Assessing Nutrient Runoff From Golf Course Fairways Using Multiple Vegetative Filter Strips. (C05-moss143201-Oral)

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Abstract:

Vegetative Filter Strips (VFS) decrease chemical surface runoff in agricultural crop production. Plots of 'U-3' common bermudagrass, 12.2 m by 24.4 m were used to determine if multiple VFS of increasing height reduce surface runoff of nutrients from golf course fairways. Three simulated fairway plots mowed at 12.7 mm were bordered by a 12.2 m by 5.5 m VFS mowed at 38.1 mm. Three additional fairway plots were bordered by three 12.2 m by 1.8 m VFS increasing in height from 25.4 mm to 38.1 mm, to 50.8 mm. Runoff samples were collected following fertilization and three simulated rainfall events during summers of 2001 and 2002. Following runoff initiation, samples were collected at specific intervals and tested for NO3-N, NH4-N, and dissolved reactive phosphorus (DRP). Results showed a significant difference between single VFS and multiple VFS of increasing height for the reduction of NO3-N, NH4-N, and DRP in runoff from simulated golf course fairways. Multiple VFS delayed time to initiation of

runoff when compared to single VFS. Nitrogen levels in runoff were low for both single and multiple VFS, but DRP levels in runoff were higher than levels that could contribute to eutrophication of surface waters.

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