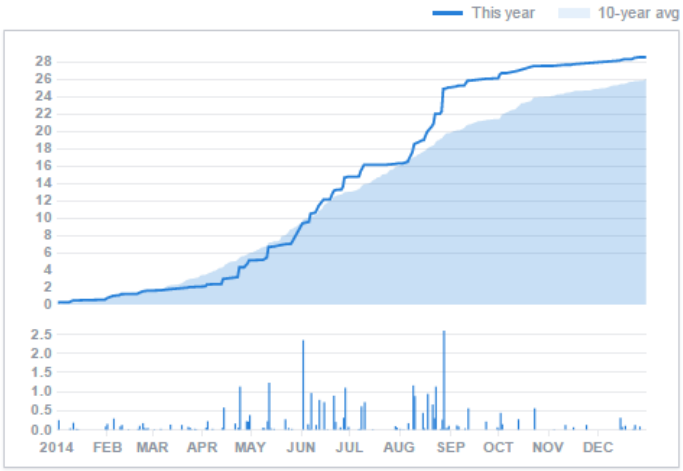
Nebraska On-Farm Research Network

Sugar on Sorghum

Study ID: 009129201401
County: Nuckolls
Soil Type: Hall silt loam
Planting Date: 5/17/2014
Harvest Date: 10/20/2014
Population: 65,000
Row Spacing: 30”
Hybrid: Pioneer 85Y40
Reps: 5
Previous Crop: Sorghum
Tillage: No-till
Herbicides:
Pre: Lumax EZ on 5/8/2014, and Lexar EZ on 5/21/14.
Post: 1 qt/ac Aatrex 4L and 13 oz/ac Huskie.
Insecticides/Fungicides: Poncho 600

Fertilizers: 110 lb/ac UAN 32% on 4/30/2014, and variable rate P, S, Zn on 4/27/2014.
Irrigation: Not irrigated.
Rainfall:



Introduction: This was the first year this producer applied sugar to sorghum. The objective was to determine the effect of sugar application on yield, economics, and lodging of sorghum. Rescue herbicide treatments in sorghum often lead to lodging making harvest more difficult. After seeing the corn stalk strength results, the producer wondered if adding sugar to sorghum would help with lodging after adding a post rescue treatment of Huskie + Aatrex to his field to control broadleaf escapes. Three pounds of granulated sugar per acre was added to 10 gallons of water and sprayed in a paired comparison design to sorghum at V7. The sprayer was then filled with Huskie +Aatrex and applied to the entire field which included the plot area. A northern portion of the plot which was more compacted and a lower area caused plant damage to the sorghum when the Huskie + Aatrex was applied (Figure 1). By harvest, the plants had tillered well (Figure 2), but the area was still squared off at harvest to avoid this affected area. The producer noticed plots without sugar had more lodging as he was harvesting.

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Figure 1: Area of field affected by post treatment of herbicides.

Figure 2: By harvest, the plants had tillered well, but the area was still squared off to avoid damaged area.

Results:

	Yield† (bu/acre)	Moisture (%)	Stalk Rot (%)	Harvest Pop	Net Return ‡
Check	146 A*	14.4 A	4.0 A	59,500 A	$511.00
Sugar	147 A	14.6 A	2.2 A	61,500 A	$505.35
P-Value	*0.6775*	*0.2954*	*0.5078*	*0.2488*	--

†Bushels per acre corrected to X% moisture.

*Values with the same letter are not significantly different at a 90% confidence level.

‡Net return based on $3.50/bu, $0.78/lb sugar, $6.81/ac application cost.

Summary: There were no statistical yield differences between the sugar and check treatments for yield, lodging, stand count or moisture.

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