

New Life-

(Continued from Page 9)

Sometimes it's preferred to shut off agitation when the tank level gets low. In our project, we repositioned the agitation valve to where it could be easily reached by the operator.

FILTER

Filters are necessary evils that cause a lot of headaches. It is important to remember the intended purpose that they accomplish. They need to collect and remove only the maximum size of particle that could cause problems with components downstream. The choices are usually 20, 32, 50 or 80 mesh sizes. Pumps, valves and flowmeters can handle fairly large particles that would go through a 20 or 32 mesh filter screen. An 80 mesh filter screen will catch more particles than a 50 mesh screen, but it will need to be cleaned more frequently. The headaches begin when the screen plugs up before the tank can be sprayed out. Advancements in filters include a 'self-cleaning' feature that can address this problem. A valve and hose on the bottom of a self-cleaning filter allow for the trapped particles to be removed without having to completely disassemble the filter assembly.

Another way to avoid plugged filters is to not rely on your sprayer tank to mix difficult products. Using an on-board chemical mixer or premixing chemicals that do not mix well will help keep filters from plugging up early.

Spray tips are the most vulnerable and their ability to handle particulate depends on the size of their orifice. Many newer spray tips have extra protection with built-in tip strainers. Tip strainers are final insurance that your spray pattern won't be affected by a plugged tip. However, this is only true if they are checked and cleaned on a regular basis.

The filter on our project sprayer had a screen that was too short and material was getting past the screen. We replaced the screen with an 80 mesh screen that was supported with a 20 mesh backing. The golf course using our project sprayer pre-mixes chemicals which allowed for a finer mesh screen to be used on this sprayer.

VALVES

Simple on-off solenoid valves on our project sprayer were replaced with motorized plunger valves that had a by-pass feature. The by-pass feature allows for

adjustment to keep the boom pressure equal regardless of whether a boom section valve is turned on or off. An adjustment knob is used to adjust the amount of returned flow which is what equalizes the pressure. This feature is especially helpful for sprayers that are not equipped with an automatic rate control system.



Tank Agitator

Agitation Valve



Valves Before



Valves After

BOOM CONTROL AND PRESSURE GAUGE

When the valve controls and pressure gauge fail, the sprayer is pretty much useless. This is what happened to our project sprayer and the superintendent wanted to upgrade the controls. To upgrade application controls, we needed to review the options. We know that in order to calcu-



Vent line



Sparge Tube

late the applied rate of spray, we need to know the application speed and flow output of the spray tips. With a pressure gauge and a nozzle rate chart, we can monitor and adjust flow by adjusting the spray pressure. For example, if we can maintain 40 psi with a 06 (ISO color gray)

(Continued on Page 14)

TORO

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Toro[®] Turf Guard Wireless Soil Monitoring System helps you improve your turf, soil, and water efficiency.

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Count on it.

New Life-

(Continued from Page 11)

tip, we are applying 0.6 gpm. Add in a speed at 4 mph and from the rate chart we get 45 gpa or 1.0 gpk. Got it? What if we need to slow down to 2 mph? Hmm... go through it again. I know that sprayer operators can walk and chew gum at the same time, but can they drive and calculate rates at the same time? To stay on the target rate, operators need to keep a constant speed or at least know what pressure to adjust to if a speed change is made. The big problem on our project sprayer is that it did not even have speed indication. We needed a big upgrade.

The choice we were then faced with was whether a rate monitor would be sufficient or if a full rate control system was needed. Both the rate monitor and the rate control systems need a flowmeter and a speed sensor, but a rate control system will actively adjust the flow without the operator's help. A rate control system costs about 80% more than a rate monitor. The project sprayer had a mechanical drive system that could hold a fairly consistent speed over undulating terrain.

With that, the monitor system was chosen because it was decided that relatively few adjustment would need to be made by the operator based on the rate shown by the monitor and the target rate.

