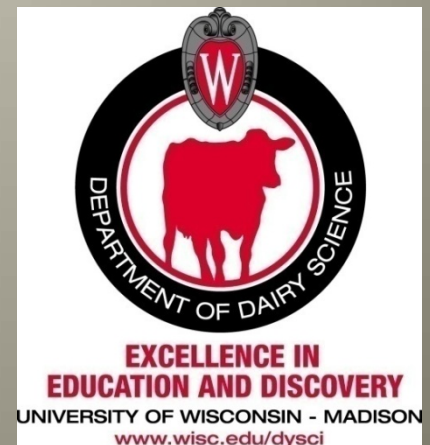


2012 Drought: A Dairy Cattle Nutrition Perspective

Randy Shaver & Pat Hoffman

Dairy Science Department, UW Madison



U.S. Drought Monitor

Midwest

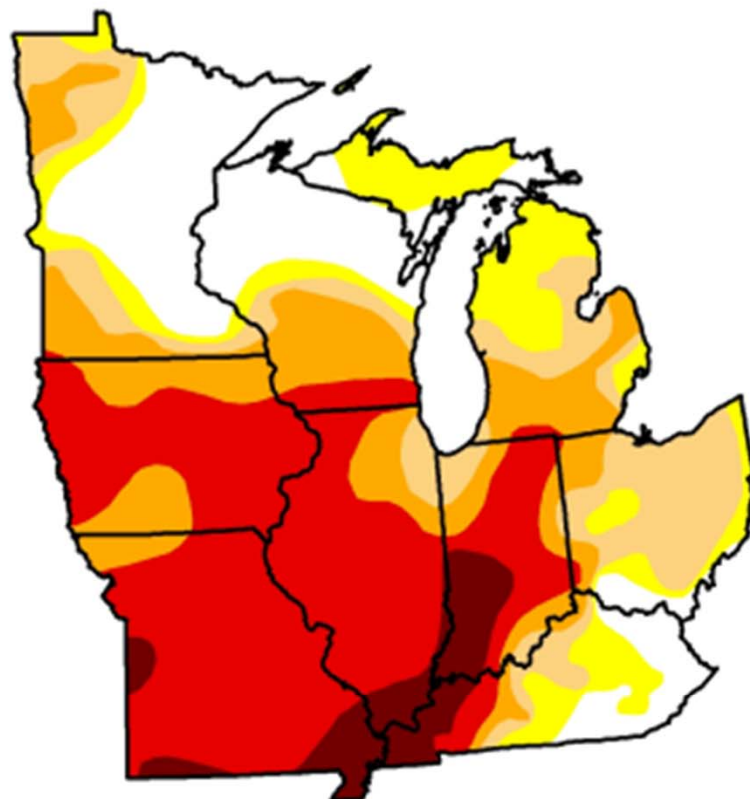
August 7, 2012

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	18.58	81.42	69.11	55.13	38.19	5.78
Last Week (07/31/2012 map)	17.22	82.78	71.01	55.41	31.80	4.96
3 Months Ago (05/08/2012 map)	68.76	31.24	5.80	0.18	0.00	0.00
Start of Calendar Year (12/27/2011 map)	71.84	28.16	13.42	6.80	0.00	0.00
Start of Water Year (09/27/2011 map)	58.85	41.15	14.01	5.03	0.00	0.00
One Year Ago (08/02/2011 map)	62.16	37.84	5.19	0.52	0.00	0.00

Intensity:



The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying text summary
for forecast statements.

