Oil Spill Recovery of Turfgrass Using Peat Sorb

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Oil spills and hydraulic leaks on golf courses can be costly events. Damaged turf often has to be stripped and resodded. This study was set up to determine whether Peat Sorb, when applied to an oil spill on turf, is an effective means of reducing turf damage.

10-W-30 motor oil was sprayed onto creeping bentgrass greens and fairway height turf to simulate a ruptured oil hose on lawn care machinery. Two strips of oil were applied to each plot using a single nozzle boom with a back pack sprayer at 32 or 60 psi, depending on the treatment. Treatments included both hot (176° F) and room temperature ("cold") oil. Walking speed and pressure were adjusted to compensate for the difference in viscosity of the hot and cold oil to ensure consistent application rates. After both strips of oil were applied to a plot, 150 grams of Peat Sorb were added as indicated in the treatment list. Using a hand brush, the Peat Sorb was worked into each strip of oil. The Peat Sorb was removed from the southern most oil strip, and left in place on the northern most oil strip in each plot. Plots were visually rated based on the percentage of green tissue within each strip (see Tables 1 and 2). The study was repeated on the fairway height bentgrass using 300 grams of Peat Sorb on each strip of oil as indicated in the treatment list. Results from the second trial will be discussed on field day.

Treatment list:

1. Cold oil + Peat Sorb
2. Hot oil + Peat Sorb
3. Peat Sorb only
4. Cold oil only
5. Hot oil only

In the oil spill study performed on creeping bentgrass greens, treatments which contained oil (both hot and cold) and had Peat Sorb applied following the oil application had significantly more green plant tissue in them compared to those treatments which contained only oil (hot or cold). This was true whether the Peat Sorb was collected after being worked into the oil strip or whether it was left on (Table 1).

In the test performed on fairway height bentgrass, where the Peat Sorb was removed from the plots, the treatments containing Peat Sorb were significantly different from those treatments without Peat Sorb added (Table 2). The treatment using cold oil with Peat Sorb was statistically different from that with hot oil and Peat Sorb.

In the fairway height bentgrass study where the Peat Sorb was left on, the cold oil with Peat Sorb was not statistically different from the treatment containing no oil (Table 2). The hot oil with Peat Sorb treatment was not statistically different from the cold oil only treatment.

In all of the tests, except the fairway height bentgrass with the Peat Sorb left in place, the oil treatment plots containing Peat Sorb had more green plant tissue than each of the plots with oil only, regardless of oil temperature or turf height of cut.

Table 1. Effect of peat sorb on the percent green tissue remaining following an oil spill on a creeping bentgrass green.

Treatment	**Peat sorb removed**	**Peat sorb left on**
PS only	100 A	100 A
Cold oil + PS	60 B	67.5 B
Hot oil + PS	62.5 B	57.5 B
Cold oil	5.5 C	6.25 C
Hot oil	10 C	6.5 C

Treatments followed by the same letter are not significantly different from each other based on analysis by Tukey's test at the 5% level.

Table 2. Percent green tissue remaining following an oil spill on a creeping bentgrass fairway.

Treatment	**Peat sorb removed**	**Peat sorb left on**
PS only	100 A	100 A
Cold oil + PS	77.5 B	80 AB
Hot oil + PS	55 C	57.5 BC
Cold oil	17.5 D	25 CD
Hot oil	11.25 D	12.5 D

Treatments followed by the same letter are not significantly different from each other based on analysis by Tukey's test at the 5% level.