

FIELD EXPERIMENT HISTORY

Title: Low Energy Corn Silage Evaluation
Experiment: 11 Low Starch Study **Trial ID:** 07C66 **Year:** 2007
Personnel: M.G. Bertram, J.G. Lauer, K.D. Kohn, T.H. Diallo
Location: Arlington, WI **County:** Columbia
Supported by: Marshfield Ag. Research Station

Site Information

Field: ARS408 **Previous Crop:** **Soil Type:** Plano silt loam
Soil Test : **Date:** 10/15/07 **pH** 7.0 **SOM (%)** 3.1 **P (ppm)** 43 **K (ppm)** 128

Plot Management

Tillage Operations: Fall Chisel plow **Field Cultivator** **Cultivate** 6/15/07

Fertilizer:	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
Preplant	46-0-0	325 lb/A	4/20/2007
Starter	9-23-30	150 lb/A	5/21/2007
Post plant	none	N/A	N/A
Manure	none	N/A	N/A

Herbicide: Harness 29 oz/A **Insecticide:** None
 Callisto 3.0 oz/A

Irrigation: None **Hybrid:** varies

Planting Date: 5/21/2007 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: varies **plants per acre** **Planting Method:** Kinze plot planter

Harvest Date: 10/22/2007 **Harvest Method:** New Holland 707 Plot Chopper

Notes:

Experimental Design

Design: RCB **Replications:** 4
Plot Size Seeded: 25' x 10' **Experiment Size:** 0.50 A
Harvest Plot size: 22' x 2.5'

Factors/Treatments:

<u>Treatment</u>	<u>Source/Type</u>	<u>Target Density</u>
Dekalb DKB393	Brazil- Tropical	35,000 ppa
Dekalb DKB499	Brazil- Tropical	35,000 ppa
Dekalb DKB789	Brazil- Tropical	35,000 ppa
Agroceres AG1051	Brazil- Tropical	35,000 ppa
Agroceres AG2060	Brazil- Tropical	35,000 ppa
Pioneer 30F34	Southern US- 132 RM	35,000 ppa
Hyttest HT92-90W	Mexican- 135 RM	35,000 ppa
Kaltenberg KB105LF	Leafy (105 RM)	45,000 ppa
Kaltenberg LH227	Male Sterile	35,000 ppa
Croplan Greentreat A+	BMR Sorghum-Sudangrass	10 lb/a=130K

Results: Table C-43 & C45.

**Table C-43 Low Starch Corn Silage Evaluation.
Arlington, WI 2007.**

Treatment	Yield			Plant			Milk per									
	DM tn/A	68% Wet tn/A	Moist %	height ft	Lodging %	CP %	ADF %	NDF %	Lignin %	NDFD %	NFC %	Starch %	TDN %	Ton lb	Acre lb	
Dekalb DKB393	8.5	26.6	74.7	12.9	4	6.4	37.6	65.1	5.7	53.8	24.0	0.7	48.2	1836	15632	
Dekalb DKB499	6.8	21.3	72.3	12.8	44	5.8	38.9	66.8	5.1	54.6	23.4	1.3	49.3	1922	13102	
Dekalb DKB789	7.7	24.0	74.3	13.0	10	6.2	37.5	64.4	5.7	54.5	24.7	1.7	49.1	1909	14657	
Agroceres AG1051	4.8	14.9	76.8	12.8	51	6.9	40.1	67.9	6.2	52.2	20.8	0.9	49.1	1887	8955	
Agroceres AG2060	6.8	21.1	73.6	12.8	8	5.5	37.1	64.9	6.1	55.7	25.3	1.8	49.4	1938	13104	
Pioneer 30F34	7.7	24.1	71.4	11.1	9	7.4	30.0	55.4	4.7	57.4	32.0	4.2	50.4	2027	15629	
Hytest HT92-90W	8.0	25.1	73.1	12.5	6	6.3	37.0	64.5	5.9	54.9	24.6	1.4	49.3	1922	15441	
Kaltenberg KB105LF (Leafy)	8.1	25.3	56.0	10.4	17	7.7	25.8	47.1	4.8	53.1	41.0	24.6	61.9	2812	22830	
Kaltenberg Male Sterile	4.0	12.6	62.6	8.1	1	9.1	33.3	58.3	4.9	53.8	28.8	1.8	49.1	1898	7655	
Croplan Greentreat A+	5.7	17.7	78.4	11.0	.	8.2	33.6	59.7	4.2	60.5	24.5	1.0	54.1	2320	13057	
Mean	6.8	21.3	71.3	11.7	17	7.0	35.1	61.4	5.3	55.1	26.9	3.9	51.0	2047	14006	
<u>Probability (%)</u>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
<u>LSD 10%</u>	1.3	3.9	1.9	0.9	15	0.9	1.9	2.5	1.1	1.5	2.1	1.7	1.5	113	2663	
CV (%)	15	15	2	7	76	10	5	3	18	2	7	36	2	5	16	