NOZZLE BODIES

The owner of our project sprayer wanted to update to multiple-position nozzle bodies. Turret style nozzle bodies allow for a quick change to different application rates without having to remove and replace nozzles. This seems simple enough, but there have been some technology updates on these products that can influence product choices. Many nozzle bodies are made with Nylon™ material that swells slightly in the presence of water. This causes variability in the ability to rotate the turret. Newly engineered plastics have addressed this problem and the nozzle bodies that we chose for this sprayer used these materials. We also chose a 'wet boom' plumbing design that cleaned up the look of the boom and removed a lot of worm-gear hose clamps.

Updates like these can get you through low budget years when new equipment purchases are not an option. Updates to

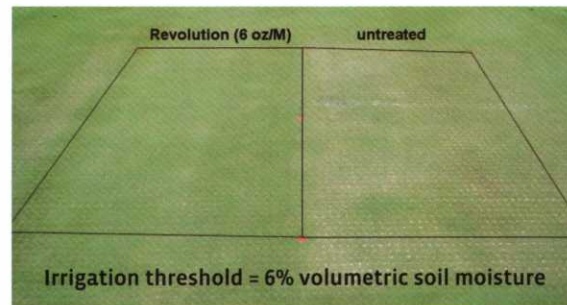
your sprayer help you make better applications immediately and can increase the trade-in or resale value when a new sprayer purchase is made. But when adding technology to a sprayer, it is important to not add new headaches to the spraying experience. This is why professional quality components should be chosen that are simple to use and can stand up to the elements and the environment. The work to update components can be performed by course technicians and mechanics. However, while mechanics usually spend a lot of time making sure that power and drive train systems on sprayers are well maintained, they are not always enthusiastic to tear into liquid system components. Something about the smell and look of green chemical residue does not excite them. In addition, the work and research into the best components to use for an improvement takes time for either the superintendent or the technician. If the appetite to take on a project like this doesn't exist, there are companies specializing in this area that can take on a sprayer improvement project for you.

This sprayer will see the pasture much later!



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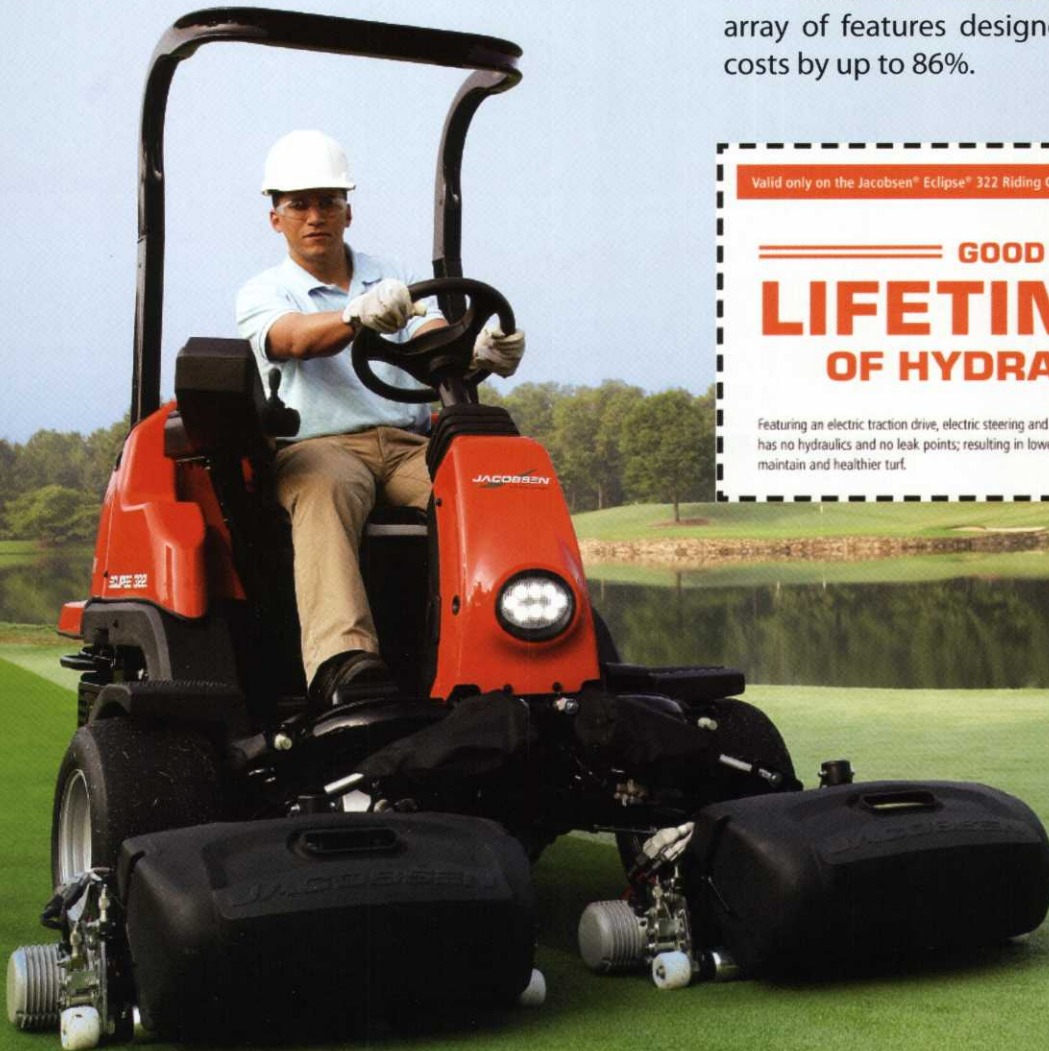
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Turf Paint Reduces Damage from Harsh Minnesota Winters

