

**Table C-37. Corn/Alfalfa Rotation Study - Corn.
Arlington, WI - 2011.**

Rotation	Yield bu/A	Moisture %	Test weight lbs/bu	Grower return \$/A	Lodged			Harvest
					Total %	Stalk %	Root %	Plants plants/A
AAACC-1C	161	25.1	54.7	837	0.0	0.0	0.0	34667
AAACC-2C	181	26.1	53.6	936	0.0	0.0	0.0	33333
AACC-1C	187	23.9	52.6	971	0.5	0.5	0.0	31125
AACC-2C	185	25.3	54.4	961	4.2	3.1	1.0	33667
CC-CC	175	26.7	54.6	907	3.8	0.4	3.4	30833
Mean	178	25.4	54.0	923	1.7	0.8	0.9	32725
Probability(%)								
Rotation (R)	71.5	23.0	91.7	68.6	31.5	11.3	30.7	0.3
LSD(0.10)								
Rotation (R)	NS	NS	NS	NS	NS	NS	NS	1706

**Table C-38. Alfalfa and Corn Rotation- Alfalfa
Arlington, WI - 2011.**

Rotation	Harvest Date		Total t dm/A
	June t dm/A	Aug/Sept* t dm/A	
AAACC-1A	–	0.4	0.4
AAACC-2A	2.6	0.5	3.1
AAACC-2Ax	2.5	0.5	3.1
AACC(s)-1A	–	0.4	0.5
AACC(s)-2A	2.6	0.5	3.1
AACC-1A	–	0.3	0.4
AACC-2A	2.5	0.5	3.0
Mean	2.6	0.5	1.9
Probability (%)			
Rotation (R)	80.2	81.6	0.0
LSD 10%			
Rotation (R)	NS	NS	0.2

* Establishment year: First cut was September 22.

FIELD EXPERIMENT HISTORY

Title: Alfalfa/Corn Rotation Study
Experiment: Trial ID: 11V91 Year: 2011
Personnel: M.G. Bertram, M.D. Ruark, M.R. Naber
Location: Stratford, WI County: Marathon
Supported by: Marshfield Ag. Research Station

Site Information

Field: 402 **Previous Crop:** Alfalfa/Corn **Soil Type:** Withee silt loam
Soil Test : **Date:** 11/7/11 **pH** 7.1 **SOM (%)** 3.2 **P (ppm)** 22 **K (ppm)** 49

Plot Management

Tillage Operations: A,C: Fall chisel plow, Spring disk, field cultivator No Corn Cultivation
 A: Spring pulvimulcher

Fertilizer:	Analysis	Rate	Date	Crop
Starter	None			
Post plant	28-0-0	40 gal/A	6/27/2011	Corn
	Various	Various	6/20/2011	Corn N Rate Study
	0-0-60	400 lb/A	7/26/2011	Alfalfa and Corn
	Gypsum	200 lb/A	7/26/2011	Alfalfa and Corn
	8% Boron	1.5 pt/A	8/1/2011	Alfalfa
Manure	None			

Herbicide: C: Parallel 1.67 pt **Insecticide:** A: Baythroid-2 1.6 oz/A
 C: Roundup WeatherMax 32 oz
 A: Raptor 5 oz

Irrigation: None **Hybrid:** Corn: Renk RK212RR (81 RR)
 Alfalfa: Dairyland HybriForce-2420/Wet

Planting Date: A,C 6/3/2011 **Planting Depth:** C: 1.5"
 A: 0.25" **Row Width:** C: 30"
 A: 7.5"

Target Plant Density: C: 35,000 **Planting Method:** C: John Deere 1750 planter
 A: 15 lb A: IH 5300 Drill

Harvest Date: C: 11/3/2011 CS: 9/29/11 **Harvest Method:** CS: hand harvested
 A: 6/15/2011, 7/18/2011, 8/21/2011 C: Massey plot combine
 A: (NS) 8/21/2011 A: MARS forage plot harvester

