Pesticide Movement in Soil under Bermudagrass Vs Fallow Systems. (C05-cummings072627-Oral)

Authors:

- H.D.Cummings* - *North Carolina State University*
- F.H.Yelverton - *North Carolina State University*
- J.B.Weber - *North Carolina State University*
- R.B.Leidy - *North Carolina State University*

Abstract:

Previous studies have characterized the downward movement of some pesticides in conventional till systems; however, in turf, pesticides are rarely applied to bare soil, and this knowledge in lacking in turf. Because turf systems are likely to be stratified by pH, and the thatch layer may contain a more diverse microbial environment, the downward movement of some pesticides in a turf system may be different. At the Sandhills Research Station near Pinehurst, NC, 581 m^2 was fumigated with methyl bromide in May 2001. In a split-plot design, two replications of lysimeters 15 cm in diameter and 91 cm long were driven into fallow soil and established Tifway bermudagrass mowed at 1.9 cm in June 2001. Simazine was applied at 2.24 kg ai/ha in July 2001 to 2.3 m^2 plots. An infiltration study indicated that movement of water into bermudagrass was about half the rate as for fallow soil. 120 days after application in Nov. 2001, the lysimeters were removed and divided into the following depths: 0-2, 2-4, 4-8, 8-15, 15-30, 30-45, 45-60, 60-91 cm. Simazine was detected as deep as 8-15 cm in the fallow soil; however, simazine was not detected beyond the 0-2 cm increment in turf.

Corresponding Author Information:

Hennen Cummings
North Carolina State University
13110 Six Forks Rd
Raleigh, NC 27614-8103

phone: 919 870-5797
fax: 919 515-5315
e-mail: hennen_cummings@ncsu.edu

Presentation Information:

Presentation Date: Monday, November 11, 2002
Presentation Time: 3:15 pm

Keywords:

tifway bermudagrass, lysimeter, pesticide leaching, simazine