<http://droughtmonitor.unl.edu>

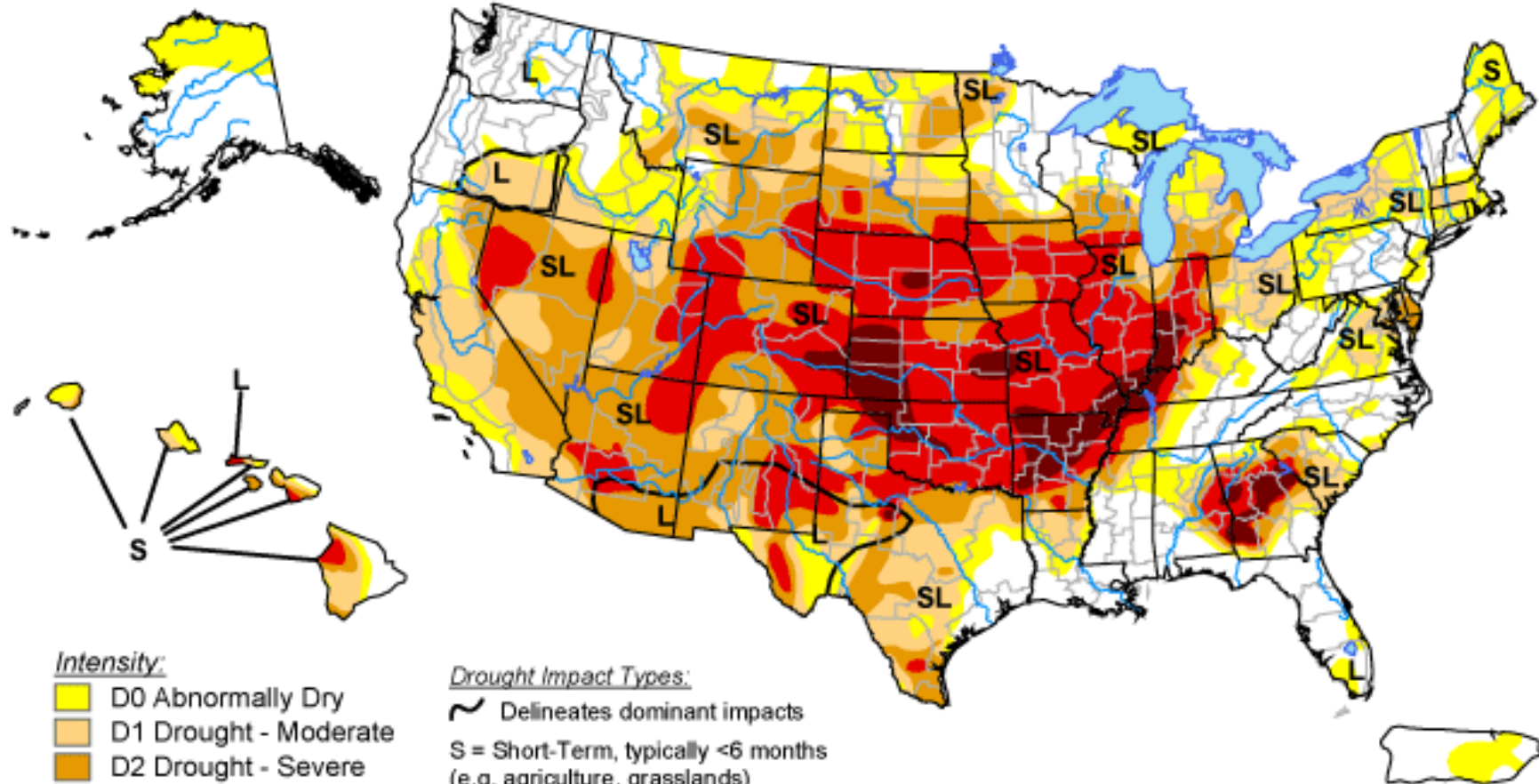


Released Thursday, August 9, 2012
Mark Svoboda, National Drought Mitigation Center

U.S. Drought Monitor

August 7, 2012

Valid 7 a.m. EDT



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu/>



Released Thursday, August 9, 2012

Author: Mark Svoboda, National Drought Mitigation Center

<http://www.uwex.edu/ces/dairynutrition/>

Cooperative Extension



Dairy Cattle Nutrition UW-Extension



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Welcome to Dairy Cattle Nutrition UW-Extension

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1. Assess forage inventory (on-hand & projected further harvests) vs. Projected animal needs

- Carry-over, Haycrop harvests, Barren or low-yield whole-plant corn harvest, Sudan-grass harvests
- Corn silage; Fall-harvest oats or oats/peas
- Winter rye or triticale for spring harvest forage

Inventory Resources

Team Forage Harvest & Storage Web Page

www.uwex.edu/ces/crops/uwforage/storage.htm

Spreadsheets

Silage Pile Capacity Calculator

Silage Pile Dimension Calculator

Bunker Silo Density Calculator

Bunker Silo Sizing Calculator

General harvesting and feeding guidelines for corn at various stages of maturity

P. Hoffman, J. Lauer, G. Blonde & R. Shaver

[http://www.uwex.edu/ces/dairynutrition/documents/
HarvestingFeedingGuidelinesforCorn.pdf](http://www.uwex.edu/ces/dairynutrition/documents/HarvestingFeedingGuidelinesforCorn.pdf)

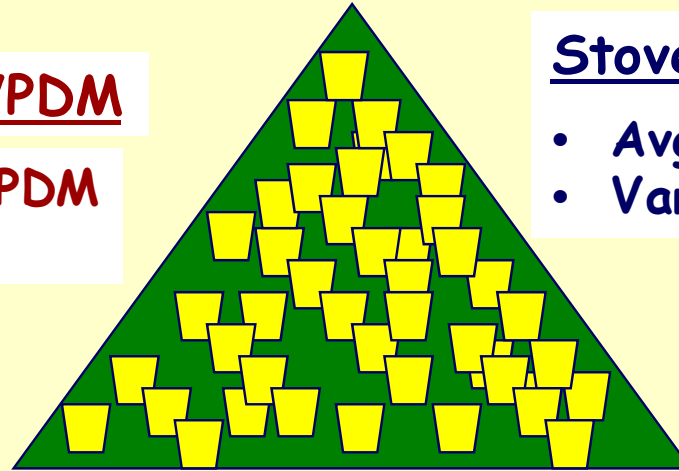
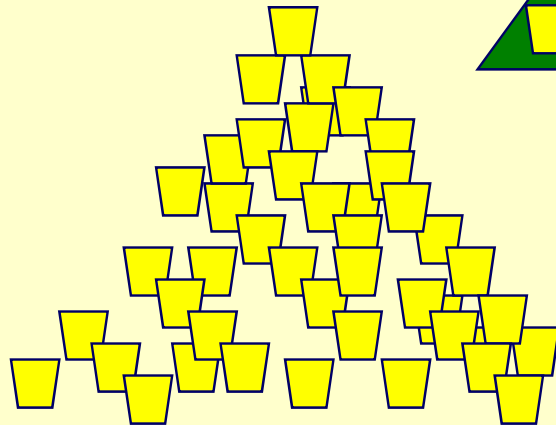
Whole-Plant Corn Silage

