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Real Science

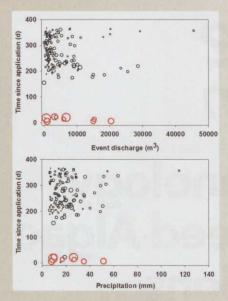


Figure 4. Bubble plot of flow weighted event concentrations (bubbles) and their relationship to precipitation and time since application (lower graph) and their relationship to event discharge and time since application (top graph); the larger the bubbles, the greater the event concentration. The red bubbles correspond to those events with peak concentrations exceeding the reference value of 7.6 mg/L which is equivalent to the LC50 threshold for rainbow trout.

tion to timing of nutrient losses (irrigation can and will promote tile flow, especially on

- · adopting the use of organic formula-
- making multiple low-dose applications rather than fewer large applications,
- · installing buffers or route drainage waters through wetlands.

With respect to pesticides and particularly chlorothalonil and its course wide use for snow mold retardation, the recommendations are:

- · avoiding application for course wide snow mold protection until after last major rainfalls and before first snow cover events (the label recommendations do allow for multiple applications if snow cover is intermittent),
- · using granular and wettable powder formulations rather than liquid or sprayable formulations,
- avoiding application at least 48 hours or longer prior to rainfall,
- · installing buffer strips, setbacks, increase buffer strip widths or introduce graduated buffer heights,
 - · removing clippings,

· maintaining healthy, high density turfgrass to promote infiltration and reduce runoff.

This research conducted on a Minnesota golf course highlights the importance of watershed scale investigations for development of effective best management practices (BMPs) to significantly reduce nutrients and pesticides from leaving your golf course. In general, the development of integrated management plans and implementation of (BMPs) can reduce the environmental footprint of golf courses. An important first step is to seriously consider the fertilizer and pesticide recommendations outlined in this article.

In general, the development of integrated management plans and implementation of (BMPs) can reduce the environmental footprint of golf courses. An important first step is to seriously consider the fertilizer and pesticide recommendations outlined in this article. GCI

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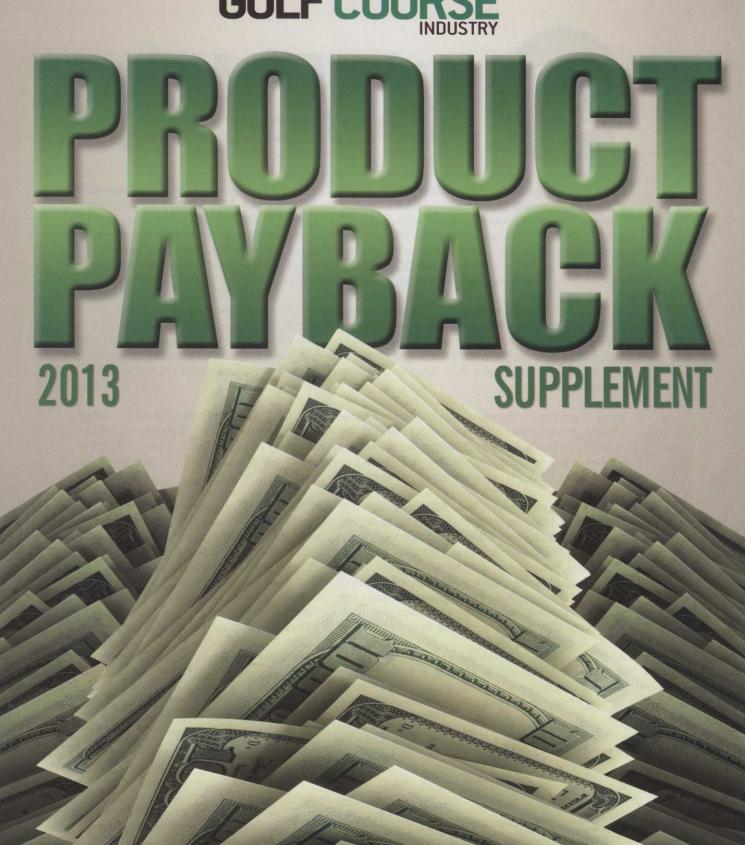
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52

GOLF COURSE INDUSTRY





Make Em Move Manufacturing

Flock Free and Make Em Move Manufacturing came from a simple beginning. Tom Kaps operated a small cleaning and general maintenance company for over 20 years. After his cleaning company handled a few bird control contracts with success, Tom formed Flock Free with his partner, Paul Rosario, in 2007. In just a few short years, Flock Free grew from a small, northeast bird control company to a full service, international bird control provider. Based out of an industrial warehouse in Lakewood, NJ, we are proudly Home Depot's #1 bird control provider, responsible for servicing .stores across the country and even over the Canadian border

