Bermudagrass Response to N Over the Past 50 Years and N Recommendations Based on Hay Price and Production Cost. (C06-morgan110139-Oral)

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Abstract:

Over the past 50 years, numerous N rate experiments have been conducted on bermudagrass but no comprehensive summary is available. Objectives were to list and summarize available field data, develop regression equations for yield and N concentrations according to N rates, and to develop a method to measure economic returns in relation to forage prices and N costs. Data from 148 individual N rate experiments were summarized into categories: Coastal, Midland, Tifton 44, all rainfed, and irrigated bermudagrass. Regression equations were developed for each category to predict yield response to N rates and to calculate economic returns. The returns from N application rates were based on forage values minus variable input costs of N, P, K, limestone, harvesting and irrigation, when applied. Utilizing variable N costs and three forage values, tables were developed to determine the point of dimminishing return for a specific N rate. Generally, higher N rates coould be justified with lower N costs or higher forage values. Yield and cost/return relationships developed from these comprehensive data provide reliable guidlines for selecting optimal N fertilization rates.

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