of shade all appeal to our senses. Trees create a sense of well being, security and proportion as humans interact in the landscape. Trees can also create hazardous conditions when the roots are allowed to have uncontrolled growth.

Heaved and damaged sidewalks, cart paths, driveways and walkways expose the use to injury and the owner to liability. Planting beds, lawns, berms, sand traps, pavers and other areas which you have just improved or installed can be ruined in a short time from unrestricted root growth. Now you can protect your installations from damage while protecting your client (and self) from future liability.

You can prevent all these problems associated with root growth with Typar Biobarrier root control system. It protects the beauty and structural integrity of your landscape design for 15 years or longer.

Biobarrier is not a physical root barrier. It contains a proven herbicide, trifluralin; permanently attached nodules of polyethylene deliver a continuous amount of trifluralin herbicide to the soil for many years. Root growth is inhibited by stopping cell division of the root tips. Trifluralin is not systemic, meaning that it will not translocate into the plant or harm nearby plants in the landscape. In addition trifluralin does not leach and is biodegradable. The porous fabric of Biobarrier allows air, water and nutrients to pass through to turfgrass and desirable plants.

You can use Biobarrier as a preventive application as you build, or as a corrective treatment program where roots are currently present. The preventive method is preferred since you can help prevent costly repairs, reduce liability, save labor time and costs and present yourself as the quality contractor which you are.

As a corrective measure, Biobarrier can cut maintenance costs by more than 60%; controlling roots by root pruning alone means that you must prune roots every one to five years - depending on the vigor of the trees. That is expensive, labor intensive work. Add the cost of concrete, asphalt, pavers, timbers and turf repair to the project and Biobarrier is a real savings.

To install Biobarrier as a preventive, simply lay the flexible fabric along the area

you want to prevent root encroachment. Wearing non absorptive gloves to prevent staining, roll out your Biobarrier and use a knife to trim it to fit your installation. Overlap Biobarrier enough to create a continuous sheet, then drive spikes, large nails or sod staples to hold the fabric in place. Backfill and tamp the soil gently making sure the Biobarrier is held in place.

As a corrective installation, first determine the location of any underground lines or piping. With a ditch/trench-digging piece of equipment, cut a vertical trench between the tree and the surface area, cutting roots if necessary. You may want to consult a professional arborist if you have questions about pruning. Then simply install the Biobarrier as outlined above.

Biobarrier gives you the opportunity to add additional value to your installation by providing protection from root damage to the structural integrity of your design. Additional value is also provided through reduced liability from damaged sidewalks, curbs, walkways, parking lots, cart paths, bike trails, patios - anywhere you specify tree planting. This makes Biobarrier a welcome addition to any project and can easily be cost justified by the labor and time savings of future maintenance if not used.

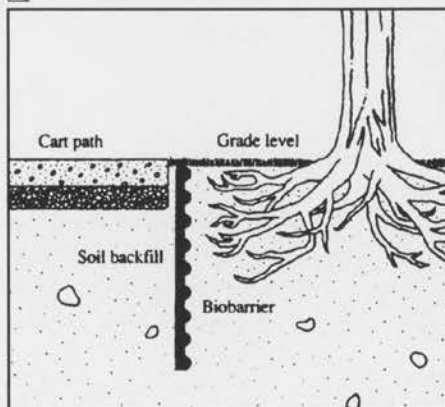
So recommend and install Biobarrier on all your projects! It is available at Benham Chemical, 313-474-7474, in these convenient sizes:

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IN MEMORIAM

*Howard Schrade,
Superintendent of
Hickory Hollow Golf
Club in Mount
Clemens, died Friday,
February 26, in his
home at the age of
69.*

*Schrade was the first
and only
Superintendent at
Hickory Hollow. His
son, Steven, will now
assume the position.*

*Our condolences to
his wife, Lorraine,
and the entire
Schrade family, who
have been, and still
are, a very important
part of Hickory
Hollow.*

*"I worked with
Howard for 16 years
and can tell you that
he was loved and will
be greatly missed.
Every time I pull into
the parking lot or
look out over the
course, I will think of
him and how much
he loved this course,"
said Donna Rettell,
General Manager,
Hickory Hollow.*

TO COMPUTERIZE

"Water conservation is certain to become one of the great issues of the 90s. It is important, therefore, to consider how you, the golf course superintendent, can help conserve water in the operation of your irrigation system." This, according to Brian Vinchesi of Eastern Irrigation Consultants. Vinchesi writes about the evolution of centrally controlled irrigation systems over the last decade, most specifically the popular and sophisticated computerized systems.

control systems appear to be very similar, there are as many differences as similarities. What will some comparison shopping show?

