Relationship between Water Soluble and Mehlich1 Phosphorus in Phosphatic, Manure Amended and Inorganically Fertilized Soils. (S08-mylavarapu162554-Poster)

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Abstract:

The use of both organic and inorganic nutrients to maximize economical returns is a common practice in agriculture. Soil test is a tool that has been used for decades to predict crop response to added P fertilizer. It is proposed that high soil test P concentrations may increase potential for off-site movement and surface water quality impact. Mehlich-1 and -3 are common soil extractants used in the southeastern US for estimating plant nutrient availability. These soil tests are not appropriate for evaluating environmental impacts of P. Water-soluble P on the other hand, reflects the P concentration in the soil solution either for plant uptake or leaching. Water soluble-P may give a better indication of environmental risk. Risk from phosphatic soils naturally high in P is unknown. Also P-losses to the environment based on the source is unknown. This study therefore focuses on the relationship among water-soluble, Mehlich-1 and -3 extractable soil P in phosphatic, manure amended and inorganically fertilized soils. Results comparing the concentrations based on P sources and extractants are presented.

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Presentation Information:

Presentation Date: Monday, November 11, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 1732

Keywords:

Water soluble P, Mehlich-1 P, Phosphatic soil, Manure amended soil