Predicting Date of Planting Effects on Soybean Grown in Iowa. (A03-westgate130836-Poster)

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Abstract:

Planting soybeans earlier in the season is gaining popularity due to changes in weed control strategies, planting machinery, and resources. Yield response to early planting has been variable in Iowa, perhaps because stresses early in the season limit the capacity for subsequent reproductive growth. We conducted field experiments to determine whether slow early season growth limited yield of soybeans, and if response to planting date could be predicted. Three genotypes were planted in late April, mid May, and early June in 2000 and 2001. Plant development was monitored during the season and correlated with yield components. Under favorable growing conditions in 2001, yields varied among planting dates up to 51%, and optimum planting date varied with genotype. In 2000, higher than average temperatures and less than average rainfall depressed yields, especially for the June planting. CROPGRO V3.1 predicted the rate of node addition and final node number within 1 node. Yield was over predicted by 10 to 100% depending on planting date and genotype. The lack of precision in yield prediction may be due to factors that impacted leaf area development which were not considered by the model.

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