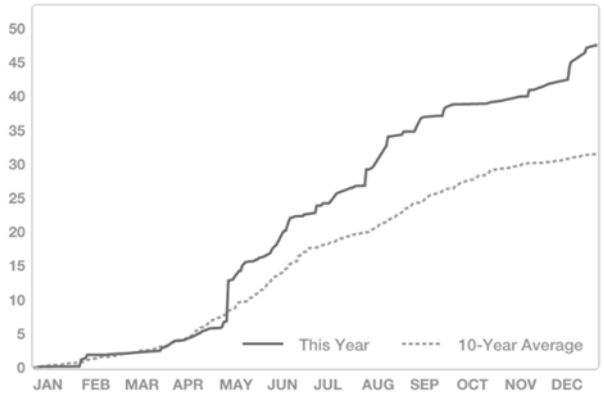
Nebraska On-Farm Research Network

Rainfed Corn Population Study - Variable Rate Seeding

Study ID: 030109201502
County: Lancaster
Soil Type: Pawnee clay loam; Yutan silty clay loam; Aksarben silty clay loam;
Planting Date: 4/28/15
Harvest Date: 10/22/15
Population: Avg. 29,000
Row Spacing (in.) 30
Hybrid: DKC 62-97
Reps: 12
Previous Crop: Soybean
Tillage: No-Till
Herbicides: ***Pre:*** 2.1 qt/acre Bicep ***Post:*** 1.8 oz/acre Callisto and 1 qt/ac Roundup
Seed Treatment: unknown
Foliar Insecticides: None
Foliar Fungicides: None

Fertilizer: 160 lbs/acre actual N as anhydrous ammonia, Fall 2014
Note: Some stand loss due to heavy spring rains.
Irrigation: None
Rainfall (in.):



Introduction: With the capability to variable-rate seed, more farmers are trying this technology out in their fields. For this study, management zones were developed by using a compositive of historic yield maps. Three seeding rates were used (24,000, 29,000 and 34,000 seeds/acre) in the variable rate prescription map. In order to evaluate the result of the variable-rate seeding, strips of a flat seeding rate of 29,000 seeds/acre were placed throughout the field in a paired-comparison design. Because the same amount of seed was used on the variable-rate seeding areas, the seed cost for the single rate and variable-rate areas was the same in this case. This study was a continuation of a similar effort in 2013 and 2014. The objective of this study was to determine if using a variable-rate prescription based on productivity zones can increase profitability.

Results:

	Yield (bu/ac)†	Moisture (%)	Marginal Net Return ($/ac)‡
Standard Rate 29k seeds/acre	200 A*	13.9 A	730.00
Variable Rate 24k-29k-34k seeds/acre	200 A	13.9 A	730.00
P-Value	0.8748	0.9376	N/A

†Bushels per acre corrected to 15.5% moisture.
*Values with the same letter are not significantly different at a 90% confidence level.
‡Net Return based on $3.65 corn. Seed costs between the treatments was the same and was therefore not taken into account.

Summary: Similar to results in previous years, there was no significant yield or moisture difference between the variable-rate seeding prescription and the standard 29,000 seeding rate.

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