

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Row Spacing Effects on Yield and Quality of Corn Silage  
**Experiment:** 06PDxRS **Trial ID:** 6341 **Year:** 2019  
**Personnel:** Joe Lauer, Kent Kohn, Thierno Diallo  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

### Site Information

**Field:** ARS408 **Previous Crop:** Alfalfa **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 5 /1 /19 **pH:** 5.7 **OM (%)** 3.3 **P (ppm)** 30 **K (ppm)** 136

### Plot Management

**Tillage Operations:** Disk Chisel Field Cultivator

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
Preplant :	32-0-0	123 lbs/A	N/A
Starter :	N/A	N/A	N/A
Post plant :	N/A	N/A	N/A
Manure:	Dairy	9258 gal/A	N/A

**Herbicide:** Resicore 80.0 oz/A **Insecticide:** None  
 None **Hybrid:** Jung 52SS507RIB

**Planting Date:** 5/23/19 **Planting Depth:** 1.5" **Row Width:** See Factors

**Target Plant Density:** See Factors **Planting Method:** Kinze InterRow Planter

**Harvest Date:** S: 10/10/19 **Harvest Method:** S:USDA Kemper  
 G:11/4/19 G:MF 8XP

**Notes:** Poor emergence and stand due to soil erosion caused by heavy rains.

### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 10' x 75' **Experiment Size:** 1.0 Acre  
**Harvest Plot Size:** S:3.75' x 23' **Harvest Plant Density:** 26188  
 G:5' x 47'

#### **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 1906-01.

**Table: 1906-01. Plant Density and Row Spacing Effects on Corn Silage Yield and Quality  
Arlington, WI - 2019.**

Target Density plants/A	Row spacing inches	Grain								
		Harvest Density plants/A	Ear Density Ear/A	Yield bu/A	Moisture %	Test weight lbs/bu	Lodged			AGI \$3.54 \$/A
	15	25250	26063	216	28.1	50.9	0	0	0	661
	30	27125	27375	219	27.6	50.6	0	0	0	672
26000		18750	20625	182	28.6	51.3	1	1	0	555
32000		24125	24375	217	27.7	50.9	0	0	0	665
38000		29625	29625	239	27.4	50.3	0	0	0	735
44000		32250	32250	232	27.8	50.5	0	0	0	710
26000	15	18250	21250	173	28.9	51.5	0	0	0	526
32000	15	24750	25000	221	28.1	50.7	0	0	0	677
38000	15	28250	28250	237	27.3	50.3	0	0	0	729
44000	15	29750	29750	233	28.1	51.0	0	0	0	712
26000	30	19250	20000	191	28.3	51.1	1	1	0	583
32000	30	23500	23750	212	27.3	51.2	0	0	0	653
38000	30	31000	31000	241	27.5	50.3	0	0	0	742
44000	30	34750	34750	231	27.6	50.0	1	0	1	709
Mean		26188	26719	217	27.9	50.7	0	0	0	666
<b>Probability(%)</b>										
Row Spacing (S)		13.2	27.6	53.7	6.5	35.3	14.6	34.9	19.0	47.3
Density (D)		0.0	0.0	0.0	0.9	8.1	51.4	43.7	19.8	0.0
S x D		32.4	18.9	25.5	45.9	29.4	51.4	43.7	19.8	28.4
<b>LSD (0.10)</b>										
Row Spacing (S)		NS	NS	NS	0.4	NS	NS	NS	NS	NS
Density (D)		2909	2856	11	0.5	0.7	NS	NS	NS	36
S x D		NS	NS	NS	NS	NS	NS	NS	NS	NS

Continued