In his article, "Should You Consider a Computerized Controller for Your Golf Course System?," he defined a central computerized system as one that is PC-based and can totally control the irrigation system and its "satellites" from one location and one keyboard. In addition, all programming can be performed at the central computer and displayed on a video terminal with no trips required to field satellites for irrigation schedule changes. Before providing golf course superintendents with a checklist of considerations for those contemplating the purchase of a system, he pointed out that while major computerized irrigation

- *Some systems are PC dedicated which means the computer can only be used to control the irrigation systems while in operation. You may want a system that allows you to do other tasks, such as bookkeeping or fertilizer program scheduling at the same time.*
- *Certain systems down-load most of their information into the field satellites while others store most of their information in the central computer.*
- *Some systems are capable of monitoring several weather stations while others can monitor only one.*
- *All systems, to some extent, give the operator the ability to monitor soil moisture and adjust the irrigation schedule accordingly, either manually or automatically.*

"The computerized control system has many features which can provide the superintendent with an unequalled management tool," Vinchesi writes. Among those features: automatic sensing of major climatic information for the golf course through the use of a weather station; short and repeat-watering cycles for areas of high runoff, slopes or heavy soils; control aerators, pumps, lights and gates.

Computerized central systems may be somewhat more expensive than a mechanical or solid state central controller, but there are several money-saving benefits built into the computerized controller that are otherwise not available.

VINCHESE SUGGESTS A LOOK AT THE FOLLOWING CONSIDERATIONS WHEN CONSIDERING THE PURCHASE OF A COMPUTERIZED CENTRAL SYSTEM:

- 1. Energy Savings.** Most of the computerized central control systems available in today's market have some type of flow monitoring software which allows the superintendent to plot his pump station performance in terms of gallons per minute versus watering time. This graph indicates the water flow requirements of any irrigation schedule over its watering cycle. With this graph as an aid, the operator can input a watering schedule so the irrigation pumps are operating at their peak efficiency through most of their cycle. This yields a substantial savings in electrical consumption due to the less frequent starting and stopping of the pumps and the fact that they are operating at or near maximum efficiency.
- 2. Water Savings.** Due to the precise control available with the computerized central controller in terms of scheduling, emergency shutoff and the automatic interaction with weather data, the irrigation system will become extremely efficient in its water use. These efficiencies and the ability to sense in the soil how much water is needed should add up to substantial water savings. The ability of the controller to adjust each sprinkler independently for start-time and run-time and areas of the course with variable soils, thus saves even more water by reducing runoff and overwatering.
- 3. Labor Savings.** Due to the ability of computerized central control to program field controllers from one location, the ability to syringe from one location and the generation of reports pertaining to each irrigation cycle, the system can save the course substantial amounts of money in terms of time required for troubleshooting, schedule changes and record keeping.
- 4. Sensing Abilities.** The interactive abilities of the computer controlled system allow it to precisely control fountains, gates, outdoor lighting, etc., saving both labor and maintenance.
- 5. Precision Control.** The precise control available at the keyboard allows the easy input of different irrigation schedules for fertilizer and herbicide applications, overseeding and aeration, as well as for different mowing operations.
- 6. Computer Operations.** The stand-alone capacity of many of the systems will make available a fully functioning personal computer to work on such things as budget, employee schedules, equipment maintenance schedules and other uses which are easily accomplished on the computer.

OR NOT TO
COMPUTERIZE...

THAT'S THE IRRIGATION QUESTION



Making a list of features that are absolutely necessary for your operation, then comparing those needs with the features of different systems can also expedite the decision process.

Local service is also something that should be kept in mind.

And two important questions:

Given the high degree of flexibility and the precision control inherent in a computerized system, will I use the system to its full ability?

Does my course management style and the commitment of my club necessitate this type of system?

Vinchesi also says that the option of having the proper wire/cable installed along with the new piping system, and at a later date, adding the central computer is yet another option.

According to Vinchesi given all the advantages and money-saving features of the computerized central control system, each golf course should consider utilizing this type of energy and water conserving equipment when installing a new irrigation system or upgrading an existing one. ▢

Special thanks to Carl Graef at Buckner Water Management for providing the above information. For additional information or assistance, please contact Carl at 800-334-7011.