By DAVID OBERLE

Owner of Excel Turf & Ornamental

As we all know, Minnesota winters and turf damage go hand-in-hand. Golf course greens, in particular, don't take kindly to brutal wind, below-freezing temperatures, ice and snow. But it's part of turf maintenance when you work in Minnesota, so the goal is to find proactive solutions that ensure the course is in pristine shape when spring arrives.

One of the solutions I recommend is a Turf Paint Program, which gives added protection and is cost-efficient. A turf paint product such as Regreen® from Precision Laboratories is sprayed onto dormant turf late in the year at a rate of approximately 12 ozs. per 1,000 sq. ft. Not only does the nonphytotoxic turfgrass colorant provide long-lasting natural color, but superintendents cite additional benefits such as winter desiccation protection, early plant stimulation and anti-crown dehydration.

University Research Proves Effectiveness of Turf Paints

A 2005 study at Iowa State University that compared the effects of several winter protection practices, including turf colorants, turf covers, anti-desiccants, wetting agents and fungicides. While many options are available for winter protection, the research confirms that turf paints provide better appearance, improve turf color during the winter and supply a slight advantage in turf color even after the colorant was no longer visible.

In addition, a 2001 study from the University of Maine com-



pared the impact of crown dehydration on both untreated and painted turf. The study found that the turf paint improves the survival of bentgrass greens and that turf paints had better results than plain anti-desiccants, while the green pigments provided a quicker spring green-up due to darker turf canopy.

(Continued on Page 19)



WHAT IS AQUEDUCT? Aqueduct is a curative surfactant formulation designed specifically to provide rapid recovery from existing water management problems such as localized dry spot. Aqueduct can also be used as a pre-treatment tool to correct problem areas before starting a regular preventative program. It moves water deeply into problem areas, reducing water repellency and restoring the root zone's ability to regain optimum moisture levels. Aqueduct quickly reduces turf wilt and promotes recovery of stressed turf.