FIELD EXPERIMENT HISTORY

Title: Low Energy Corn Silage Evaluation
Experiment: 11 Low Starch Study **Trial ID:** 07C56 **Year:** 2007
Personnel: M.G. Bertram
Location: Marshfield, WI **County:** Wood
Supported by: Marshfield Ag. Research Station

Site Information

Field: W3 **Previous Crop:** Corn **Soil Type:** Withee silt loam
Soil Test : **Date:** 10/30/06 **pH** 6.6 **SOM (%)** 3.4 **P (ppm)** 59 **K (ppm)** 167

Plot Management

Tillage Operations: Fall Chisel plow Spring Field Cultivator Cultivate 6/13/07

Fertilizer:	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
Preplant	none	N/A	N/A
Starter	9-11-30	150 lb/A	Planting
Post plant	28-0-0	40 gal/A	6/13/2007
Manure	none	N/A	N/A

Herbicide: Outlook 14 oz/A **Insecticide:** None
 Hornet 2.4 oz/A
 Atrazine 1 qt/A

Irrigation: None **Hybrid:** varies

Planting Date: 5/16/2007 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: varies **plants per acre** **Planting Method:** Research plot planter

Harvest Date: varies **Harvest Method:** hand harvested

Notes:

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 25' x 10' **Experiment Size:** 0.25 A

Harvest Plot size: 22' x 2.5'

Factors/Treatments:

<u>Treatment</u>	<u>Source/Type</u>	<u>Target Density</u>	<u>Harvest Date</u>
Dekalb DKB393	Brazil- Tropical	35,000 ppa	11/5/2007
Dekalb DKB499	Brazil- Tropical	35,000 ppa	11/5/2007
Dekalb DKB789	Brazil- Tropical	35,000 ppa	11/13/2007
Agroceres AG1051	Brazil- Tropical	35,000 ppa	11/13/2007
Agroceres AG2060	Brazil- Tropical	35,000 ppa	11/2/2007
Pioneer 30F34	Southern US- 132 RM	35,000 ppa	11/5/2007
Hyttest HT92-90W	Mexican- 135 RM	35,000 ppa	11/2/2007
Kaltenberg KB105LF	Leafy (105 RM)	45,000 ppa	11/2/2007
Kaltenberg LH227	Male Sterile	35,000 ppa	10/1/2007
Croplan Greentreat A+	BMR Sorghum-Sudangrass	10 lb/a=130K	11/13/2007
Garst 8922YG	Check (90 RM)	35,000 ppa	10/1/2007

Results: Table C-44 & C-45.

Table C-44. Low Starch Corn Silage Evaluation. Marshfield, WI 2007.

Treatment	Yield		Moist		Plant height		Lodging	CP	ADF	NDF	Lignin	NDFD	NFC	Starch	TDN	Milk per	
	DM	68% Wet	%	ft	%	%										Ton	lb
Dekalb	6.2	19.3	73.5	10.0	25	6.8	39.5	67.6	5.5	55.5	21.0	0.0	51.3	2076	12844		
Dekalb	6.5	20.3	69.5	10.6	20	6.4	39.9	68.3	6.1	54.9	21.5	0.0	50.6	2016	13098		
Dekalb	5.1	15.9	72.4	11.0	11	6.0	42.4	71.0	6.7	55.1	18.9	0.3	51.7	2101	10657		
Agroceres	4.2	13.0	73.3	10.5	26	5.7	44.9	75.1	7.2	54.9	15.8	0.0	52.2	2133	8856		
Agroceres	5.6	17.4	72.4	11.1	9	5.2	40.0	69.3	6.5	54.0	22.2	0.1	48.8	1883	10492		
Pioneer	5.8	18.1	72.4	9.8	6	7.9	32.6	58.4	4.8	55.7	28.9	4.0	51.6	2096	12148		
Hyttest	5.1	16.0	71.5	10.8	7	5.9	42.1	71.5	6.9	54.7	19.5	0.0	51.9	2109	10809		
Kaltenberg	5.4	17.0	67.6	8.8	3	7.3	31.9	58.2	5.0	55.2	30.9	0.4	46.6	1732	9391		
Kaltenberg	3.2	10.1	73.3	6.8	0	8.7	29.9	54.6	4.1	55.7	32.1	1.9	48.1	1846	5975		
Croplan	4.3	13.3	73.6	9.1	17	5.8	35.2	63.8	5.5	69.3	24.6	1.3	58.4	2697	11517		
Garst	7.3	22.7	61.1	8.0	1	7.8	24.1	42.2	3.7	54.1	45.0	30.2	68.0	3259	23633		
Mean	5.3	16.6	71.0	9.7	11	6.7	36.6	63.6	5.7	56.3	25.5	3.5	52.6	2177	11765		
Probability (%)	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
LSD 10%	0.7	2.2	1.4	0.7	12	0.8	2.1	2.8	0.5	1.5	2.5	1.7	2.3	164	1627		
CV (%)	11	11	2	6	88	9	5	4	7	2	8	41	4	6	12		

