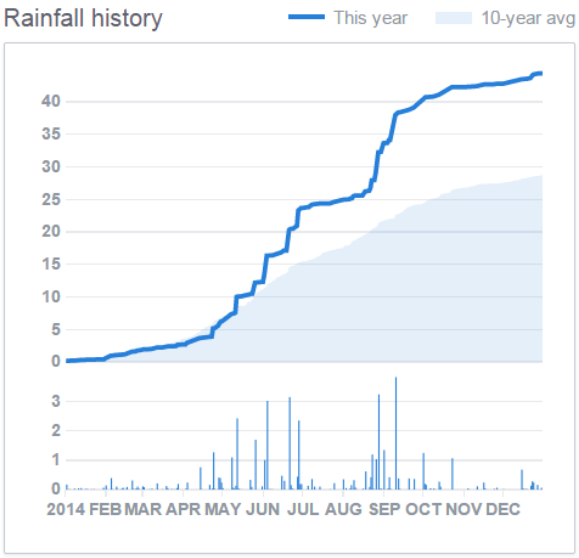
Nebraska On-Farm Research Network

Rainfed Corn Population Study: Seed Rate by Hybrid



Study ID: 007155201401
County: Saunders
Soil Type: Yutan Silty Clay Loam
Planting Date: 5/4/2014
Harvest Date: 11/8/2014
Row Spacing: 15”
Reps: 5
Previous Crop: Soybeans
Tillage: No-till
Herbicides: Pre: 4.5 oz/ac Corvus and 1 lb/ac Atrazine 90 DF on 5/5/14
Post: 48 oz/ac Buccaneer Plus on 6/14
Fertilizer: 10 gal/ac 10-34-0, 1 pt/ac Zinc chelate as starter in furrow, 110# actual N/acre as UAN 32%, and 1.5 qt/ton Agrotain ultra on 5/5/14.
Insecticides/Fungicides: Acceleron 250 seed treatment

Introduction: The purpose of this study was to evaluate two different hybrids at three different plant populations in 15” row spacing rainfed corn production. The cooperator also wanted to determine which planting rate was the most profitable. This is the fourth growing season for this study.

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Results: Because there was no hybrid by population interaction these factors were analyzed separately.

Hybrid:	Yield† (bu/acre)	Moisture (%)	Net Return ‡
Channel 213-40VT3PRIB	191 A*	15.3% A	$556.85
Channel 215-81VT2PRIB	185 B	14.4% B	$542.37
P-Value	*0.0349*	*0.0019*	--

†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 $3.50/bu corn price, $290/bag cost for Channel 215-81VT2PRIB, and $308/bag cost for Channel 213-40VT3PRIB, and average seeding rate of 29,000 seeds/acre.

Population:	Yield† (bu/acre)	Moisture (%)	Net Return ‡
26,000 seeds/acre	183 B*	14.9% A	$543.33
29,000 seeds/acre	187 B	14.9% A	$546.11
32,000 seeds/acre	194 A	15.1% A	$559.40
P-Value	*0.0002*	*0.3835*	--

†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 $3.50/bu corn price, and $299/bag cost (average price of the two hybrids used).

Summary: Channel hybrid 213-40VT3PRIB was significantly higher yielding than Channel hybrid 215-81VT2PRIB. Although seed cost was higher for Channel 213-40VT3PRIB, the increased yield covered the additional seed cost and resulted in greater net return. There was a significant increase in yield when seeding rate was increased from 29,000 to 32,000 seeds/acre. The highest net return was seen for 32,000 seed/acre planting rate.

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