Grain ~40-45% of WPDM

- Avg. 30% starch in WPDM
- Variable grain:stover

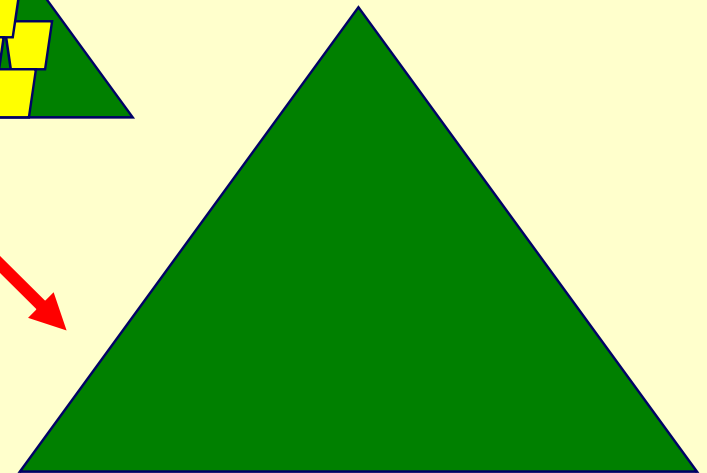
Stover= ~55-60% of WPDM

- Avg. 42% NDF
- Variable stover:grain



80 to 98% starch digestibility

- Kernel particle size
- Duration of silage fermentation
- Kernel maturity
- Endosperm properties



40 to 70% IVNDFD

- Lignin/NDF
- Hybrid
- Maturity

Variable peNDF as per chop length

<u>Harvest Stage</u>	% Yield Potential	Moisture	CP	NDF	NDFD	Starch	Forage to Grain Ratio
Vegetative							
	35-40%	85%	12%	60%	70%	0	100:0
Silking/Tasselling							
	40-45%	85%	11%	65%	68%	0	100:0
Blister - Early Milk ...note, highly variable, rapidly changing quality							
	60-65%	75-80%	9%	61%	68%	2-10%	90:10
Milk - Early Dough ...note, highly variable, rapidly changing quality							
	75-80%	70-75%	8.5%	55%	66%	10-20%	75:25

Drought Corn Forage Analysis:

Samples submitted to Rock River Labs July 2-August 3, 2012

	Moist.	CP	NDF	Ash	Starch	Sugar	NDFD 30
n	493	493	493	493	493	492	419
Mean	74.0	10.5	57.5	6.1	7.8	4.7	63
SD	9.1	2.3	5.8	1.2	6.9	2.2	7

Contributed by Dave Combs, UW Dairy Sci.Dept.



<u>Harvest Stage</u>	% Yield Potential	Moisture	CP	NDF	NDFD	Starch	Forage to Grain Ratio
Late Dough- Early Dent							
	90-95%	73%	8%	49%	65%	24%	65:35
1/4 Milk Line	95-100%	71%	8%	46%	61%	29%	55:45
1/2 Milk Line							
	100%	64%	7.5%	43%	60%	31%	50:50
Black Layer							
	100%	58%	7.5%	40%	57%	34%	50:50

2. Stretch silage supplies as necessary

- Trend toward minimum forage diets
 - By-product fiber sources as silage replacers; i.e. WCS
 - Roughage (hay/straw) in small amounts for effective NDF
- Feed restriction for older replacement heifers
- Minimize feed refusals and wastage

Practical forage-NDF range in high-group TMR

24% forage-NDF



16% forage-NDF

- High Quality Forages
- Large Forage Supply
- Forages Favorably Priced

i.e. 60% Forage @ 40% NDF

- Limited Forage Supply
- Forages Expensive
- Moderate/Low Quality Forages

i.e. 35% Forage @ 46% NDF

Nutritional Constraints

24% forage-NDF

- NDF, ivNDFD
- Fill Limitation of DMI
- Reduced Milk Yield



16% forage-NDF

- peNDF
- Milk Fat Depression
- Cow Health

Example calculations of forage replacement values for alternative roughage sources and high-fiber byproducts

<u>Ingredient</u>	<u>NDF % of DM</u>	<u>pef % of NDF</u>	<u>peNDF % of DM</u>	<u>Replaces per lb. DM</u>	<u>Replaces per 5 lb. DM</u>
<u>Replaced Haylage</u>					
Medium Chop Length	45	85	38.3	--	--
<u>Replacement Feeds</u>					
Coarse Chopped Straw	73.0	110	80.3	2.1	10.5
Coarse Chopped Grass Hay	55	95	52.3	1.4	7.0
Coarse Chopped Alfalfa Hay	45	90	40.5	1.1	5.5
Alfalfa Meal	41.6	40	16.6	0.4	2.0
Beet Pulp	45.8	30	13.7	0.4	2.0
Brewers Grains	47.4	40	19.0	0.5	2.5
Citrus Pulp	24.2	30	7.3	0.2	1.0
Corn Gluten Feed	35.5	40	14.2	0.4	2.0
Cottonseed Hulls	85.0	90	76.5	2.0	10.0
Distillers Grains	38.8	40	15.5	0.4	2.0
Malt Sprouts	47.0	40	18.8	0.5	2.5
Soybean Hulls	60.3	30	18.1	0.5	2.5
Wheat Middlings	36.7	40	14.7	0.4	2.0
Whole Cottonseed	50.3	90	45.3	1.2	6.0