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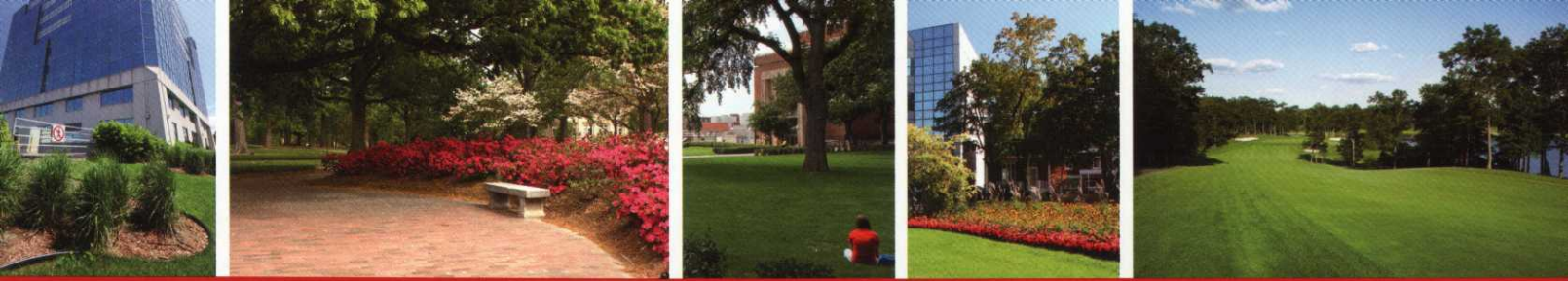
Whether you are establishing new plantings or maintaining existing landscaped areas, Aqueduct can help you successfully maintain attractive greenery even when the weather turns hot and dry. Water management is one of your most important issues; loss of plant materials on new landscapes from moisture stress is all too common and the need for replacement plantings can be expensive. Gaining control of water repellency issues with Aqueduct will result in more attractive landscape areas that are less expensive to maintain.

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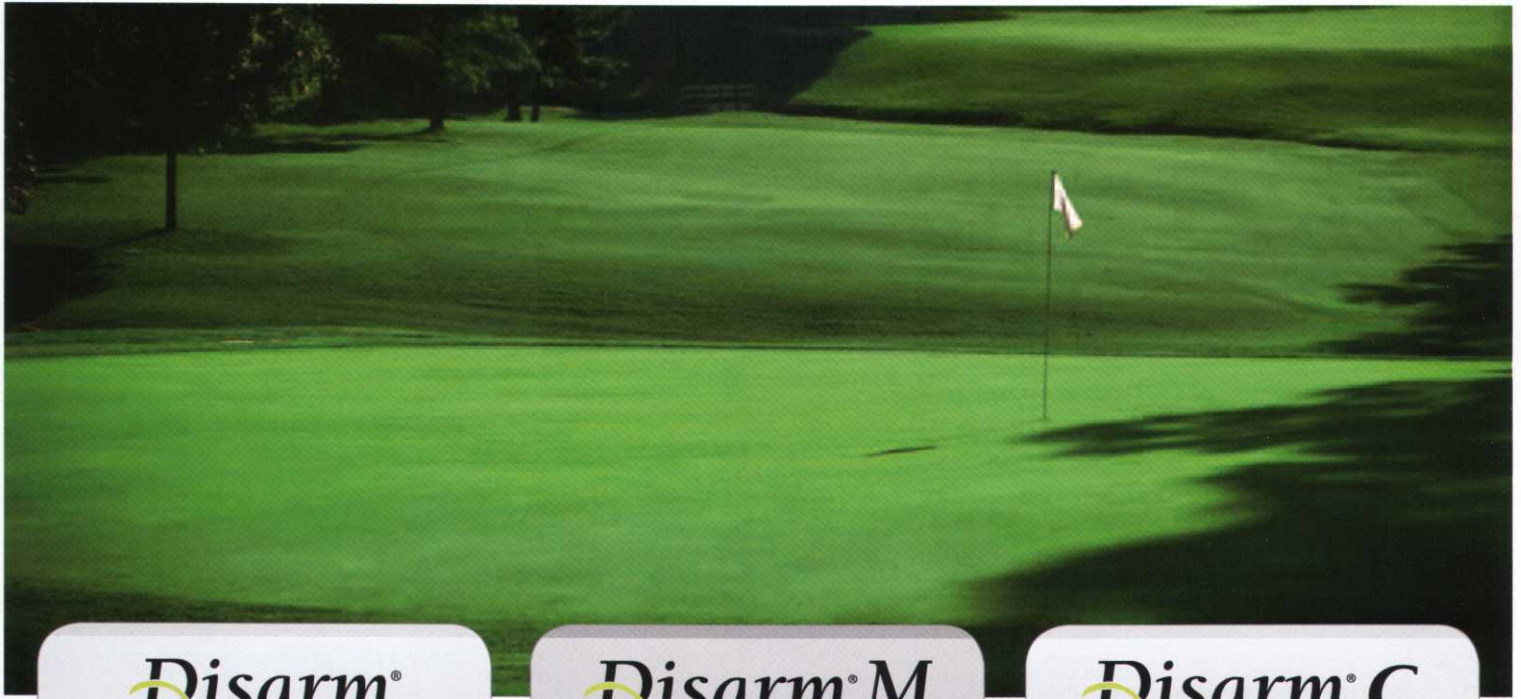