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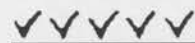
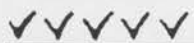
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Michigan & Border Cities GCSA

MEMBER FOCUS

by Vicki Robb

After nearly eight years of golf course renovations Pine Lake Country Club's golf course superintendent Roger Gill calls maintenance a "piece of cake." And with 30 plus years of links maintenance on his score card he has dealt with just about every turf challenge you can come up with.

"I started at Maple Lane in 1959 working under Clarence Wolfrom. I learned a great deal during the seven years I spent working with Clarence," Roger said. After spending seven years at Maple Lane Roger spent the next seven at a municipal course, the Royal Oak Golf Club. "I helped develop a new nine hole course for the city, but I left the year Normandy Oaks opened. I haven't played it but I've driven by and it looks like it has developed nicely."

Roger left the municipal course in 1973 and headed for Pine Lake Country Club, where he has been for 20 years. He also joined the Michigan and Border Cities Golf Course Superintendents Association the same year. "The Association has changed dramatically since I joined. It's always been a good Association but it's grown a lot since 1966. It's more professional and offers many seminars to members," Roger said he remembers how the Big Event started and how much it's changed since its beginning. A group of us put together a small outing and played in Grand Blanc. The prizes were things like fertilizers and spreaders. Quite a change from today's Big Event." (The 1992 Big Event raised more than \$15,000 for the Michigan Turf Foundation.) Roger said the Association is more recognized by today's membership. "The relationship is a very beneficial one for members." Roger has served on the Association's Board of Directors.

As with most superintendents Roger enjoys golf and just like most superintendents finds it difficult to golf for R&R. "I

consider getting in a weekly round of golf an important part of my job. I try to golf from a member's perspective so I can understand

"I consider getting in a weekly round of golf an important part of my job. I try to golf from a member's perspective so I can understand what they encounter when they're on the course."

what they encounter when they're on the course. I usually take notes hole by hole. My focus isn't on my game it's on the course."

Pine Lake's course covers some 118 acres and is home to more than 2,600 trees. Not surprisingly 2,600 trees produce a lot of things besides shade. "Clean-up from spring debris and of course the incredible number of leaves in the fall are a significant maintenance challenge." Roger's crew, which numbers between 16 and 18 during peak season times, handles all maintenance with the exception of actually trimming the trees.

While few courses escaped the rains that saturated the metro area during the summer of 1992, as the name suggests, Pine Lake had some deep water problems that resulted from the rains. "Five holes are basically in a peat bog, and when the lake is up they are lake level. We had a drainage lift stages where we pumped water up to 12 feet to get the water off that part of the course." Three thousand feet of drain tile was installed last year with the same amount planned for installation this summer.

Roger has had great success in keeping his core crew together. If you've ever wondered what some of the individuals taking early retirement from area companies are doing you might find them at Pine Lake. "I've had basically the same core group for the last five years. Most of the crew have taken early retirement and working at Pine Lake works well for everyone. They get to golf at a great course and I have a reliable group of guys who make

an excellent maintenance crew." Roger and his wife Gloria live in Walled Lake and have three grown children, Tom, Tammy and Tracy. While both Roger and Gloria golf, Roger has a second favorite sport and a very special crew. With grandsons TJ, Michael and Ty, Roger has built-in "fishing buddies."

With Club renovations completed, at least for the time being, perhaps Roger and his buddies can get a few extra "fishing rounds" in this summer.



Pine Lake CC's Roger Gill has seen the successful results of a 10-year-long renovation period.

Pictured right and left: Popular features added during the "Renovation Years" was the club building and turnaround area and the 15,000-square-foot practice putting green.





Spray Adjuvants: Matching the Spray with the Goal

by Vicki Robb

"The most expensive spray is the one that fails to accomplish the purpose for which it is applied."

According to an article in the *Journal of Arboriculture*, "Spray Adjuvants Are Management Tools," part of the problem with matching the spray with the goal has been the consistency regarding the use of certain words and terms, and what they mean. Dan Shemon, from Benham Chemicals, provided information from the Journal which defines the numerous words that are related to spray adjuvants as well as some guidelines for matching the appropriate type of spray with the desired results. The definitions are not "dictionary precise" but relate directly to spraying and the role of the adjuvant.

