Study of Hydraulic Fluid Spills on Turfgrass at Texas A & M University as part of Texas Turfgrass Summer Conference

Hydraulic Fluid Spill Study at Texas A & M University

Study of Hydraulic Fluid Spills on Turfgrass at Texas A & M University

Location: Texas A & M University
Date: July 2nd through July 9th, 2007

Study Developed and Supervised by:
Kurt Steinke Assistant Professor of Turfgrass Ecology, Ph.D.

Study Assisted and Witnessed by:
Archie Roberts
Dan DaCosta, EnBio Industries

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Study Purpose:

The purpose of this study was to investigate the effects of different types of hydraulic fluids spilled on turfgrass at both low and high temperatures. Water would also be spilled on the turfgrass to investigate the effects of fluid composition versus temperature on turfgrass.

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Study Protocol:

Fluids (25 ml) were spilled in 2' by 2' squares of plot grid on turfgrass (Bermuda 418) in random order. All spills were run in duplicate. Fluids were heated to two temperatures prior to being spilled; an ambient temperature of 71°F and at an elevated temperature of 170°F.

Four fluids were selected for the test; three hydraulic fluids currently used in golf turfgrass maintenance equipment and pure water as a control fluid. The hydraulic fluids were EnBio TCS hydraulic fluid, a commercial mineral oil hydraulic fluid, and GreensCare hydraulic fluid.

Turfgrass plots were evaluated after 2 days and 7 days for health and appearance.

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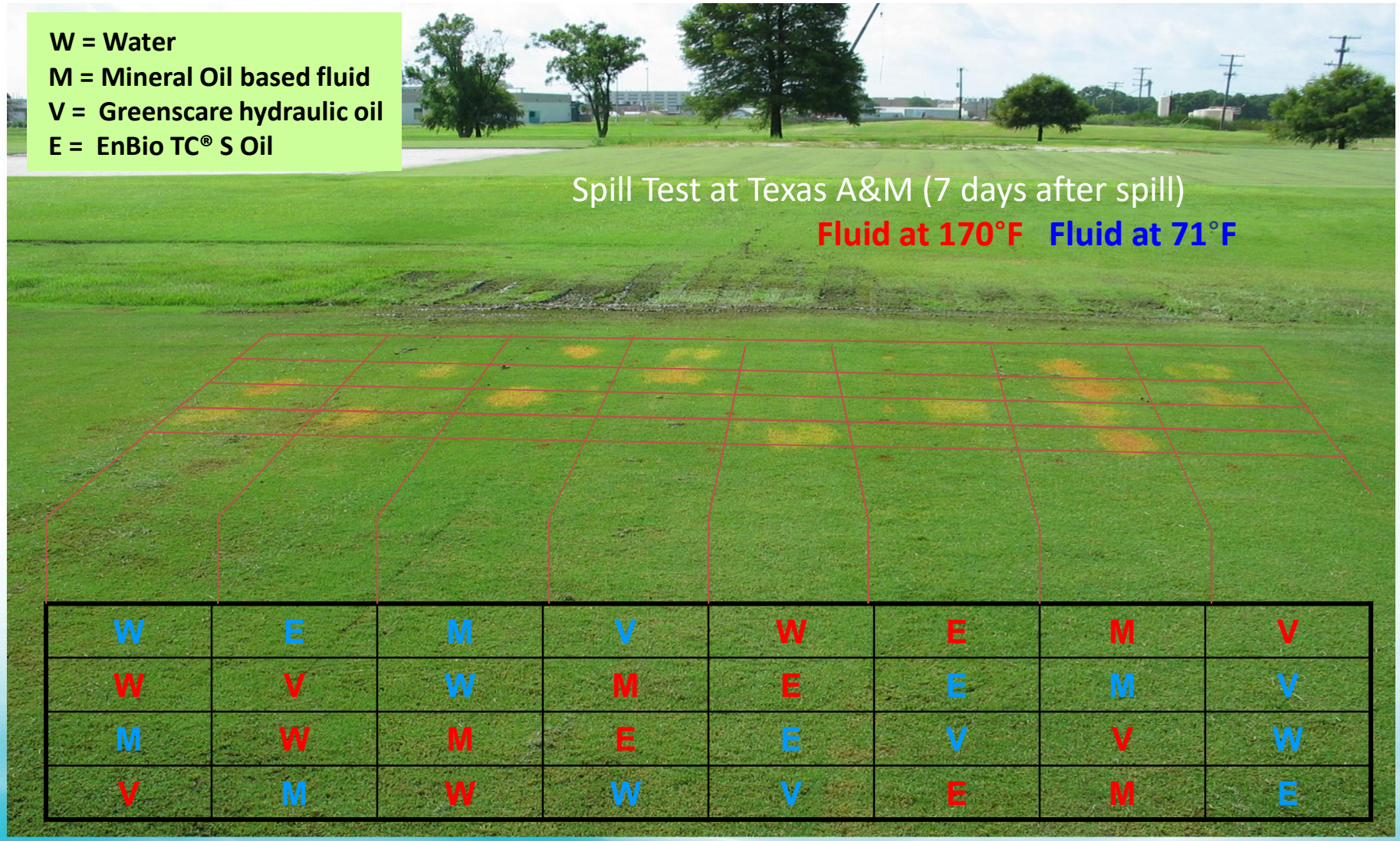
W = Water
M = Mineral Oil based fluid
V = Greenscare hydraulic oil
E = EnBio TC® S Oil



W	E	M	V	W	E	M	V
W	V	W	M	E	E	M	V
M	W	M	E	E	V	V	W
V	M	W	W	V	E	M	E

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Results of Study:

The results confirmed that EnBio TC® S is the ONLY hydraulic oil that does not cause necrosis to the grass.