Cattle Management Effects on Stream Water Quality. (S11-cabrera181539-Poster)

Authors:

- M.Matthews* - *University of Georgia*
- M.L.Cabrera - *University of Georgia*
- D.H.Franklin - *USDA-ARS*
- D.E.Radcliffe - *University of Georgia*
- V.H.Calvert - *University of Georgia*

Abstract:

Although cattle can have a negative impact on streams, information from long-term studies is lacking in the southeastern USA. This two-year study is being conducted to determine the long-term effects of stream fencing and use of water troughs on stream water quality. Base flow and storm flow samples are taken and analyzed for N, P, E.Coli, total sediments, turbidity, dissolved oxygen, and temperature. Global Positioning System collars are used to track cattle and determine the amount of time spent within the stream riparian area. Results from the first year of the study show that in general, the concentration of E.coli in base flow samples was higher in unfenced than in fenced streams. The concentration of E.coli in unfenced streams was positively correlated with the time cattle spent in riparian areas (up to 10%), which in term was positively correlated with maximum air temperature. Maximum dissolved reactive P concentrations in storm flow also tended to be higher in unfenced than in fenced streams. Removing water troughs from the pasture resulted in an immediate increase in the amount of time cattle spent near the streams and in the concentration of E. coli in base flow.

Corresponding Author Information:

Miguel Cabrera
University of Georgia
Crop and Soil Sciences - Miller Plant Sci. Bldg.
Athens, GA 30602

phone: 706-542-1242
fax: 706-542-0914
e-mail: mcabrera@uga.edu

Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 2:00-4:00 pm
Poster Board Number: 2027

Keywords:
water quality, water troughs, cattle , unfenced streams