Nitrogen accumulation in forage crops receiving swine effluent and inorganic nitrogen. (C06-ranells185104-Poster)

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Abstract:

Efficient crop utilization of nitrogen contained in animal waste requires the determination of species- and soil-specific realistic yield expectation (RYE) values. A two-year experiment was conducted in Clinton, NC on a Aquic Paleudult and Typic Paleaquult to determine forage dry matter (DM) production and nitrogen (N) accumulation at four levels of N fertilization (0, 224, 448, and 672 kg ha-1) with ammonium nitrate or anaerobic swine lagoon effluent. Forages consisted of four perennials, bermudagrass (Cynodon dactylon L. (Pers.)), gamagrass (Tripsacum dactyloides), prariegrass (Bromus wildenowii Kunth), tall fescue (Festuca arundinacea (Shreb.)), and one annual, crabgrass (Digitaria sanguinalis)). Bermudagrass and crabgrass were overseeded in October with cereal rye (Secale cereale L.). Gamagrass stands were not obtained after three plantings and adequate prariegrass stands were not obtained until year 2. In general, higher N rates were associated with greater DM production and N uptake, except when the highest N rate was associated with reductions in the crabgrass stands.. Data from both years will be summarized and apparent nitrogen recovery values will be presented.

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Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 832

Keywords:

forage, swine-effluent, nitrogen