



Super Science

// CAUTION: OIL SPILL

HYDRAULIC OIL SPILLS ON HYBRID BERMUDAGRASS GREENS

William L. Berndt, Ph.D.

Hydraulic oil injures turf. Vegetable-based hydraulic oil is marketed as being less toxic to turf than petroleum-based hydraulic oil. If this is true, then healing times from vegetable-based hydraulic oil spills should be shorter.

Research is being conducted at The Golf Club at Magnolia Landing Course in North Fort Myers, Fla. to determine healing times for spills of petroleum-based and vegetable-based hydraulic oil. When 3 mL (1 mL is equal to 0.2 teaspoon) of each oil was applied to Tifeagle hybrid bermudagrass mowed at 0.10 inches in December 2013, visible injury persisted for greater than 106 days. Injury area due to petroleum oil expanded to 8.4 square inches 36 days after application, then contracted to 3.6 square inches by 81 days after application.



Top photo is petroleum-based oil injury and bottom is vegetable-based oil injury at 14 days after application. Note the color difference of the injured turf between the two spills.

Modeling indicated that the relationship between the injury area and the time predicted is a healing time of 108 days. In contrast, the injury area due to vegetable oil expanded to 6.2 square inches 10 days after application, contracting to 3.3 square inches 81 days after application with a predicted healing time of 115 days.

As of day 106, visible injury was still evident for both oils, though substantial healing had occurred. Reduced healing times were not observed for vegetable-based oil spills occurring during this minimal growth period. This experiment is being repeated during an active growth period, beginning March 2014. Additional research involving NDVI measurements and image analysis of hydraulic oil injury is also being conducted.

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NEWS UPDATES

PERFORMANCE NUTRITION ENTERS INTO AGREEMENT WITH EC GROW

Performance Nutrition, of Hazlet, N.J., has entered into an exclusive agreement with EC Grow, of Eau Claire, Wis., to produce and market a fertilizer in 23 states that is pre-blended with NutriSmart eco-fertilizer humate soil amendment. It will be sold under EC Grow's Award Turf fertilizer brand for the turf and ornamental market.

A patented, environmentally friendly granular eco-fertilizer humate soil amendment, NutriSmart contains beneficial microbes that fix nitrogen from the atmosphere, solubilize phosphate and unlock potassium from the soil. Its 'smart technology' creates a balance of nutrients that make applied fertilizer more efficient and can replace up to 30-percent of soil applied N, P and K.

"We are seeing more states regulate the amount of nitrogen they will allow per application. By adding NutriSmart to our Award Turf Fertilizer blend, we can reduce the amount of nitrogen by up to 30 percent and achieve similar quality and color," says Chris Bluemke, marketing manager for EC Grow. "We are always looking for value-added products to bring to the T&O market. NutriSmart is a good fit for us because it's clean, consistent and easy to work with."

“MY GOAL IS NOT TO FRIGHTEN SUPERINTENDENTS, BUT TO EDUCATE ON ALL THE FACTORS THAT ENCOMPASS FUNGICIDE PROGRAM DEVELOPMENT.”

Jim Kerns, Ph.D.

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