Impact of Spring Nitrogen Fertilizer Timing on Soft Red Winter Wheat Grain Protein. (C03-carter110058-Poster)

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Abstract:

Typical nitrogen (N) management of soft red winter wheat in the Southeastern United States often results in low grain protein content that is highly variable from field to field. The object of this study was to determine if N management strategies at (a) Zadoks growth stage 25 (GS 25) in early spring and (b) growth stage 30 (GS 30) in late spring could be used to increase grain protein without reductions in grain yield or test weight. Four sites in the mid Atlantic piedmont and coastal plains, and two different tillage systems, conventional and no-till, were utilized. Five N rates were applied at GS 25 with another 5 N rates applied at GS 30 to each GS 25 rate totaling 25 N combinations in a split plot design. Grain protein increased with increasing total N applied regardless of the time of application across all locations. In one field, increasing N inputs increased yield and grain protein content. In the other three fields, increasing the N inputs increased grain protein, but yields were suppressed. Test weights displayed a more constant pattern in response to N inputs with a split application.

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Presentation Information:

Presentation Date: Monday, November 11, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 1038

Keywords:

grain protein, nitrogen management, soft red winter wheat, flag leaf