Lime-treated corn stover: How to do it and its feed value

Dave Combs

University of Wisconsin-Madison



3a. Starch alternatives with \$8 corn

- HMC; Wheat; Byproduct starch; etc., etc.
- Reduced-starch diets using byproduct fiber & sugar sources
- Feeding multiple ration groups by production, DIM, BCS

Low Protein Corn Alternatives

Ingredient

Bakery

Soybean Hulls

Beet Pulp

Whey

Citrus Pulp

Starch

Hominy

Sugar

Molasses

Candy

Potato Byproducts

Corn Bran/Syrup

Barley

Wheat

Glycerin

3b. Protein alternatives with \$16 beans

- Moderate CP Corn/SBM Alternatives
- High CP SBM Alternatives
- NPN Alternatives
- Do not over-feed
- Feeding multiple ration groups by production

Moderate Protein Corn:SBM Alternatives

Equivalent CP
Corn:SBM Mix

Brewers Grains	50:50
Distillers Grains	50:50
Corn Gluten Feed	60:40
Whole Cottonseed	60:40
Malt Sprouts	70:30
Wheat Midds	70:30
Whole Sunflower	70:30

Plant Protein SBM Alternatives

Ingredient

Canola Meal

Corn Gluten Meal

Cottonseed Meal

Hi-Protein Distillers

Linseed Meal

Sunflower Meal

NPN Alternatives

FeedVal 2012 Tool Availability

DairyMGT.info

The screenshot shows the DairyMGT.info website. At the top is a banner for "Dairy Management UW-Extension University of Wisconsin-Madison" with a logo and a photo of cows. Below the banner is a navigation menu with links: Home, Tools, Projects, Publications, Presentations, Links, and Find. A search bar is located to the right of the menu. The main content area is titled "Dairy Management" and contains a paragraph about the website's purpose. To the left of this paragraph are several sections: "Latest Projects" with links to "Genomic Selection and Herd Management", "Dairy Reproduction Decision Support Tools", "Strategies of Pasture Supplementations", "Improving Dairy Cow Fertility", and "LGH Dairy"; "Helpful Link" with links to "Bovine Mastitis Programs" and "Control"; and a "Dairy News" section with a link to "UW-Extension Dairy News". To the right of the paragraph is a "TOOLS" section with a "Dairy Management Tools" link and a "Click to find out more about tools provided by DairyMGT" button. Below the tools section is a photo of Victor E. Cabrera, Ph.D., and a link to "Admin Portal".



Tools

The screenshot shows the Tools website. At the top is a navigation menu with links: Home, Tools, Projects, Publications, Presentations, Links, and Find. A search bar is located to the right of the menu. The main content area is titled "Management Tools" and contains a paragraph about the website's purpose. Below this paragraph is a "Feeding" section with links to "Designing Strategies for Feeding Lactating Dairy Cattle", "Outgoing Evaluation", "Income Over Feed Supplement Cost", "Dairy Extension Feed Cost Evaluator", "Corn Feeding Strategies", "Income Over Feed Cost", and "Dairy Extension Feed Addition Break-Even Analysis". Below the Feeding section is a "Halters" section with links to "Cost-Benefit of Accelerated Liquid Feeding Program for Dairy Calves", "Economic Value of Served Served Programs for Dairy Heifers", "Halter Replacement", and "Halter Break-Even". Below the Halters section is a "Reproduction" section with links to "Economic Value of Served Served Programs for Dairy Heifers", "All Daylong®: A Reproductive Economic Analysis Tool", "Capturing Timing of Pregnancy Impact on Income Over Feed Cost", and "Daily Reproductive Economic Analysis". Below the Reproduction section is a "Reproduction" section with links to "Cost-Benefit of Accelerated Liquid Feeding Program for Dairy Calves", "Economic Value of Served Served Programs for Dairy Heifers", "Halter Replacement", and "Halter Break-Even".

Dairy Cattle Nutrition UW-Extension: <http://www.uwex.edu/ces/dairynutrition/>



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- [Influence of ensiling time and inoculation on alteration of the starch-protein matrix in high-moisture corn](#) (Hoffman et al., JDS 2011)
- [A guide to understanding vitreousness and prolamins in corn](#) (Pat Hoffman and Randy Shaver)



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UNIVERSITY OF WISCONSIN - MADISON