At Flock Free, we believe that educating customers and providing realistic expectations is paramount. When we were unable to achieve desired results using established products we developed alternative, humane ways to solve our customer's bird issues. This quest for perfection is what lead Tom and Paul to design, manufacture and patent their own bird hazers. After creating a multitude of innovative bird products, they developed their manufacturing division, Make Em Move Manu-.facturing, LLC

Tired of settling for the same old products with predictable, limited results, Make Em Move creates exciting products that offer new ways to treat bird problems. Most pest control websites selling or distributing products continue to market the same products they have pushed for years. While the tried and true products of yesterday still have a place in today's pest control world, we at Make Em .Move believe there is room for improvement

Take a look at our product line. We're confident that our concepts and products speak for themselves. From bird hazers, to flying hawks, to pallet protection, we have it all covered so your merchandise won't be covered in pest droppings! Some of our most popular and well used methods include the hazer units, such as our Portable Moby, which turned Rejex-It Fog Force (active ingredient Methyl Anthranilate or MA) into a lighter than air haze that rises to meet birds mid-flight. MA has a pleasant grape aroma to humans. When inhaled by birds, however, MA nano-particles cause enough of an unpleasant reaction to make birds want to leave the area. Geese are one of the only birds affected by Rejex-It Fog Force when they walk through the invisible haze. It only takes a small amount of MA to cause a reaction in birds and since it is invisible, they cannot see it to avoid it.

We believe managing both the manufacturing component of Make Em Move along with the service entity of Flock Free sets us apart from other bird control professionals. Our familiarity and faith in our products coupled with reliable and experienced service technicians allows us to offer our cus-.tomers a truly unique experience rarely seen in the pest control industry



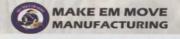












www.make-em-move.com

PORTABLE MORY BIRD HAZER!

Chase Geese Away,

All Day, Every Day

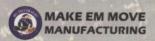


- -Covers up to one acre easy to move!
- -Holds 2.5 gallons of Rejex-It Fog Force, which lasts up to three months
- -Digital-programmable timer with endless settings- makes it user friendly!
- -Has two extra outlets, one for optional fan, one for power to allow for piggy backing more than one machine.
- -Optional camoflauge cover makes it blend in easily with surrounding.
- -Quiet operation and invisible haze- makes it barely noticable!
- -Internal heater included for cold weather operation
- -Remote operation with optional power pack



Optional Battery Pack and Fan available, sold separately.





Owners, board members, and superintendents minimizing costs with cutting edge technology

f you want...

- 1) Premium "Quality of cut"
- 2) Optimum performance and maximum life of your cutting equipment
- 3) Maximum effectiveness of chemical and water usage
- 4) Optimum productivity and safety in the workshop
- 5) An ability to grind more often with less effort

Then Read On...

In today's economy where everyone is looking at maintenance cost and being more frugal than ever, Foley United's unique grinders are boosting productivity and maximizing investments all around the world.

Maximizing Your Cutting Equipment Investment

The average course owns between \$300-\$500k of cutting equipment, and when observing what does all the work providing the "quality of cut", you soon realize you've spent a tremendous amount of money to make three to five cutting heads cut

There is only one set of tools you'll invest in to re-condition what does all the work, and that's grinders. A recent GCI survey showed that "quality of cut" was priority number one in the field, and with grinders being a 15 to 20 year long-term purchase, it's a minimal expense when trying to attain goals.

The goal of achieving premium cut quality is not the only benefit derived from today's Foley grinders, as Foley has set the standard for product quality, capability, and productivity.

Workshop Productivity

Foley United developed the first completely enclosed "table-top" spin grinder in 1993 that introduced an innovative hands free "auto-index" relief system. Combined with new automated grind cycles for the spin and relief processes, labor required for a complete grind has been cut by more than 80%.

Operators now have the ability to enter programs for specific reel makes and with the push of a button, they are 100% away from the machine while the machine does

Many users of single use "spin only" equipment who've converted to Foley's automated grinding systems still enjoy the ability to do quick touch-up spin grinds, but it's the ease and automation of relief grinding that has them re-conditioning the reels to "like new" on a regular basis.