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Turf Paint -

(Continued from Page 16)

Superintendent Dan Hanson does not cover the 45 greens at Majestic Oaks GC in Ham Lake. He wanted a product that would provide added protection over winter. In November 2009, he made the decision to use turf paint on 24 greens, specifically those that were most exposed to harsh winter wind. Although there was a constant snow cover throughout winter last year, Dan still noticed the greens sprayed with turf paint came out of winter better than the others.

Dan noticed more clippings than the non-painted greens. "I think the paint helped to warm the canopy faster, so the turf recovered more quickly," said Hanson.

Similarly, **Fred Taylor, Superintendent at Mankato GC**, used turf paint on greens that suffered from winterkill the year before. "The greens we sprayed with turf paint were healthier and the color was strong; overall the quality was better and we were catching more

clippings," cites Taylor. "The strong color and increased vigor could've been attributed to early soil warm-up."

While it's easy to immediately link the benefits of turf paint to early spring color, the added winter protection is prompting superintendents to give it a try. Much like

"I think the paint helped to warm the canopy faster, so the turf recovered more quickly."

*- Dan Hanson
St. Cloud Country Club*

black sand or Milorganite, the use of a turf paint triggers early spring green-up by speeding up plant metabolism. In addition, it would be hard to find a better product to offer winter desiccation protection. And, of course, the color! The idea of strong spring green color was the main motivator for Wes Stoneback, Superintendent, to use turf paint at The Wilds Golf Club in Prior Lake, Minn.

"I used it for color, so protection was an

added bonus," says Wes. "I found that it had as good or better effect than TransFilm for winter desiccation, plus the soil warmed up faster because of the turf paint."

"In spring, I would give the color of the greens sprayed with turf paint a '9' and I'd give turf quality a '9' as well. The course opened two weeks earlier than usual and the greens were actually green, which impressed the golfers."

Turf Paint Benefits Extend Beyond Color

While it's easy to immediately link the benefits of turf paint to early spring color, the added winter protection - especially in Minnesota - is what prompts so many superintendents to give it a try. Much like black sand or Milorganite, the use of a turf paint triggers early spring green-up by speeding up plant metabolism. In addition, it would be hard to find a better product to offer winter desiccation protection. And, of course, the color!


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Wee One Honors Tom Fuller



Tom Fuller, left, accepts a gift from the Wee One Foundation. Dale Parske, right, presented the gift on behalf of the foundation. Tom is in line for a lung transplant. The 1st Annual Minnesota Wee One Foundation golf tournament is set for September 27 at North Oaks Golf Club. Anyone interested in supporting Tom and this great foundation is invited to play. All proceeds from the event will be donated to Tom and his family.

"My family and I are eternally grateful for all the concern, support and generosity we have received from all the friends and colleagues in the golf and turf industry.

We feel blessed to have so many people who care. Again, thanks a million for all you have done.

For those that wish, there has been a Caring Bridge site set up under my name. This will be updated when there is information to share." - Tom Fuller and Family



Host Superintendent Scott Hoffmann and The Classic are set to host the Harold Stodola Research Scramble on Sept. 20. Hole 16 is pictured above.

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