

FIELD EXPERIMENT HISTORY

Title: Plant Density and Row Spacing Effects on Yield and Quality of Corn Silage
Experiment: 06PDxRS **Trial ID:** 3686 **Year:** 2013
Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS272 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 10/1 /13 **pH:** 6.3 **OM (%)** 2.6 **P (ppm)** 21 **K (ppm)** 136

Plot Management

Tillage Operations: Field Cultivator

		<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:	Preplant :	46-0-0	325	N/A
	Starter :	N/A	N/A	N/A
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A
Herbicide:	Dual II Mag 1.5 pt/A		Insecticide: None	
	Hornet 4.0 oz/A		Hybrid: Pioneer P0193AM1	

Planting Date: 6/10/13 **Planting Depth:** 1.5" **Row Width:** See Factors
Target Plant Density: See Factors **Planting Method:** Kinze InterRow Planter
Harvest Date: S:10/2/13 **Harvest Method:** S:USDA Kemper
 G:11/5/13 G:MF 8XP

Experimental Design

Design: RCB **Replications:** 4
Plot Size Seeded: 10' x 100' **Experiment Size:** 1.4 A
Harvest Plot Size: S:5' x 22' **Harvest Plant Density:** 36948
 G:5' x 72'

Factors/Treatments:

<u>Row Spacing:</u>	<u>Plant Density: (plants/A)</u>
1) 15 inch	1) 26000
2) 30 inch	2) 32000
	3) 38000
	4) 44000

Results: Table 1306-01.

**Table: 1306-01. Plant Density and Row Spacing Effects on Corn Silage Yield and Quality
Arlington, WI - 2013.**

Target Density	Row spacing	Harvest			Test weight	Lodged			Return \$4.04	Silk doy	Plant height
		Density	Yield	Moisture		Total	Stalk	Root			
plants/A	inches	plants/A	bu/A	%	lbs/bu	%	%	%	\$/A		inches
	15	35688	189	30.7	47	3	2	0	661	222	105
	30	38208	181	30.4	47	2	2	0	633	222	105
25000		30250	180	30.0	46	0	0	0	631	222	105
30000		35125	192	30.6	47	2	2	0	671	222	105
35000		39875	189	31.0	47	2	2	0	661	222	102
40000		42542	178	30.5	47	4	4	0	625	223	106
25000	15	28750	178	30.6	46	0	0	0	623	222	106
30000	15	34000	195	30.3	47	3	3	0	682	222	101
35000	15	40250	196	30.8	47	2	2	0	685	222	104
40000	15	39750	187	31.1	47	6	5	1	655	223	108
25000	30	31750	182	29.4	46	1	1	0	640	222	105
30000	30	36250	188	30.9	47	1	1	0	659	223	109
35000	30	39500	183	31.1	47	2	2	0	637	223	101
40000	30	45333	169	29.9	47	3	3	0	595	222	104
	Mean	36948	185	30.5	47	2	2	0	647	222	105
Probability(%)											
Row Spacing (S)		15.5	16.0	45.7	75.9	49.0	60.0	33.2	17.1	64.8	91.3
Density (D)		0.0	30.0	53.9	10.3	26.0	37.1	47.8	31.3	42.4	44.5
S x D		64.4	59.0	31.5	74.3	76.2	85.2	45.1	54.8	5.2	5.6
LSD (0.10)											
Row Spacing (S)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Density (D)		4156	NS	NS	NS	NS	NS	NS	NS	NS	NS
S x D		NS	NS	NS	NS	NS	NS	NS	NS	NS	5.5

continued