Performance

Once the original reel relief area is worn away, horsepower required to rotate the reels increases from an approximate 0.8hp per cutting head to as much as 2.6hp per head Your five-gang or triplex still cuts, it still works, and the equipment is designed to be able to function like this, but operating like this for extended time frames can negatively effect the overall life of the equipment.

Grinding is the only process used to "re-shape" and re-condition the reel to the way you bought it. This not only minimizes load on the engine and hydraulic systems, but ultimately saves money on fuel and premature wear of components.

Adjustments are easier, units stay on cut longer, and not having to backlap or grind as often will lower operating costs.

"Quality of Cut"

In addition to excessive load on the cutting equipment when reels lose their reliefed "shape", dull cutting units directly effect the aesthetic aftercut appearance. Torn grass "tips" get dried out by the sun, creating an unsightly brown hue across the turf surface and 'die-back' occurs, which slows the recovery rate of the plant.

This weakens the root structure making the grass more susceptible to disease. This ultimately makes chemical use less effective and can effect water absorption rates to levels where you wind up spending more money for both.

Grinding With Less Effort

The ability to conduct a quick spin grind when wanted or returning to OEM specifications is what it's all about and this is what separates Foley from all others. Grinding in the easiest, fastest, least expensive way possible is Foley's bonus when it comes to the most important thing you're putting on your turf...your reels.

Lower heights of cut, newer grass strains, and reel manufacturers looking for advantages with reel technology make re-conditioning units more important than ever. Golf managers recognize that grinders are no longer a luxury, but are a necessity, and investing in the most capable grinders you can is not only a good investment, but a wise one.

Quality Of Cut Starts With Quality Of Grind



It's a fact. Grind quality equals cut quality. That's why you choose Foley. Spin or relief, touching up or returning to factory specifications, Foley gives you the most precise, accurate grind in the business. With ease and convenience nobody can equal.







Superintendents Agree, A Complete Ecosystem Management Program Saves Money and Improves Overall Turf Health

When Doug Snyder took the job as superintendent at The Millbrook Club in Greenwich, Connecticut, he was forewarned of all of the disease and insect pressures he would face at the nine-hole golf course. As a preventative measure, Doug implemented a complete Ecosystem Management Program™ (EMP™), highlighted with the Performance Soil Treatment™ (PST™) by Performance Nutrition®. Doug applied KaPre® ExAlt, KaPre® RemeD8 and Pennamin® High K, two times per month beginning in May of 2012. "As the season moved along, I wasn't seeing the disease pressure and insect pressure that I was promised would occur. I really believe that the PST built a strong foundation in the soil, making the turf more tolerant of disease and insect pressure."

Doug's experience is not unique. All over the country, superintendents from high-end championship courses to daily fee municipal facilities save money and reduce corrective chemical applications by using the preventative Ecosystem Management Program developed by Performance Nutrition.

At the Country Club of Ocala in Central Florida, Superintendent Reed Orr says, "I have not had to make any of the emergency 'high dollar' fungicidal applications that are normal this time of year as the plants are just healthier with the PST program." He says, "I also saved on my fertility products as well. The soil is in better condition to grow healthier

turf." After a routine soil test, he says, "The results came back and the analyst had no recommendations to give. He was surprised as everything was in check, my soil condition was all in balance."

At Rum Pointe Seaside Golf Links in Ocean City, Maryland, Superintendent Joel McTavish says "I don't have the localized dry spots that I had in the years before using Performance Nutrition's products."

"My greens are better, remarkably better. I get comments now about how good the greens are."

~ Jack Birdwell, Comanche Trail Golf Course

In Big Spring, Texas, Superintendent Jack Birdwell uses the Performance Nutrition Ecosystem Management Program at Comanche Trail Golf Course. He says, "My greens are better, remarkably better. I get comments now about how good the greens are."

Performance Nutrition's Ecosystem Management Program is a pro-active, comprehensive system for turf management that is safe, effective, easy-to-use and simple to manage. EMP consists of just three patented Performance™ Treatments, each of which targets specific components of an ecosystem:

- Soil
- Turf Nutrition and Micronutrition
- Microbial Populations
- · Water & Soil Solutions

Each Performance Treatment corrects conditions that negatively impact the turf ecosystem and enhances conditions that favor vigorous, more stress tolerant, sustainable turf.

The Performance Soil Treatment (PST) improves the condition and composition of the soil, enhances microbial populations, improves nutrient efficiency and delivers an arsenal of amino acids, enzymes, sugars and organic substances. Incorporating PST into turf management regimens supports a vigorous ecosystem and enhances conditions that contribute to turf quality and sustainability.