Jul 23 2012 Full Analysis

Bargain

Ingredient	NE13x														Price Input		Predicted Value \$/Unit	Input Price as % of Predicted Value
	RUP %	ROP %	Mcal/lb	Lipid %	peNDF %	Ca %	Phos %	Lys %	Met %	NDF %	dNDF	Starch	Sugars	DM%	\$/Unit	Unit		
Hi-Pro Distillers	22	22	0.9	4	0	0.22	0.45	0.99	0.8	25	12	2	2	89	300	ton	409	73
Wet Distillers	12	18	0.92	15	0	0.22	0.83	0.67	0.55	38.8	19	2.5	2.5	45	125	ton	161	78
Poor Quality Hay	4.8	11.2	0.5	2	50	1	0.28	0.75	0.24	50	20	2.5	2.5	87	150	ton	190	79
Corn Silage	2.8	4.2	0.67	3.2	30	0.28	0.26	0.18	0.11	42	24	30	2.5	35	60	ton	75	80
High-Moisture Corn	3.6	5.4	0.95	4.2	0	0.03	0.3	0.25	0.19	10.3	5	72	1.5	70	200	ton	233	86
Wet Brewers	12	18	0.78	5.2	0	0.35	0.59	1.22	0.51	47.1	24	3.8	2.5	25	75	ton	87	87
Brewers Dried Grains	15	15	0.78	5.2	0	0.3	0.67	1.22	0.51	47.4	21	3.8	2.5	89	250	ton	285	88
Distillers Dried Grains	15	15	0.9	12	0	0.22	0.83	0.67	0.55	38.8	19	2.5	2.5	89	270	ton	302	89
Malt Sprouts	9	21	0.68	2.3	0	0.24	0.51	1.31	0.4	47	21	3.8	2.5	89	250	ton	278	90
Soybean Meal 44%	17.5	32.5	0.97	1.6	0	0.4	0.71	3.15	0.72	14.9	7.5	2.7	1.5	89	500	ton	549	91
Hominy	4	8	0.86	4.2	0	0.03	0.65	0.44	0.21	21.1	11	31	1.5	89	250	ton	273	91
Corn Gluten Feed	7.5	16.5	0.79	3.5	0	0.7	1	0.66	0.39	35.5	18	23.3	2.5	89	250	ton	265	94
Soybean Meal 48%	21	33	1	1.1	0	0.35	0.7	3.4	0.78	9.8	4.9	2.7	1.5	89	550	ton	578	95
Whole Cottonseed	6	18	0.88	19.3	22	0.17	0.6	1.04	0.41	50.3	20	1	1	89	300	ton	313	96
Blood Meal	76	19	1.06	1.2	0	0.3	0.3	8.5	1.11	0	0	0	0	94	700	ton	724	97
Canola Meal, expeller	17	21	0.8	5.4	0	0.75	1.1	2.14	0.71	30	6	1.5	1.5	89	360	ton	373	97
Tallow	0	0	2.06	100	0	0	0	0	0	0	0	0	0	99	25	cwt	26	98
Cottonseed Meal	20	25	0.78	1.9	0	0.2	1.15	1.86	0.72	30.8	9	1.5	1.5	89	360	ton	363	99
Beet Pulp	5	5	0.67	1.1	0	0.91	0.9	0.35	0.13	45.8	32	0.5	10	89	150	ton	152	99
Whey	1	9	0.85	0.7	0	1.37	1.04	0.74	0.14	0	0	4	70	20	50	ton	50	99
Good Quality Hay	6	14	0.6	2	35	1.3	0.3	0.94	0.3	40	20	2.5	2.5	87	250	ton	248	101
Urea	0	287	0	0	0	0	0	0	0	0	0	0	0	99	500	ton	497	101
Oats	4.5	8.5	0.81	5.1	0	0.11	0.4	0.54	0.22	30	12	47	2.5	89	250	ton	246	102
Shelled Corn	4.5	4.5	0.91	4.2	0	0.04	0.3	0.25	0.19	9.5	4.8	72	2	89	8	bu	8	103
Wheat Middlings	4.5	14	0.76	4.3	0	0.16	1.18	0.67	0.3	36.7	18	29	2.5	89	240	ton	233	103
Molasses	2	4	0.8	0.2	0	1	0.1	0.06	0.01	0.1	0.1	5	80	89	175	ton	169	103
Wheat	4.2	10	0.91	2.3	0	0.05	0.43	0.22	0.21	13.4	6.7	67	2	89	8.4	bu	8	104
Canola Meal, solvent	13.5	24.5	0.74	1.5	0	0.75	1.1	2.14	0.71	29.8	6	1.5	1.5	89	400	ton	382	105
Sunflower Meal	8	21	0.63	1.4	0	0.48	1	1.07	0.69	40.3	12	6	1.5	89	320	ton	302	106
Barley	3.4	9	0.85	2.2	0	0.06	0.39	0.45	0.21	20.8	10.4	60	2	89	14.75	cwt	14	107
Soybean Meal expeller	30	16	1.09	8	0	0.36	0.66	2.89	0.66	21.7	8	2.7	1.5	92	525	ton	480	109
Wheat Bran	3.5	14	0.73	4.3	0	0.13	1.18	0.71	0.28	42.5	21	29	2.5	89	240	ton	217	110
Corn Gluten Meal	42	23	1.08	2.5	0	0.06	0.6	1.1	1.54	11.1	3	2.5	1.5	89	640	ton	577	111
Soybeans, heated	22	21	1.24	19	0	0.26	0.64	2.71	0.62	22.1	8	10	2	92	600	ton	526	114
Soybeans, raw	12	28	1.25	19	0	0.32	0.6	2.52	0.58	19.5	10	10	2	87	17.5	bu	15	115
Linseed Meal	16	16	0.72	1.7	0	0.4	0.83	1.18	0.56	36.1	11	4	1.5	89	370	ton	283	131
Soy Hulls	6	8	0.67	2.7	0	0.63	0.17	0.88	0.16	60.3	45	5.3	1.5	89	280	ton	207	135
Straw	4	1	0.45	0.37	75	0.31	0.3	0.16	0.06	73	33	1	1	85	140	ton	97	144

Best

Normal

Worst

Overpriced

Source: UW-Extension Dairy Cattle Nutrition: <http://www.uwex.edu/ces/dairynutrition/>

