Anti-Traction Material Effects on Vegetation and Soil Water Holding Capacity. (A02-pierzynski132241-Poster)

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Abstract:

The military has developed an anti-traction material (ATM), containing polyacrylamide and petroleum distillate, as part of its nonlethal weapons system. When hydrated, the material becomes a slippery, viscous gel that sticks to a variety of surfaces. It is designed for use as a barrier that is difficult for people or vehicles to cross when applied to the ground. This study was conducted to determine the effects of ATM on vegetation. ATM had a detrimental effect on tall fescue in the greenhouse at concentrations up to 20 times the anticipated application amounts. When potted tall fescue in an outdoor environment was treated with ATM at as much as 80 times the expected amount, the effects were less pronounced and the vegetation grew out of the initial browning at most concentrations. At the highest application rate, there were significant differences in green biomass and height. Final chlorophyll values were not influenced by treatment but values for all treatments increased over the duration of the experiment. Individual components of ATM were applied separately to impatiens in the greenhouse and it appears the petroleum distillate is responsible for the browning.

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