The Performance Foliar Treatment™ (PFT™) safely and efficiently delivers foliar nutrition, micronutrition and disease suppression. Turf treated with the PFT develops highly fibrous and branched root systems, stays greener longer and is more stress tolerant.

The Performance Aerification Treatment™ (PAT™) fortifies the root zone with enriched permanent and semi-permanent Eco-stations™ and soil amendments.

Performance™ Eco-stations™ release organic nitrogen and organic extracts that unlock P and K in the soil and make micronutrients more bio-available for turf uptake. Performance Eco-stations also absorb plant nutrients, micronutrients and organic compounds whenever soil applications are made; recharging and releasing beneficial compounds all season long.



Performance Nutrition is a division of LidoChem, Inc.

MAKE ECOSYSTEM MANAGEMENT WORK FOR YOU



The Performance Soil Treatment™

- UNLOCK Soil Nutrients
- BUILD A Foundation for Sustainable Turf
- **BOOST** Microbial Populations



The Performance Foliar Treatment™

- CORRECT Micronutrient Deficiencies
- PROVIDE Quicker Uptake of Nutrients
- CONTROL and Supress Foliar & Soil Borne Pathogens



The Performance Aerification Treatment™

- IMPROVE Soil Structure
- INCREASE Nutrient Efficiency
- ENHANCE Root Mass

Each Performance™ Treatment corrects conditions that negatively impact the turf ecosystem and enhances conditions that favor vigorous, more stress tolerant, sustainable turf.

Ask Your Performance Nutrition Representative about our two New Treatments, a part of the Ecosystem Management Program:

Performance Seed Treatment™

Supplement seeds early stage nutrient requirements

Performance Fairway Treatment™

For healthier, more resilient fairway turf





Rain Bird's IC System Gives Superintendents a Greener, More Cost-Effective Way To Manage Golf Course Irrigation

n today's highly competitive golf course environment, superintendents are challenged to provide golfers with the best possible golfing experience while keeping expenses to a minimum. Combine that challenge with an increased emphasis on water conservation and environmental stewardship, and the result is a strong need for irrigation technology that's both cost-effective and eco-friendly.

Simplified Two-Wire Solution

Rain Bird's IC (Integrated Control) System is one of the most notable examples of irrigation technology designed to answer need. Introduced in August 2009, the IC System directly links sprinklers to a central control system with just a two-wire cable. Thanks to the IC System's unique design and features, some golf courses have saved up to \$100,000 in installation and wire costs by choosing it over a traditional satellite-based control system that requires individual copper wires to each sprinkler.

By incorporating a small Integrated Control Module (ICM) with each sprinkler, the IC System eliminates the need for decoders or satellite controllers on the course. The system requires up to 90% less copper wire than a satellite system and 33-50% fewer splice points than a standard decoder system, effectively diminishing opportunities for potential system failure. The IC System is also simple to expand, with only two splices necessary to install an additional sprinkler or valve. And, since ICM's are located underground, there's less risk of



damage from vandals, inclement weather or outdoor pests.

Satisfied Users Save Time and Money

River Bend Golf and Country Club near Great Falls, VA and Trump National Golf Club near Washington, DC are just two of the many courses that have successfully converted to the IC System.

According to Tom Lipscomb, greens superintendent at River Bend, the decision to install the IC System was easy. "You simply lay the pipe, install the head—and this is the kicker—you only have to continue the wire path from the previous head," Lipscomb says. "No more time, money and unsightly trenches going back to satellite controllers."

Brad Enie, director of grounds for Trump National Golf Club, was faced with the challenge of replacing the older of two systems running the 36-hole facility. "It (the IC System) offered the best solution for us," Enie says. "The system acts as a 'hybrid' by controlling a hard wire, wireless and a two-wire system from just one computer. This ultimately saved us time and money on the install, as well as future energy savings became of the real-time



communication of the system.

"After looking at the final drawing, we also realized that we would save over one million feet of copper wire if we were to go with the two-wire system. That's over 20,000 pounds of copper that we didn't have to put in the ground."

Going Green Can Be Smart

Not so long ago, the golf industry associated "going green" with higher initial costs and lower return on investment. However, revolutionary products like Rain Bird's IC System are changing that perception. Now, golf course professionals have the ability to make smarter economic and environmental decisions thanks to this type of groundbreaking technology. To learn more about the IC System, contact a Rain Bird Golf distributor or visit Rain Bird Golf at www.rainbird.com/golf.