Suggested feeding limits for selected high-fiber byproducts

<u>Ingredient</u>	<u>Suggested Limits</u> <u>lb. DM per cow per day</u>
Alfalfa Meal	5 - 10
Beet Pulp	8 - 12
Brewers Grains	5 - 10
Canola Meal	5 - 10
Citrus Pulp	5 - 10
Corn Gluten Feed	10 - 15
Cottonseed Hulls	5 - 10
Cottonseed Meal	5 - 10
Distillers Grains	5 - 10
Hominy	10 - 15
Linseed Meal	5 - 10
Malt Sprouts	5 - 10
Soybean Hulls	8 - 12
Sunflower Meal	5 - 10
Wheat Middlings	8 - 12
Whole Cottonseed	5 - 8

5. Other drought-year questions/issues

- Pricing drought-stressed corn silage
- Nitrates in drought-stressed corn silage
- Smut drought-stressed corn silage
- Aflatoxin in drought-stressed corn

Drought Stressed Corn Silage

Corn price, \$/bu as fed basis

Price soybean meal \$/cwt as fed basis	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10
	Stressed Corn Silage Price Base , \$ per 35% DM ton									
\$8	14.77	21.54	28.30	35.40	42.15	48.92	55.68	62.45	69.21	76.00
\$10	15.51	22.27	29.04	36.12	42.89	49.65	56.42	63.18	69.95	76.71
\$12	16.28	23.04	29.81	36.89	43.66	50.42	57.19	63.95	70.72	77.48
\$14	17.01	23.78	30.54	37.63	44.39	51.16	57.92	64.69	71.45	78.22
\$16	17.78	24.55	31.31	38.4	45.16	51.93	58.69	65.46	72.22	79.00
\$18	18.52	25.28	32.05	39.13	45.90	52.67	59.43	66.19	73.00	79.72
\$20	19.29	26.05	32.82	39.90	46.67	53.43	60.20	66.96	73.73	80.49
\$22	20.02	26.79	33.55	40.64	47.4	54.17	60.93	67.70	74.46	81.23
\$24	20.79	27.56	34.32	41.41	48.17	54.94	61.7	68.47	75.23	82.00
\$26	21.53	28.29	35.06	42.14	48.91	55.67	62.44	69.20	75.97	82.73
\$28	22.30	29.06	35.83	42.91	49.68	56.44	63.21	69.97	76.74	83.50
\$30	23.03	29.80	36.56	43.65	50.41	57.18	63.94	70.71	77.47	84.24

Further Price Adjustments

- **Moisture:**

- $(\text{Actual DM} / \text{Calculated DM}) * \text{Base price}$
 - E.g., 30% DM = $(30\%/35\%) * \$69.20 = \59.31
- Easier: Enter Actual DM into FeedVal 2012

INPUTS - Price Inputs

As-Fed Basis

DM %	Price \$/Unit	Unit
84.5	8	bu
89	26	cwt
30	16	ton

\$60.06

Further Price Adjustments

- **Quality:**

Corn Growth Stage	Dairy Herd < 80 lb/cow/d	Dairy Herd > 80lb/cow/d
Pre-tassel	90%	80%
Silk	80%	70%
Soft dough	85%	80%
Early dent	90%	87%
1/2 kernel milk line	100%	100%
Black layer	90%	90%

Source: Darby and Lauer, 2002



Worksheet for Buying and Selling Corn Silage: What's A Fair Price?

- 1.) Base price at 65% moisture \$ _____ / ton
 ... 7 to 9 times the price of shelled corn... $\$6.00 \times 8 = \$48 / \text{ton}$
 ... cost + return... $\$550 \div 15 \text{ ton/a} + 10\% = \$40 / \text{ton}$
 ... 1/4 to 1/3 price of baled hay... $\$200 \times 0.25 = \$50 / \text{ton}$

- 2.) Adjusted price for moisture (see table below) \$ _____ / ton

Base Price (\$ / ton as fed) at 65% moisture										
% Moisture	\$20	\$25	\$30	\$35	\$40	\$45	\$50	\$55	\$60	\$65
72 %	\$16.00	\$20.00	\$24.00	\$28.00	\$32.00	\$36.00	\$40.00	\$44.00	\$48.00	\$52.00
70 %	\$17.14	\$21.43	\$25.71	\$30.00	\$34.29	\$38.57	\$42.86	\$47.14	\$51.43	\$55.71
68 %	\$18.29	\$22.86	\$27.43	\$32.00	\$36.57	\$41.14	\$45.71	\$50.29	\$54.86	\$59.43
66 %	\$19.43	\$24.29	\$29.14	\$34.00	\$38.86	\$43.71	\$48.57	\$53.43	\$58.29	\$63.14
65 %	\$20.00	\$25.00	\$30.00	\$35.00	\$40.00	\$45.00	\$50.00	\$55.00	\$60.00	\$65.00
64 %	\$20.57	\$25.71	\$30.86	\$36.00	\$41.14	\$46.29	\$51.43	\$56.57	\$61.71	\$66.86
62 %	\$21.71	\$27.14	\$32.57	\$38.00	\$43.43	\$48.86	\$54.29	\$59.71	\$65.14	\$70.57
60 %	\$22.86	\$28.57	\$34.29	\$40.00	\$45.71	\$51.43	\$57.14	\$62.86	\$68.57	\$74.29
58 %	\$24.00	\$30.00	\$36.00	\$42.00	\$48.00	\$54.00	\$60.00	\$66.00	\$72.00	\$78.00

