# Phosphorus Losses from Alfalfa and Grasses after Freezing or Drying. (S06-roberson142645-Poster)

**Authors:**

- T.Roberson - *University of Wisconsin-Madison*
- L.G.Bundy - *University of Wisconsin-Madison*
- T.W.Andraski - *University of Wisconsin-Madison*

## Abstract:

Phosphorus released from plants after freezing at the end of the growing season may be a contributor to P in runoff from agricultural landscapes. We evaluated P release from alfalfa (Medicago sativa L.) and mixed grass species after freezing or drying in laboratory and field studies. Freezing plants in the laboratory or in-field treatment with the herbicide paraquat (1,1'-dimethyl-4, 4'-bipyridinium ion) greatly increased water-extractable P, with more P extracted from grasses than from alfalfa. Alfalfa grown on soils with excessive P soil test levels released more P after freezing than plants grown on soils with optimum P levels. Alfalfa leaves contained more water extractable-P than stems based on P release after freezing. Runoff from paraquat-treated alfalfa or grass field plots subjected to simulated rainfall contained higher P concentrations than runoff from untreated plants. The effects of natural freezing of alfalfa on P losses in runoff were evaluated by collecting runoff from alfalfa and control plots during the over winter period.

**Corresponding Author Information:**

Tiffany Roberson
University of Wisconsin-Madison
Dept. of Soil Science, 1525 Observatory Drive
Madison, WI 53706-1299

phone: 608-263-3878
fax: 608-265-2595
e-mail: tiffanyroberson@hotmail.com

## Presentation Information:

Presentation Date: Wednesday, November 13, 2002
Presentation Time: 9:00-11:00 am
Poster Board Number: 2004

## Keywords:

Soluble Phosphorus, Phosphorus in runoff, End of season phosphorus

losses, Plant Freezing Effects