SPREADER, WETTING AGENT AND SURFACTANT

are synonymous terms referring to a broad group of surface active agents. Chemicals that reduce the surface tension of spray solutions so droplets spread out, covering a greater surface area. The word surfactant is coined from the phrase SURFACE ACTIVE AGENT. Spreading action is especially important for achieving good spray coverage on waxy or pubescent (hairy) plant parts, for getting spray into cracks and other small openings such as leaf sheaths and under bark scales, and to help move systemic chemicals or contact herbicides through waxy cuticles into the plant tissue. Surfactants are divided according to their chemical reactivity and may or may not be labeled as nonionic, anionic or cationic, or combinations like nonionic/anionic blends. Nonionic surfactants do not ionize in water, they are essentially non-reactive. Anionic surfactants ionize into negatively charged ions in water, they are negatively reactive. Cationic surfactants ionize into positively charged ions in water, they are positively reactive. They are also phytotoxic and almost never used in spraying. Nonionic spreaders are the surfactant group most commonly recommended.

HOW SPREADERS WORK. A spreader (surfactant) molecule is somewhat like a tadpole: the "head" is soluble in aliphatic substances (oils, petrosolvent, etc.) and is water repellent (hydrophobic). The "tail" is insoluble in aliphatic substances and is water attracted (hydrophilic). In water, the water repellent "head" moves the molecule to and through the water surface, while the "tail" remains in the water. Wherever a molecule penetrates the surface, surface tension

is broken and reduced. The greater the number of breaks, the more surface tension is reduced.

Pubescent (hairy) plants and plant parts have a special spraying problem; the surface tension of water sprays holds spray droplets on the hairs of pubescent plants and prevents wetting of the actual plant surfaces. The addition of a spreader will permit the droplets to move down the hairs, onto the leaf or plant surfaces.

High rates of spreader are as bad as low rates. Excessive spreader causes water sprays to run off or flow

into depression areas of the sprayed surface, mainly off, onto the ground. Poor coverage and insufficient redistribution of the pesticides with reduced effectiveness can be the result.

Surfactants are called "emulsifiers" when they are used in aliphatic substances so they will mix with water.

Emulsifiable oils are very special oils containing specially blended emulsifiers (about 1 - 2 %) so they will mix with water. When an oil spray strikes the spray target, the oil separates out onto the sprayed surface while the water carrier and emulsifier run off onto the ground or evaporate away. The oil is then without emulsifier, is no longer water miscible, and is not readily washed off the spray target. (NOTE: Stickers, if used at high rates, can hold pesticide residues so tightly they are literally entombed and useless.)

An adjuvant with both spreading and adhesive qualities is called a spreader/sticker. (NOTE: The greatest misrepresentation, confusion and misunderstanding in the whole subject of spray adjuvants is the promiscuous use of the term "spreader/sticker." Many products labeled "spreader/sticker" are nothing more than a nonionic spreader, having no adhesive quality whatsoever.)

Acid adjuvants to lower the pH of alkaline spray solutions are called acidifying agents, acidifier or buffer. Defoamers or anti-foam agents are used to break or prevent foam formation in spray tanks. Every sprayer should have some defoamer with it at all times, just in case a foam problem develops. Defoamers are much cheaper than down time.

Drift control agents are adjuvants that reduce the breakup of sprays into fine droplets that can drift out of the spray zone. Spray drift is double jeopardy: first, it reduces the effectiveness of the spray application; second, it creates contamination hazards for adjacent properties, crops and people with a potential for serious legal implications.

Adjuvants that increase the amount of pesticide actually deposited on spray targets are called desposition aides and thickeners, and dispersants that maintain more uniform dispersons of chemicals in spray solutions are called suspending agents.

A functional knowledge of adjuvants is important in order for spray managers to obtain maximum benefits and returns from every dollar spent for spray chemicals.