- 3.) Quality adjustment factor for maturity x _____ %

Corn growth stage	Dairy herd below 80 pound average	Dairy herd above 80 pound average
pre-tassel	90%	80%
silk	80%	70%
soft dough	85%	80%
early dent	90%	87%
1/2 kernel milk line	100%	100%
black layer	90%	90%

Source: Darby and Lauer, 2002 ...see attached graph

- 4.) Final price adjusted for moisture and quality = \$ _____ / ton

If the buyer is responsible for harvesting, then use the following **2010 Wisconsin Custom Rate** statewide averages as a guide to establish credit toward the final payment.

Pull-Type	With Kernel Processor		Without Kernel Processor	
	\$ / Acre	\$ / Hour	\$ / Acre	\$ / Hour
Chop	\$40	\$130	\$45	\$110
Chop & Haul	NA	\$100-\$275	NA	\$100-\$275
Self-Propelled	\$ / Acre	\$ / Hour	\$ / Acre	\$ / Hour
Chop	\$56	\$300	NA	NA
Chop, Haul & Pack Bunker	\$115	\$620	NA	\$600

<http://www.uwex.edu/ces/forage/pubs/nitrate.htm>

Table 4. Guidelines for use of feeds with known nitrate content.

Nitrate content on 100% dry matter basis		Comment
NO ₃ -N	NO ₃	
ppm		
<1000	<4400	Safe.
1000 to 2000	4400 to 8800	Generally safe when fed balanced rations. Best to limit it to half of the total dry ration for pregnant animals and also be sure water is low in nitrate.
2000 to 4000	8800 to 15000	Limit amount to less than half of total dry ration. Be sure ration is well fortified with energy, minerals, vitamin A.
Over 4000	Over 15000	Potentially toxic - do not feed.

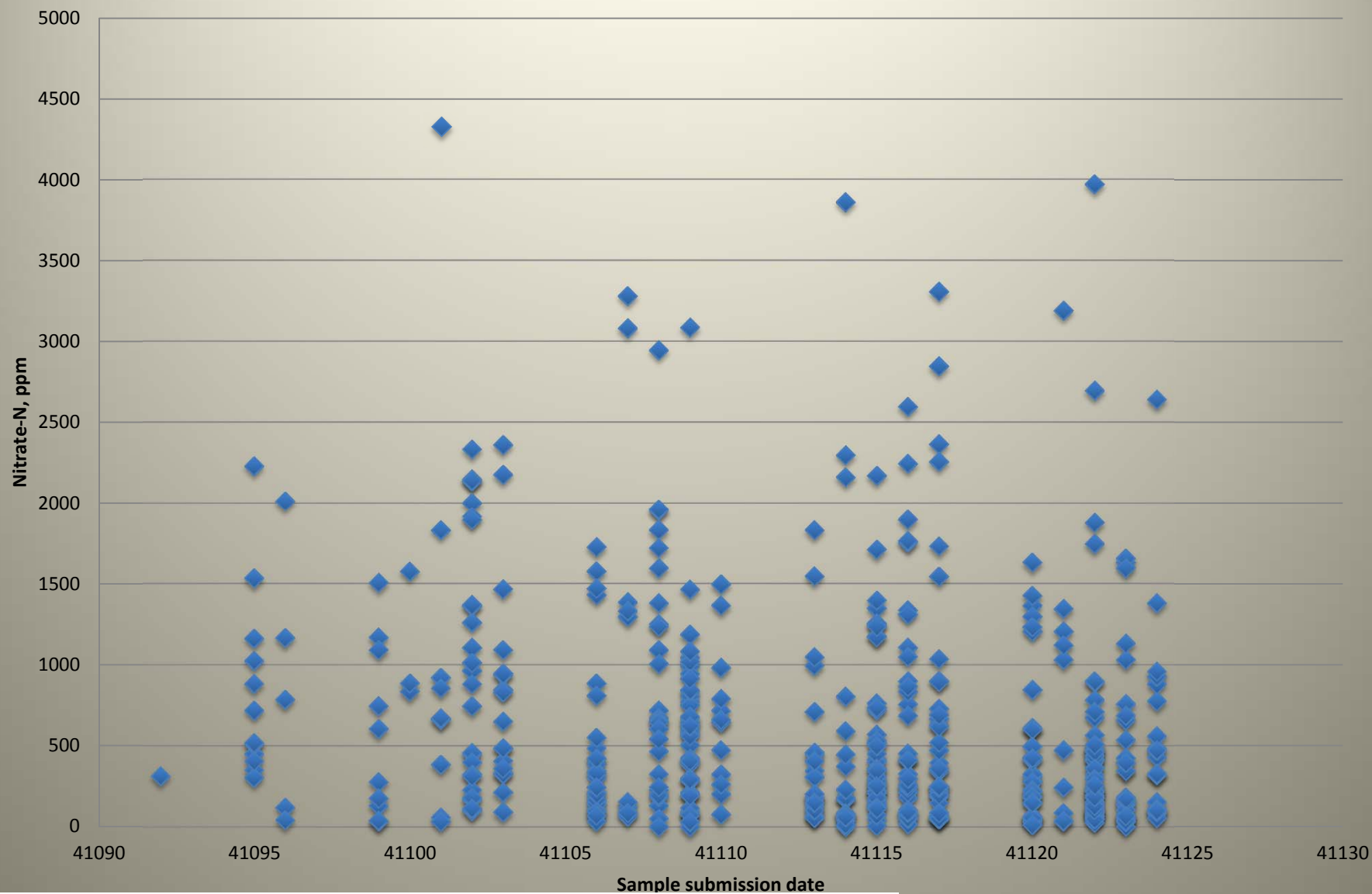
Drought Corn Forage Analysis:

