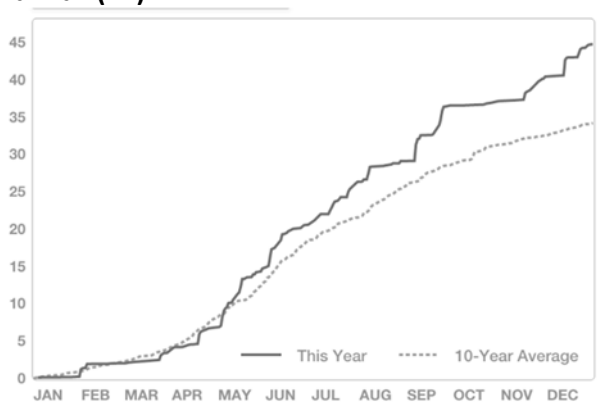
Nebraska On-Farm Research Network

Rainfed Corn Population Study

Study ID: 027127201501
County: Nemaha
Soil Type: Blencoe silty clay;
Planting Date: 4/11/15
Harvest Date: 10/05/15
Population: 28-40,000
Row Spacing (in.) 30
Hybrid: DKC67-58RIB
Reps: 6
Previous Crop: Soybean
Tillage: No-Till
Herbicides: ***Pre:*** 13 oz/ac Authority MTZ ***Post:*** 32 oz/ac Roundup WeatherMax, 1 lb/ac Symbol/Advance, 0.250 gal/ac Brandt SmartTrio, and 1.7 lb/ac AMS on 7/1/15 (http://www.unitedsuppliers.com/Products/Symboladvance, http://www.agrian.com/pdfs/Brandt_Smart_Trio_Label2.pdf)
Seed Treatment: Acceleron 250 Fungicide
Foliar Insecticides:
Foliar Fungicides: 5 oz/ac Fortix on 7/1/15 (w/ Post Herb)
105 oz/ac Quilt Xcel, 1 gal/ac SRN-28, 2 pt/ac Symbol/Release, and 2 oz/ac Wet-Cit on 7/16/15 (http://www.unitedsuppliers.com/Products/Symboladvances)
Fertilizer: 70 lb/ac 11-52-0, 1.7 lb/ac 00-00-60, and 1.3 lb/ac Zinc Sulfate 35.5% VRT Dry on 11/17/14.
59 lb/ac 11.65-0-0-25.24 Winter Blend and 170 lb actual N/ac as 32-0-0 on 11/18/14.
100 lb actual N/ac as 32-0-0 on 6/4/15.

Irrigation: None
Rainfall (in.):



Introduction: This is a continuation study which started during the 2010 growing season. The purpose of this study was to determine the corn plant population which was the most profitable. The populations chosen to be evaluated this year and in previous years were determined by the grower. The field associated with this study is sub-irrigated.

Results:	Yield (bu/ac)†	Moisture (%)	Harvest Stand Count	Marginal Net Return ($/ac)‡
28,000 seeds/acre	239 AB*	19.5 A	26,533 D	784.85
32,000 seeds/acre	233 B	19.6 A	30,400 C	750.45
36,000 seeds/acre	233 B	19.5 A	34,137 B	737.95
40,000 seeds/acre	246 A	19.5 A	38,033 A	772.90
P-Value	0.0117	0.252	<0.001	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 and $250/bag seed corn (80,000 seed count).

Summary: There was no difference in harvest grain moisture between the four planting populations. The 40,000 seeds/acre seeding rate was higher yielding than the 36,000 and 32,000 treatment. However there was no statistical yield difference between the 40,000 seeds/acre and 28,000 seeds/acre treatment. In this case planting 28,000 seeds/acre maximized marginal net return.
These results only represent one year and one growing location and are inconsistent with results from other on-farm and small-plot research studies from other years and locations. It is important to look at multiple years and locations when using this information for making production decisions.

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