Notes: Second year of establishing Rotation Study

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 60' x 60' **Experiment Size:** 5.40 A
Harvest Plot size: C: 60' x 5'; CS: 10' x 2.5'; A: 60' x 3.5'

Factors/Treatments:

Rotation	N Source	Rate (lb N/A)	Rate (lb N/A)
		<u>prev. Alfalfa</u>	<u>prev. Corn</u>
3 year Alfalfa, 2 year Corn		0	0
2 year Alfalfa, 2 year Corn	None	0	0
2 year Alfalfa, 2 year Corn Silage	Agro	85	125
Continuous Corn	AN	45	90
	AN	85	125
	ESN	45	90
	ESN	85	125
	SU	85	125
	Urea	85	125

Results: Tables. C - 40, C - 41 and C - 42

**Table.C - 40. Alfalfa and Corn Rotation- Corn
Marshfield, WI - 2010.**

Rotation	Yield bu/A	Moisture %	Test Weight in.	Harvest Population ppa	Stalk Lodging %
AAACC	112	27.4	41.7	31315	0.2
AAACC	107	28.1	40.8	33202	0.1
AACC	104	28.6	40.0	.	.
AACC	103	29.7	39.8	32670	0.2
Continuous Corn	86	28.8	40.0	.	.
Mean	102	28.5	40.4	32396	0.1
<u>Probability (%)</u>					
Treatment	14.9	28.6	8.0	12.4	19.2
<u>LSD 10%</u>					
Treatment	NS	NS	1.3	1554	1.0
CV (%)	17	6	3	5	246

**Table.C - 41. Alfalfa and Corn Rotation- Corn Silage
Marshfield, WI - 2010.**

Rotation	Yield tn dm/A	Moisture %	Kernel milk %	Harvest Population ppa	CP %	ADF %	NDF %	NDFD %	NFC %	Starch %	TDN %	Milk per	
												Ton lb	Acre lb
AACsCs	6.6	73.4	57	34,848	.	.	.	.	.	.	.	.	.
AACsCs	6.4	74.3	64	35,595	8.5	24.2	47.0	59.4	40.3	32.3	70.5	3486	13,255
Mean	6.5	73.9	61	35,250	8.5	24.2	47.0	59.4	40.3	32.3	70.5	3486	13,255
<u>Probability (%)</u>													
Treatment	47.6	24.8	3.1	24.2	.	.	.	.	.	.	.	.	.
<u>LSD 10%</u>													
Treatment	NS	NS	6	NS	.	.	.	.	.	.	.	.	.
CV (%)	8	2	9	2	9	6	5	1	6	8	1	2	

**Table.C - 42. Alfalfa and Corn Rotation- Established Alfalfa
Marshfield, WI - 2011.**

Rotation	Yield 15-Jun tn dm/A	Yield 18-Jul	Yield 21-Aug	Yield Season
AAACC	1.13	0.52	0.98	2.63
AAACC	1.17	0.50	0.97	2.63
AACC	1.05	0.57	1.02	2.63
AACsCs	1.15	0.56	1.11	2.82
Mean	1.12	0.54	1.02	2.68
<u>Probability (%)</u>				
Treatment	27.4	>50	>50	22.6
<u>LSD 10%</u>				
Treatment	NS	NS	NS	NS
CV (%)	6	12	12	4

**Table.C - 42. Alfalfa and Corn Rotation- New Seeding Alfalfa
(continued) Marshfield, WI - 2011.**

Rotation	Yield 21-Aug tn dm/A	Yield Season tn dm/A
AAACC	0.90	0.90
AACC	0.73	0.73
AACsCs	0.92	0.92
Mean	0.85	0.85
<u>Probability (%)</u>		
Treatment	21.2	21.2
<u>LSD 10%</u>		
Treatment	NS	NS
CV (%)	6	6