CONSIDER THE FOLLOWING WHEN MAKING YOUR DECISIONS:

- Select adjuvants as carefully as pesticides. Read the pesticide labels and select adjuvants that meet label requirements and the conditions under which the spray will be applied and expected to perform.
- Buy spray adjuvants, as well as spray chemicals, from reliable, professional suppliers.
- Bottle test spray mixtures for compatibility. If anything in a spray mix is new or different (the water source, the pesticide mix, the brands of chemicals), test before mixing a full batch of spray.
- Check the spread of some drops of the spray mixture on the plants to be sprayed. Somewhat mounded spray drops that stay in place are what is wanted. High standing, round drops that fall off or shake off easily indicate the need for more spreader. Flat drops that tend to slide easily off of the plant surfaces, leaving a wet line, indicate too much spreader. For hairy plants, drops should flow down among the hairs but not readily flow off a vertical leaf surface.
- If a rain or heavy dew is likely before the next regular spray, use a sticker.
- If it is windy, the humidity low, or there is a temperature inversion near the ground, use a drift control agent.
- When using alkaline spray water, lower pH to below 7.0 with an acidifying agent. Lower the pH to about 6.0 if the spray must stand in the tank overnight or longer than a normal application time.
- When spraying a solar heat or ultraviolet radiation sensitive pesticide (a surprising number are), use an extender. ▽



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1993 **SKINS** Game-

The annual National Golf Tournament held in San Diego was also the site of the 1993 Michigan Skins Game. This year the two-day affair included some great golf and unusual weather, as flood conditions in southern California made us wonder if we could even hold the event at all. Thankfully, through the efforts of Rick Ransburg, superintendent at Aviara, and Bob Dobek, superintendent at The Inn at Rancho Bernardo, we were able to accommodate all the players and again make the Skins Game a great success.

The two-man team championship held January 20 at Aviara included great golf weather and a magnificent golf course. The field of 16 teams, divided into two flights, finished as the last rays of light fell on the last eight-some as they putt out on the 18th green. Winners of the A-B flight were the team of George Prieskorn and Carey Mitchelson as they carded a nifty 74. George is a repeat winner from last year's event and provided steady experience as he drained several six footers his partner charged, left short or generally misread. The team of E.J. Harrington and John Baasch took honors in the C-D flight. E.J. used John's local knowledge to his best ability, and they teamed up for a nice 82.

The four-man team event scheduled for La Costa shifted to The Inn at Rancho Bernardo as flooding closed the original site. The teams teed off into dense, early morning fog that remained for nearly the entire event. Despite many unsighted landings of golf balls, the team of Rick Ransburg, George Prieskorn, Jim Timmerman and Bill Roberts casually walked the course to a victory. The rules committee, acknowledging the presence of past and current (at the time) presidents of the Golf Course Superintendents Association of America on the winning team, waived any disputes and congratulated them on a job well done. Locating golf balls proved not as difficult for some as others. Ken DeBusscher, another current president (MBCGCSA), used his keen eyesight and hard-earned handicap to post low net individual honors, and Carey Mitchelson, who is responsible for a great deal of the scorekeeping, captured individual low gross.

During the GCSAA Tournament, held at various courses in San Diego, fellow superintendents from the Michigan area who did well include: Jay Delcamp, who played extremely well on his way to placing as first runner up, first flight, gross division; Gary Thommes, a plate winner also in the first flight; Clint Overn, a plate winner in the second flight; E.J. Harrington, a plate winner in the third flight; and Bill Fach, 13th place gross, first flight.

Congratulations to all winners and to all who competed at both the Michigan Skins Game and the National Tournament. Next year's event is scheduled for Austin, Texas, and we are already in the process of lining up some outstanding courses for next winter. Those players interested in competing in the Michigan Skins Game are always welcome, and we look forward to hearing from you as the time draws near.



San Diego

Thanks go to the following companies for providing prizes for the Michigan Skins Game: Club Car, Inc.; Benham Chemical Corporation; Century Rain Aid; Amturf Seeds; Wilkie Turf Equipment Division Inc.; Thesier Equipment Company; Osburn Industries, Inc.; Lawn Equipment Sales and Service; W.F. Miller Co.; D & C Distributors; Spartan Distributors; Turfgrass Inc. ▴

1993 MBCCGCSA SKIN GAME WINNERS

4-Man Best Ball

Rick Ransburg
George Prieskorn
Jim Timmerman
Bill Roberts

2-Man Alternate Shot (A-B Flight)

Carey Mitchelson
George Prieskorn

2-Man Alternate Shot (C-D flight)

E.J. Harrington
John Baash

Gary Thommes
and Jay
Delcamp show
the plates they
won in the
National GCSAA
Tournament.



Four-man
team winners
at Rancho
Bernardo Inn
were: (left to
right) Bill
Roberts,
George
Prieskorn, Jim
Timmerman
and Rick
Ransburg.