Samples submitted to Rock River Labs July 2-August 3, 2012

	NO3-N ppm
n	469
Mean	647
SD	697
Min	0
Max	4330
Samples >2000 ppm NO3-N	27
Samples >4000 ppm NO3-N	1

Contributed by Dave Combs, UW Dairy Sci.Dept.

Nitrate-N (ppm) of Drought Corn Forage Submitted to Rock River Labs 7/2-8/3/12



Contributed by Dave Combs, UW Dairy Sci. Dept.

Dairyland Laboratories, Inc.

Arcadia, WI • Stratford, WI • De Pere, WI • St. Cloud, MN

Nitrate-N (ppm) July 1 - Aug 7, 2012

Corn Silage by State

	<300	300-1000	1000-1500	1500-2000	2000-3500	3500-4000	>4000	Count
NE	18%	13%	8%	8%	27%	4%	23%	158
SD	26%	18%	18%	13%	16%	2%	7%	328
WI	36%	22%	20%	12%	5%	1%	3%	150
MN	39%	18%	10%	10%	18%	2%	3%	61
IA	42%	23%	11%	8%	10%	1%	4%	337
IL	65%	22%	8%	2%	3%	0%	0%	206
MO	67%	21%	8%	2%	2%	0%	0%	48
IN	73%	18%	5%	3%	1%	0%	0%	73
KS	75%	6%	19%	0%	0%	0%	0%	16
KY	88%	8%	0%	4%	0%	0%	0%	24

Total Samples = 1401

Dairyland Laboratories, Inc.

Toxin Summary July-Nov. 6, 2012

Aflatoxin in Corn Grain (ppb)

	0-5	5-15	15-20	20-100	100-200	>200	Count	>20
WI	93	3	1	2	0	0	99	2
MN	108	3	0	3	1	0	115	4
IA	97	12	1	6	2	2	120	10
IL,IN,MO	32	4	2	7	2	1	48	10
SD,NE	57	4	0	9	2	3	75	14

Aflatoxin in Corn Silage (ppb)

	0-5	5-15	15-20	20-100	100-200	>200	Count	>20
MN	21	15	0	2	0	0	38	2
SD,NE	6	19	4	6	0	0	35	6
IA	99	60	3	6	0	2	170	8
WI	59	54	12	11	0	0	136	11
IL,IN,MO	41	58	13	23	1	0	136	24

Dairyland Laboratories, Inc.

Toxin Summary July-Nov. 6, 2012

TMR	Aflatoxin (ppb)		Vomitoxin (ppm)		Zearalenone (ppb)		T-2 (ppb)	
	0-5	55	<0.5	37	<500	49	<500	38
	5-15	23	0.5-1	13	500-1000	1	500-1000	0
	15-20	4	1-7	5	1000-6000	0	1000-6000	0
	20-100	6	7-20	0	>6000	0	>6000	0
	100-200	0	>20	0				
	>200	0						
	Count	88	Count	55	Count	50	Count	38

Visit UW Extension Dairy Cattle Nutrition Website

<http://www.uwex.edu/ces/dairynutrition/>

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Download a copy of the free Adobe Acrobat Reader to view and print information provided as PDF files.


Welcome to Dairy Cattle Nutrition UW-Extension

The Dairy Cattle Nutrition UW-Extension site is designed to provide research-based information for the public seeking resources on applied aspects of the nutrition of dairy cattle.

Web Site Highlights

-  [Dairy Team News from the University of Wisconsin](#)
-  [2009 Four-State Dairy Nutrition & Management Conference Proceedings](#)

UW Feed Grain Evaluation System

-  [Technical note: A method to quantify prolamin proteins in corn that are negatively related to starch digestibility in ruminants](#) (Josh Larson and Pat Hoffman - JDS paper)
-  [Corn Biochemistry: Factors related to starch digestibility in ruminants](#) (Pat Hoffman and Randy Shaver - Conference paper)
-  [Corn Biochemistry: Factors related to starch digestibility in ruminants](#) (Pat Hoffman and Randy Shaver - slide set)
-  [A guide to understanding prolamins](#) (Pat Hoffman and Randy Shaver)
-  [UW Feed Grain Evaluation System](#) (Pat Hoffman and Randy Shaver)
-  [Relative Grain Quality - RGQ](#) (Pat Hoffman and Randy Shaver)

Spreadsheets

-  [MILK2006 Corn Silage: Calculates TDN-1x, NEL-3x, Milk per ton, and Milk per acre](#)

Publications

-  [Benchmarking forage nutrient composition and digestibility](#)
-  [Feeding Programs in High Producing Dairy Herds](#)

Presentations

-  [Benchmarking forage nutrient composition and digestibility](#)
-  [Diets fed in selected WI high-producing dairy herds](#)



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