SOIL PHOSPHORUS DYNAMICS IN SUBTROPICAL BEEF CATTLE PASTURES UNDER DIFFERENT PASTURE MANAGEMENT. (S11-sigua120546-Poster)

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Abstract:

Nutrient dynamics in various agro-animal-ecosystems are continually evolving in response to changing management practices. Efficient utilization of pastures through intensive grazing during the early season may cause a buildup of mineralized soil nutrients during the late summer and fall when plant growth and nutrient uptake are slow. Grazing animals have a dominant effect on the movement and utilization of nutrients through the soil and plant system, and thus on the fertility of pasture soils. Grazing has been documented to modify both the magnitude and distribution of soil organic carbon, nitrogen, and phosphorus. Environmentally, soil P levels in Subtropical Agricultural Research Station (STARS) are declining. During the past 12 years, soil test values for P have declined by about 34.2%. Rates of soil P depletion in haved pastures (17.7 kg/ha/yr; SD = 5.6) at Turnley unit were greater than in pastures at Land Use unit that were only grazed (5.6 kg/ha/yr; SD = 1.4). The levels of soil P in 1987 (192 kg P/ha) and in 2000 of about 134 kg P/ha were not high enough to be of environmental concern, so annual additions of P-fertilizer would be still practical to sustain plant and animal productivity in STARS beef cattle pasture units.

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