Two-man team champion of the C-D flight: E.J. Harrington, Battle Creek Country Club (left), and John Baasch, assistant at host course Aviara.

Two-man team champions of the A-B flight: Carey Mitchelson (left) and George Prieskorn.



ABOVE: First
Flight gross
runner up Jay
Delcamp
rechecking the
results for any
possible errors.

RIGHT: Host
Superintendent
of Four Seasons
Resort Aviara,
Rick Ransburg.



RIGHT: Participants in the 1993
Michigan Skins Game during the
GCSAA Tournament in San Diego.



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Controlling Irrigation by Radio

by Pete Otte

As interest has increased concerning radio-controlled irrigation, so have the questions. Many misconceptions exist concerning these systems. This article will attempt to answer some basic questions.

The two biggest advantages to a radio system are the total control of all irrigation from a central location (although not unique to radio control) and remote operation of any valve from a handset. (Radio control can also be retrofitted to irrigation systems without breaking ground, another plus.) The remote control feature allows you to spot water or conduct system maintenance checks.

Most radio units operate entirely independently of the host controller. In fact, the host controller does not even need to be functional. Some low-budget systems are even being designed with no controllers at all.

Radio controllers provide major scheduling advantages. Because a radio system is centralized, any zone anywhere can start at any time and be followed by any other zone. Also, you don't need to install communication wire on the site. Although in their relative infancy, radio systems of the future will be continually monitored by computers, which will make adjustments to accommodate flow conditions, broken pipes and sudden rainfalls. Some of the newest PCs have enough memory and speed to allow for multi-tasking. If you decide to do your payroll or type a letter at 8 a.m. while your system is running, you can do it. The computer is not necessary to access the field units. You can access them directly from the handset. However, some systems require a pager unit to be turned on. The computer can be turned off.

Frequency Concerns. Although exact frequencies are site-specified and manufacturers will build to suit, many systems operate with an FM signal in the 450 to 470 MHZ range. As far as misconceptions go, garage door openers use a low-power AM signal so they don't cause interference. If a nearby facility, such as a golf course, has a radio system, it could be a problem.

However, the FCC requires users to license their frequencies. Part of the licensing fee goes toward researching the FCC records. As a result, the FCC will not allow neighboring users to license the same frequency.

Some people worry about HAM operators. Even if someone discovers your frequency, they would have to have a tone pulse generator (keypad), know your access codes and how to use them.

Antennas are a concern to some. An antenna's performance is a direct result of its ability to capture a radio wave. Consequently the length of the antenna depends on the length of the radio wave length it is designed to receive. Wave length is proportional to the operating frequency. Doing a little quick math, a frequency of 460 MHZ yields a wave length of two feet. An interesting phenomenon of radio science is that an antenna need only capture a quarter of a wave to be effective. To make a long story short, frequency of 460 MHZ requires an antenna of 25 percent of two feet, or six inches. The use of coils in antennas can allow them to be shorter still. That's another good reason for using a system operating in the 450 to 470 MHZ range.

As far as vandal problems, manufacturers are already making encapsulated horizontal antennas that are less tempting to would be vandals.

Radio systems, along with cellular phones and voice mail, are here to stay. They are out there working every day. Improvements are coming faster than manufacturers can print sales literature. Radio systems can't replace a modern, well-designed conventional system, but as a quick and easy way to bring your system into the 1990s, they are tough to beat. ▢

Pete Otte is an irrigation professional with P.I.E. Supply Co., an irrigation equipment supply company in Milford, CT. A Patch of Green wishes to thank Carl Graef of Buckner Water Management in Mount Pleasant for providing this article. Buckner Water Management carries the COPS-Universal radio field unit. For information, please call Carl at 800-334-7011.



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GRK & A

HOT LINE Meeting Registration and Attendance

The Michigan & Border Cities Education Committee wishes to inform all members of policies pertaining to meeting registration and attendance. Meeting announcements will be mailed to you by our Executive Secretary two weeks prior to the meeting. Members who will be attending are required to make a reservation via our hotline number (313-362-1108) by at least three days prior to the meeting date. It is especially important to the meeting organizers, and a courtesy to the host club, to have an accurate attendance count prior to the meeting date. The host club prepares for and MBC is charged for the number of phoned-in reservations. Your reservation represents a financial commitment to the host club.

