



USDA-CSREES 2006 National Water Quality Conference

[Environmental Loading of Veterinary Antibiotics in Agricultural Irrigation Ditches](#)

Concentration of veterinary antibiotics were measured in agricultural irrigation ditches surrounded by several animal feeding operations (AFOs) and compared with concentrations in near-by streams. Analytical methods were based on a solid phase extraction (SPE) method combined with high performance liquid chromatography tandem mass spectrometry (HPLC/MS/MS). Higher concentrations were observed in irrigation ditches than the rivers indicating that irrigation ditches can be a potential significant pathway of veterinary antibiotics from farm to environment. In addition, environmental loading calculations were conducted based on measured concentration and flow information. The result of estimated environmental loading clearly showed that a much greater mass is present in irrigation ditches than the river and there is a possibility that veterinary antibiotics can transport via irrigation ditches to the watershed. The overall purpose of this study was to better understand the pathway of veterinary antibiotics in the environment. However, other environmental compartments such as sediment and suspended solids also will be evaluated to obtain a more comprehensive understanding of the transport of veterinary antibiotics.

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