Table C-45. Low Starch Corn Silage Evaluation. Marshfield and Arlington, WI - Combined locations 2007.

Location	Treatment	Yield				Plant				Milk per						
		DM tn/A	68% Wet tn/A	Moist %	height ft	Lodging %	CP %	ADF %	NDF %	Lignin %	NDFD %	NFC %	Starch %	TDN %	Ton lb	Acre lb
Marshfield Arlington		5.1	16.0	72.0	9.8	12	6.6	37.8	65.8	5.8	56.5	23.5	0.8	51.1	2069	10578
		6.8	21.3	71.3	11.7	17	7.0	35.1	61.4	5.3	55.1	26.9	3.9	51.0	2047	14006
		7.4	23.0	74.1	11.4	15	6.6	38.5	66.4	5.6	54.7	22.5	0.3	49.7	1956	14238
		6.7	20.8	70.9	11.7	32	6.1	39.4	67.6	5.6	54.7	22.4	0.6	49.9	1969	13100
		6.4	19.9	73.3	12.0	11	6.1	39.9	67.7	6.2	54.8	21.8	1.0	50.4	2005	12657
		4.5	13.9	75.1	11.6	38	6.3	42.5	71.5	6.7	53.5	18.3	0.5	50.7	2010	8905
		6.2	19.3	73.0	11.9	8	5.4	38.6	67.1	6.3	54.9	23.7	1.0	49.1	1910	11798
		6.7	21.1	71.9	10.4	7	7.6	31.3	56.9	4.8	56.6	30.5	4.1	51.0	2061	13888
		6.6	20.6	72.3	11.6	6	6.1	39.5	68.0	6.4	54.8	22.1	0.7	50.6	2016	13125
		6.8	21.2	61.8	9.6	10	7.5	28.9	52.7	4.9	54.2	35.9	12.5	54.2	2272	16110
		3.6	11.3	68.0	7.4	1	8.9	31.6	56.4	4.5	54.8	30.4	1.8	48.6	1872	6815
		5.0	15.5	76.0	10.1	17	7.0	34.4	61.8	4.8	64.9	24.6	1.2	56.2	2508	12287
		6.2	19.3	73.5	10.0	25	6.8	39.5	67.6	5.5	55.5	21.0	0.0	51.3	2076	12844
		6.5	20.3	69.5	10.6	20	6.4	39.9	68.3	6.1	54.9	21.5	0.0	50.6	2016	13098
		5.1	15.9	72.4	11.0	11	6.0	42.4	71.0	6.7	55.1	18.9	0.3	51.7	2101	10657
		4.2	13.0	73.3	10.5	26	5.7	44.9	75.1	7.2	54.9	15.8	0.0	52.2	2133	8856
		5.6	17.4	72.4	11.1	9	5.2	40.0	69.3	6.5	54.0	22.2	0.1	48.8	1883	10492
	5.8	18.1	72.4	9.8	6	7.9	32.6	58.4	4.8	55.7	28.9	4.0	51.6	2096	12148	
	5.1	16.0	71.5	10.8	7	5.9	42.1	71.5	6.9	54.7	19.5	0.0	51.9	2109	10809	
	5.4	17.0	67.6	8.8	3	7.3	31.9	58.2	5.0	55.2	30.9	0.4	46.6	1732	9391	
	3.2	10.1	73.3	6.8	0	8.7	29.9	54.6	4.1	55.7	32.1	1.9	48.1	1846	5975	
	4.3	13.3	73.6	9.1	17	5.8	35.2	63.8	5.5	69.3	24.6	1.3	58.4	2697	11517	
	8.5	26.6	74.7	12.9	4	6.4	37.6	65.1	5.7	53.8	24.0	0.7	48.2	1836	15632	
	6.8	21.3	72.3	12.8	44	5.8	38.9	66.8	5.1	54.6	23.4	1.3	49.3	1922	13102	
	7.7	24.0	74.3	13.0	10	6.2	37.5	64.4	5.7	54.5	24.7	1.7	49.1	1909	14657	
	4.8	14.9	76.8	12.8	51	6.9	40.1	67.9	6.2	52.2	20.8	0.9	49.1	1887	8955	
	6.8	21.1	73.6	12.8	8	5.5	37.1	64.9	6.1	55.7	25.3	1.8	49.4	1938	13104	
	7.7	24.1	71.4	11.1	9	7.4	30.0	55.4	4.7	57.4	32.0	4.2	50.4	2027	15629	
	8.0	25.1	73.1	12.5	6	6.3	37.0	64.5	5.9	54.9	24.6	1.4	49.3	1922	15441	
	8.1	25.3	56.0	10.4	17	7.7	25.8	47.1	4.8	53.1	41.0	24.6	61.9	2812	22830	
	4.0	12.6	62.6	8.1	1	9.1	33.3	58.3	4.9	53.8	28.8	1.8	49.1	1898	7655	
	5.7	17.7	78.4	11.0	.	8.2	33.6	59.7	4.2	60.5	24.5	1.0	54.1	2320	13057	
Mean		6.0	18.7	71.6	10.8	14	6.8	36.5	63.6	5.6	55.8	25.2	2.4	51.0	2058	12292
Probability (%)																
Location (L)		<0.1	<0.1	38.1	<0.0	6.0	1.1	0.3	0.1	9.7	0.1	0.2	<0.1	<0.1	8.2	<0.1
Treatment (T)		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
L x T		2.3	2.3	<0.1	>50	0.6	0.3	<0.1	<0.1	10.0	<0.1	<0.1	<0.1	46.9	<0.1	<0.1
LSD 10%																
Location (L)		0.4	1.2	NS	0.3	4	0.2	1.1	1.3	0.5	0.4	1.2	0.7	0.3	20	785
Treatment (T)		0.7	2.2	1.2	0.6	10	0.6	1.4	1.8	0.6	1.0	1.6	1.1	1.4	99	1554
L x T		1.0	3.2	2.0	NS	14	0.8	2.1	2.8	1.0	1.5	2.4	1.6	NS	135	2225
CV (%)		14	14	2	6	80	10	5	3	13	2	7	56	3	6	15