To avoid a financial loss by the Association due to "no-shows," MBC will mail a request for payment of meeting related expenses. The amount will be that which is necessary to balance our account with the host, and not more than the amount shown on the meeting announcement, to members who reserve and fail to attend. The Education Committee will consider requests to waive a billing for circumstances that are unavoidable.

Reservations made after the deadline on the meeting notice will be accepted, but there can be no assurance that a meal can be provided.

Your participation in the Association is vital to achieving our purpose of fellowship and education. You are all urged to attend Association functions and, by doing so, increase the benefit to all members. ▴

Highlights of the GCSAA Annual Meeting:

NICHOLS ELECTED PRESIDENT: Randy Nichols, CGCS, was elected president of GCSAA during the association's 1993 Annual Meeting, which was held January 30 in Anaheim, California. Nichols, 45, has been golf course superintendent at Cherokee Town and Country Club in Dunwoody, Georgia, since 1975. He has been a member of GCSAA for 17 years and has served on the board of directors since 1987. He succeeds William R. Roberts, CGCS, who will serve an additional one-year term on the board as immediate past president.

Dr. James Beard and Victor Gibeault Honored for Distinguished Service: Dr. James B. Beard and Dr. Victor Gibeault accepted GCSAA's 1993 Distinguished Service Awards as recognition of team efforts in advancing the science and practice of golf course/turfgrass management. Gibeault is an extension environmental horticulturalist for the University of California-Riverside. Beard, who now serves as director and chief scientist for the International Sports Turf Institute, devoted 35 years to teaching and research in the field of turfgrass.

Amendment A Passed: Besides electing officers, voters at the Annual Meeting cast votes for nine proposed amendments to the association's Articles of Incorporation and Bylaws. However, only one amendment was adopted—Amendment A.

Amendment A added the notion of promoting "environmentally sound management of golf courses" to the purposes for which GCSAA is formed, as listed in the Articles of Incorporation.

Incoming President Randy Nichols, CGCS, said, "Basically, the membership seems happy with the tremendous progress of the organization, wants more of it and sees no immediate need for dramatic change in governance procedures." ▴

Just for Fun from the March/April Issue page 19: Puzzle provided by Kevin Dushane

ANSWERS

1. S	2. C	3. A	4. L	5. P	6. B	7. E	8. D	9. M	10. G
11. O	12. H	13. M	14. O	15. D	16. O	17. R	18. S	19. O	20. Y
21. D	22. I	23. P	24. S	25. O	26. D	27. A	28. N	29. I	30. P
31. T	32. E	33. E	34. B	35. O	36. S	37. S	38. S	39. S	40. S
41. O	42. S	43. L	44. O	45. W	46. B	47. T	48. U	49. M	50. M
51. V	52. O	53. R	54. G	55. A	56. N	57. I	58. C	59. M	60. M
61. P	62. O	63. L	64. L	65. E	66. R	67. L	68. O	69. Y	70. D
71. E	72. R	73. I	74. E	75. S	76. A	77. Y	78. L	79. O	80. R
81. N	82. G	83. U	84. T	85. E	86. D	87. D	88. R	89. I	90. P
91. A	92. M	93. M	94. O	95. N	96. I	97. A	98. E	99. E	100. L
101. J	102. N	103. A	104. P	105. I	106. E	107. C	108. E	109. R	110. A
111. A	112. I	113. K	114. Y	115. C	116. U	117. T	118. S	119. I	120. I
121. I	122. S	123. A	124. A	125. C	126. O	127. C	128. E	129. A	130. N
131. L	132. M	133. S	134. A	135. T	136. U	137. R	138. A	139. T	140. E

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Michigan Hospitality Room a Hit Once Again in '93

The 1993 GCSAA Conference and Trade Show hosted thousands of turf industry individuals in Anaheim, California. For those of you who attended, the immensity of this conference is comprehensible. For those of you who were unable to attend, believe me, this show is enormous. With more than 10,000 in attendance, the odds are quite low that you will run into fellow friends from Michigan very frequently. If you do happen to see someone on the floor of the show or in an educational forum, there normally is not an abundance of time to discuss new products or ideas.

Fortunately, the perceptive turf individuals in this state realized this and took action some time ago to resolve the problem. The Michigan Hospitality Room is a location where persons from our state who are present at the annual conference may congregate, share ideas and fraternize. In addition to persons presently living in Michigan, there also is an opportunity for transplanted friends and colleagues from Michigan to assemble and talk to each other, an event that otherwise might not occur.

