

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Row Spacing Effects on Yield and Quality of Corn Silage  
**Experiment:** 06PDxRS **Trial ID:** 6496 **Year:** 2020  
**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:** 9 /1 /20 **pH** 6.1 **OM (%)** 2.8 **P (ppm)** 60 **K (ppm)** 119

### Plot Management

**Tillage Operations:** Field Cultivator

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
<b>Preplant :</b>	32-0-0	113 lbs/A	N/A
<b>Starter :</b>	N/A	N/A	N/A
<b>Post plant :</b>	N/A	N/A	N/A
<b>Manure:</b>	Dairy	13543 gal/A	N/A
<b>Herbicide:</b>	Resicore 80.0 oz/A	<b>Insecticide:</b> None	
	None	<b>Hybrid:</b> Dekalb DKC52-35RIB	
<b>Planting Date:</b>	5/12/20	<b>Planting Depth:</b> 1.5"	<b>Row Width:</b> See Factors
<b>Target Plant Density:</b>	See Factors	<b>Planting Method:</b>	Kinze InterRow Planter
<b>Harvest Date:</b>	S: 9/21/20 G: 10/14/20	<b>Harvest Method:</b>	S:USDA Kemper G:MF 8XP

**Notes:**

### Experimental Design

**Design:** RCB **Replications:** 4  
**Plot Size Seeded:** 10' x 75' **Experiment Size:** 1.0 Acre  
**Harvest Plot Size:** S:3.75' x 23'  
                           G:5' x 47' **Harvest Plant Density:** 35281

**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 2006-01.**

**Table: 2006-01. Plant Density and Row Spacing Effects on Corn Silage Yield and Quality  
Arlington, WI - 2020.**

Target Density	Row spacing	Grain								
		Harvest Density	Ear Density	Yield	Moisture	Test weight	Lodged			AGI
plants/A	inches	plants/A	Ear/A	bu/A	%	lbs/bu	Total %	Stalk %	Root %	\$/A
15		34688	35188	260	23.8	54.0	0	0	0	829
30		35875	36375	263	24.5	53.9	1	0	1	833
	26000	26000	27375	239	25.5	53.6	0	0	0	754
	32000	32875	33375	264	24.1	53.9	0	0	0	840
	38000	38500	38625	267	23.7	54.2	2	1	1	850
	44000	43750	43750	276	23.5	54.0	1	0	1	879
15	26000	26250	27750	240	25.4	53.7	0	0	0	756
15	32000	33250	33500	263	23.4	54.3	0	0	0	838
15	38000	36000	36250	271	23.6	53.9	1	1	0	866
15	44000	43250	43250	268	23.1	54.1	0	0	0	857
30	26000	25750	27000	239	25.7	53.5	0	0	0	752
30	32000	32500	33250	266	24.8	53.6	0	0	0	842
30	38000	41000	41000	262	23.8	54.6	2	0	2	835
30	44000	44250	44250	283	23.8	54.0	2	1	2	902
Mean		35281	35781	261	24.2	53.9	1	0	0	831
<b>Probability(%)</b>										
Row Spacing (S)		4.5	8.1	54.7	7.0	75.5	30.8	38.5	17.2	77.1
Density (D)		0.0	0.0	0.0	0.2	31.8	21.3	15.2	58.2	0.0
S x D		0.5	2.8	15.8	61.1	22.7	53.5	4.8	58.2	21.2
<b>LSD (0.10)</b>										
Row Spacing (S)		959	1114	NS	0.6	NS	NS	NS	NS	NS
Density (D)		1356	1575	9	0.8	NS	NS	NS	NS	30
S x D		1918	2228	NS	NS	NS	NS	1	NS	NS

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