FIELD EXPERIMENT HISTORY

Title: Low Energy Corn Silage Demos
Experiment: 11 Low Starch Study **Trial ID:** 07C68 **Year:** 2007
Personnel: Z.W. Miller, M.G. Bertram
Location: De Pere, WI **County:** Outagamie
Supported by: Marshfield Ag. Research Station, District Resource Mgmt. Grant

Site Information

Field: **Previous Crop:** Alfalfa **Soil Type:** Hortonville silt loam
Soil Test : **Date:** N/A **pH** 7.4 **SOM (%)** 3.9 **P (ppm)** 105 **K (ppm)** 200+

Plot Management

Tillage Operations: Fall Chisel plow Spring Field Cultivator 3X
Fertilizer:

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
Preplant	None	N/A	N/A
Starter	None	N/A	N/A
Post plant	None	N/A	N/A
Manure	Liquid Dairy	N/A	Fall
Manure	Solid Pen	N/A	Winter

Herbicide: Marksman 3.5 pt/A **Insecticide:** None

Irrigation: None **Hybrid:** varies
Planting Date: 5/14/2007 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 32,000 plants per acre **Planting Method:** John Deere 7000 planter
Harvest Date: 11/5/2007 **Harvest Method:** JD 5370 Self-propelled chopper
Notes:

Experimental Design

Design: Demo strips **Replications:** 1
Plot Size Seeded: 370' x 30' **Experiment Size:** 2.04 A
Harvest Plot size: 370' x 30'
Factors/Treatments:

<u>Hybrid</u>	<u>Source/Type</u>
Dekalb DKB393	Brazil- Tropical
Dekalb DKB499	Brazil- Tropical
Dekalb DKB789	Brazil- Tropical
Agroceres AG1051	Brazil- Tropical
Agroceres AG2060	Brazil- Tropical
Pioneer 30F34	Southern US- 132 RM
Hytest HT92-90W	Mexican- 135 RM
Dekalb DKC54-46	Check- 104 RM

Results: Table C-46.