This pleasure does not come without a price; plenty of effort and funds are needed to provide this magnificent opportunity. State turf organizations, dealers from across the state and each person present make generous donations to assist in the Michigan Room's success.

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Thank you all. And to each individual, too numerous to list, thanks also. Your generosity is well-founded and should not be forgotten by anyone who was present.

Thank you also to all the individuals who donated time to work in the room. The Michigan Room could not be run as well as it is without your support. You all deserve a pat on the back! One last special thank you to Mr. Nick Panasuik for his generous donation. We missed you, Nick. Hope to see you there next year! The same goes for each of you. See you in Dallas!

1993 Hospitality Committee:
Paul Dushane
Michael Bay

Hospitality Chairman Paul Dushane sings to his pet shark!!



Turfgrass Inc. sales representative Keith Richards with his wife Nguyet enjoying the hospitality room.



Dave Pawluk (left) of Indianwood Country Club and Bill Hull from Twin Beach Country Club discuss plans for the rest of the evening.



Behind the bar, workers Don Tino and Jerry Penner (right), both of W.F. Miller, keeping the supplies filled.



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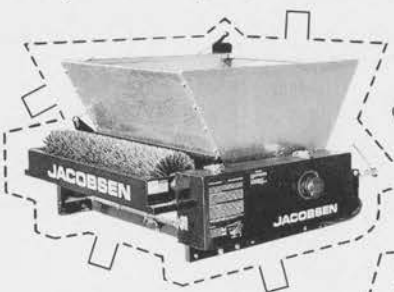
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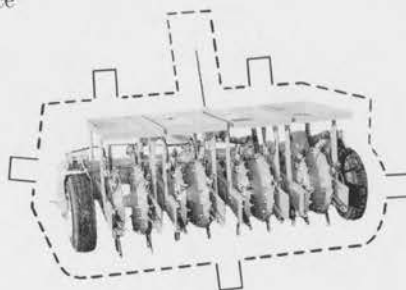
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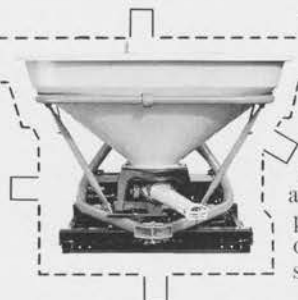


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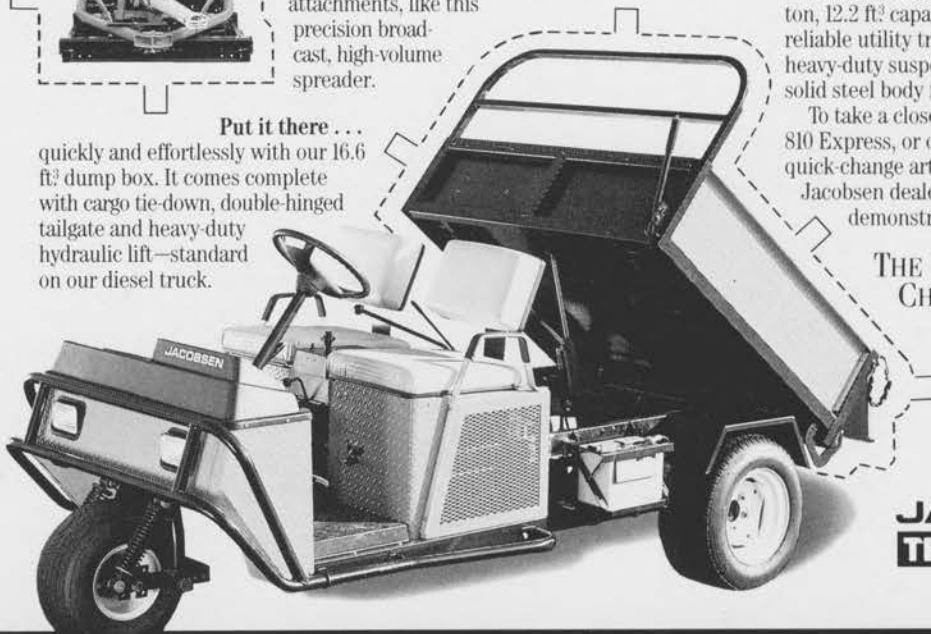


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