FIELD EXPERIMENT HISTORY

Title: Low Energy Corn Silage Demos
Experiment: 11 Low Starch Study **Trial ID:** 07C68 **Year:** 2007
Personnel: M.C. Rankin, Z.W. Miller, M.G. Bertram
Location: Malone, WI **County:** Fond du Lac
Supported by: Marshfield Ag. Research Station, District Resource Mgmt. Grant

Site Information

Field: A **Previous Crop:** Oats **Soil Type:** Palms Mucky Peat
Soil Test : **Date:** 11/20/2002 **pH** 7.0 **SOM (%)** 14.6 **P (ppm)** 43 **K (ppm)** 88

Plot Management

Tillage Operations: Fall Chisel plow Spring Field Cultivator Cultivated
Fertilizer:

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
Preplant	0-0-60	150 lb/A	N/A
Starter	10-34-0	5 gal/A	Planting
Starter	28-0-0	10 gal/A	Planting
Post plant	28-0-0	15 gal/A	N/A
Manure	Solid Beef	20 tn/A	Fall

Herbicide: Calisto 2.0 oz/A **Insecticide:** None
 Accent 0.67 oz/A
 Atrazine 0.5 lb/A

Irrigation: None **Hybrid:** varies

Planting Date: 5/5/2007 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32,000 plants per acre **Planting Method:** John Deere 7200 planter

Harvest Date: 10/29/2007 **Harvest Method:** Gehl forage chopper

Notes:

Experimental Design

Design: Demo strips **Replications:** 1
Plot Size Seeded: 465' x 30' **Experiment Size:** 2.56 A
Harvest Plot size: 465' x 30'

Factors/Treatments:

<u>Hybrid</u>	<u>Source/Type</u>
Dekalb DKB393	Brazil- Tropical
Dekalb DKB499	Brazil- Tropical
Dekalb DKB789	Brazil- Tropical
Agrocere AG1051	Brazil- Tropical
Agrocere AG2060	Brazil- Tropical
Pioneer 30F34	Southern US- 132 RM
Hyttest HT92-90W	Mexican- 135 RM
Pioneer 38B83	Check- 96 RM

Results: Table C-46.

FIELD EXPERIMENT HISTORY

Title: Low Energy Corn Silage Demos
Experiment: 11 Low Starch Study **Trial ID:** 07C68 **Year:** 2007
Personnel: M.G. Bertram, Z.W. Miller
Location: Stratford, WI **County:** Marathon
Supported by: Marshfield Ag. Research Station, District Resource Mgmt. Grant

Site Information

Field: 202 **Previous Crop:** Oats **Soil Type:** Withee silt loam
Soil Test : **Date:** 4/1/04 **pH** 5.4 **SOM (%)** 3.0 **P (ppm)** 33 **K (ppm)** 89

Plot Management

Tillage Operations: Fall Chisel plow Spring Field Cultivator Cultivated
Fertilizer:

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
Preplant	none	N/A	N/A
Starter	9-11-30	160 lb/A	Planting
Post plant	28-0-0	27 gal/A	6/25/2007
Manure	Solid Heifer	30.2 tn/A	8/30/2006
Manure	Solid Heifer	22.8 tn/A	1/12/2007

Herbicide: Outlook 14 oz/A **Insecticide:** None
 Hornet 2.4 oz/A
 Atrazine 1 qt/A

Irrigation: None **Hybrid:** varies

Planting Date: 5/21/2007 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 35,000 plants per acre **Planting Method:** John Deere 1750 planter

Harvest Date: 11/12/2007 **Harvest Method:** John Deere forage chopper

Notes:

Experimental Design

Design: Demo strips **Replications:** 1
Plot Size Seeded: 900' x 20' **Experiment Size:** 2.89 A
Harvest Plot size: 898' x 20'

Factors/Treatments:

<u>Hybrid</u>	<u>Source/Type</u>
Dekalb DKB393	Brazil- Tropical
Dekalb DKB499	Brazil- Tropical
Dekalb DKB789	Brazil- Tropical
Agroceres AG1051	Brazil- Tropical
Agroceres AG2060	Brazil- Tropical
Pioneer 30F34	Southern US- 132 RM
Hyttest HT92-90W	Mexican- 135 RM

Results: Table C-46.

