

ANIMAL SCIENCE REPORT NO. 1
NUTRIENT ANALYSES OF FEEDSTUFFS INCLUDING CARBOHYDRATES¹ (4/27/98)
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¹A note on the interpretation of the sugar and starch values:

For samples prior to 1997, the sugar column represents only simple sugars, mainly glucose and fructose, in the samples. Sucrose and fructans, by virtue of the analytical methods, appear in the "starch" fraction, along with the true starch.

Because of the continued interest in knowing the sucrose content of several by-products and the fructan content of forages, the analysis was modified in 1997. For all feeds in 1997 and after, the sugar fraction contains the sucrose, fructans, fructose, glucose and lactose extracted from the feed by stirring in water at 39°C for 1 hour. The starch fraction contains the starch plus any sugars not extracted by water in 1 hour.

Sample	DM	ADF	NDF	CP	ASH	EE	DIFF.	NFC	NSC (ENZYMATIC)	SUGAR	STARCH
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-----(%DM Basis)-----

SILAGES:

Renaissance Samples 1993:

Alfalfa	31.0	33.8	40.5	22.7	9.5	6.1	21.2	5.2	2.3	2.9
Alfalfa	50.2	30.9	38.7	23.8	10.4	4.1	23.0	11.3	3.9	7.4
MM Legume	47.1	39.3	50.1	20.5	9.7	2.6	17.2	10.1	2.6	7.5
Legume:Grass	45.1	34.2	48.1	16.6	9.9	4.5	21.0	9.4	4.4	5.0
Alfalfa:Tripper	35.8	39.2	50.7	19.5	10.7	4.1	15.0	10.2	2.3	7.9
Corn Silage	35.7	22.9	40.6	7.1	3.2	2.5	46.8	33.3	1.4	31.9
Corn Silage	35.4	23.2	39.3	8.1	3.6	3.4	45.7	32.6	1.6	31.0
Corn Silage	28.9	24.2	41.7	6.8	3.5	3.3	44.8	30.3	1.5	28.8
Corn Silage	39.4	22.0	41.3	7.1	3.1	2.9	45.6	35.3	1.9	33.4
Corn Silage	35.3	25.2	43.2	7.8	3.8	1.6	43.7	29.9	1.7	28.2

WVU Samples 1993:

MM Legume	37.9	42.9	51.9	14.7	12.8	2.7	18.0	5.2	2.7	2.5
Corn Silage	34.9	23.5	41.2	7.4	3.5	2.7	45.3	32.1	2.0	30.1

WVU Samples 1994:

Fresh Chop:

Alfalfa, 4th cut	46.2	26.4	34.1	22.4	11.8	2.4	29.3	13.8	2.7	11.1
Grass, 3rd cut	41.1	34.5	48.7	11.6	9.7	2.4	27.6	15.8	3.3	12.5

Comyn - Va. Herd Management 1993:

Earlage		16.6	35.2	10.3	3.9	1.4	49.4	51.1	2.6	48.5
Earlage	60.1	11.6	24.3	9.1	1.7	2.5	62.4	64.3	1.3	63.0
Corn Silage	41.6	21.9	38.5	8.0	3.4	2.8	47.3	44.5	1.6	42.9

Comyn - Va. Herd Management 1994:

Corn Silage	35.5	24.7	44.0	8.8	4.1	3.4	39.6	35.3	2.1	33.2
Corn Silage	35.2	27.6	49.0	8.9	3.2	3.4	35.4	31.5	3.9	27.6
Corn Silage	36.5	26.9	47.1	8.8	4.3	3.1	36.7	33.8	2.8	31.0
Corn Silage	43.5	24.5	43.3	7.6	3.1	1.7	44.3	41.0	2.5	38.5
Earlage	49.6	13.3	26.7	8.2	2.4	3.3	59.4	59.3	2.7	56.6
Earlage	65.5	15.8	33.4	9.3	1.7	1.9	53.7	52.1	2.4	49.7
Haylage	30.1	39.9	46.2	24.4	11.7	2.8	15.5	6.3	2.4	3.9
Barley Silage	38.3	7.9	46.3	15.4	8.2	2.9	27.3	23.4	2.5	20.9
Wheat Silage	23.5	35.0	59.8	14.0	7.7	3.6	14.9	14.0	3.9	10.1
Triticale Silage	37.7	40.3	67.0	12.2	8.7	2.9	9.3	12.0	2.8	9.2
Direct Ct Barley	36.2	26.2	50.2	10.6	6.9	2.0	30.3	30.4	1.7	28.7

Animal Health Management Samples, Kentucky 1994:

Corn Silage		26.9	45.5	7.1	3.1	2.6	41.7	40.1	1.9	38.2
Corn Silage		22.7	39.3	7.8	3.0	3.3	46.6	46.1	2.5	43.6
Corn Silage		28.4	48.0	9.2	5.1	2.9	34.8	29.9	3.5	26.4

Farmland Ind. Samples 1994:

Corn Silage		30.1	46.7	7.3	5.1	3.3	37.6	35.5	2.1	33.4
Corn Silage		31.3	49.9	9.1	5.7	2.8	32.5	25.5	2.6	22.9
High Oil Corn Silage		45.1	73.6	5.9	3.6	3.7	13.2	12.7	0.7	12.0

NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

Sample	DM	ADF	NDF	CP	ASH	EE	NFC		NSC (ENZYMATIC)	
							DIFF.	TOTAL	SUGAR	STARCH
-----(%DM Basis)-----										
SILAGES (continued):										
Moundsville, WV 1994:										
Sorghum/C. Sil.	23.7	43.2	69.4	8.4	8.4	1.9	11.9	6.7	1.5	5.2
<u>Chalupa Samples 1995:</u>										
Corn Silage	33.8	19.9	36.2	8.5	3.3	3.5	48.5	41.4	1.9	39.5
Haylage	39.6	41.3	53.7	16.2	8.5	3.1	18.5	9.1	3.5	5.6
<u>Moorefield, WV Samples 1995:</u>										
Corn Silage/Chicken Litter:										
Sample #1	56.9	23.6	31.2	10.5	9.5	2.7	46.1	38.9	2.7	36.2
Sample #2	46.5	27.1	46.3	6.9	3.6	2.5	40.7	35.4	1.7	33.7
<u>Homestead Ag. Prod., WI 1995:</u>										
Haylage	49.4	32.4	38.3	22.4	11.0	3.4	24.9	8.9	3.8	5.1
Haylage	35.3	32.4	37.6	21.7	10.3	3.8	26.6	8.7	3.2	5.5
<u>Ditson Samples, MD & WV 1995:</u>										
Corn Silage	33.5	26.7	49.0	7.8	3.9	2.9	36.4	34.3	2.6	31.7
Corn Silage	32.0	25.4	44.0	7.4	3.2	3.2	42.2	28.0	2.8	25.2
Sorg/Sudan Baglg	59.1	39.6	67.3	7.5	6.9	3.9	14.4	11.7	4.4	7.3
<u>Rocky Mtn. Nutr. Consult., WI 1995:</u>										
Haylage 1st cut	39.2	31.7	35.3	25.7	11.6	3.9	23.5	5.1	2.7	2.4
Corn Silage	33.0	28.4	42.9	11.6	5.0	4.4	36.1	32.3	1.3	30.9
<u>Anderson Dairy Managment., PA 1995:</u>										
Triticale Silage	27.3	39.9	62.3	14.0	7.4	3.4	12.9	12.1	2.5	9.6
Corn Silage	31.1	22.9	38.0	8.3	3.4	3.4	46.9	43.8	2.0	41.8
+NH ₃										
<u>W.B. Fleming Co., KY 1995:</u>										
Corn Silage	35.0	24.1	42.2	6.9	3.8	3.0	44.1	37.5	2.4	35.1
<u>Jarrett, NY 1995:</u>										
4th.Ct.Alf.HCS	54.0	26.2	32.1	23.3	12.1	2.7	29.8	14.4	4.4	10.0
1st.Ct.Alf.HCS	48.6	37.1	42.0	21.5	10.8	2.2	23.5	7.5	4.0	3.5
Haylage	26.8	39.4	48.3	22.1	10.8	4.2	14.6	5.0	2.2	2.8
Corn Silage	28.4	22.6	41.6	8.2	3.6	3.5	43.1	38.8	1.6	37.2
Corn Silage	38.9	21.9	37.6	7.8	3.1	2.9	48.6	47.3	1.5	45.8
<u>Biovance Tech., WI 1995:</u>										
Corn Silage	36.8	26.7	42.1	7.5	4.2	3.6	42.6	41.2	5.3	35.9
Corn Silage	40.9	22.6	38.0	8.2	4.1	3.2	46.5	44.2	2.0	42.2
Corn Silage	42.2	22.3	38.9	8.1	3.6	3.8	45.6	41.2	3.0	38.2
<u>Renaissance Samples, PA 1995:</u>										
Corn Silage	35.4	28.4	49.5	6.9	4.0	2.4	37.2	32.2	4.0	28.2
Corn Silage	45.9	29.0	51.9	6.9	2.9	2.6	35.7	30.7	2.4	28.3
Corn Silage	39.0	24.6	44.0	6.4	3.4	3.7	42.5	39.7	1.1	38.6
<u>WVU Samples 1995:</u>										
Corn Silage	40.1	19.3	34.9	8.6	3.3	3.4	49.8	47.3	4.2	43.1
<u>Dairy Management Services, NY 1995:</u>										
Corn Silage	33.4	22.2	38.4	8.7	3.4	3.5	46.0	35.6	1.7	33.9
Corn Silage	35.9	24.6	42.5	8.1	3.1	3.4	42.9	34.6	1.6	33.0
<u>WVU Sample, 1996:</u>										
Corn Silage	28.4	29.6	51.0	6.8	4.5	2.9	34.8	29.4	2.0	27.4
<u>Monongalia County, WV 1996:</u>										
Corn Silage	33.2	30.8	48.0	7.1	3.8	2.6	38.6	36.1	1.8	34.3
<u>Ohio County, WV 1996:</u>										
Corn Silage	34.2	31.5	50.7	11.4	3.7	2.1	32.1	26.2	2.6	23.6
<u>Milkin' Menus, PA 1996:</u>										
Corn Silage	34.2	27.7	49.1	8.6	4.0	2.9	35.4	26.5	2.0	24.5
Corn Silage	36.0	20.7	36.2	7.1	3.3	3.2	50.2	39.4	2.8	36.6
Corn Silage	33.5	26.3	48.1	6.3	2.6	2.8	40.2	38.4	1.2	37.2

NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

Sample	DM	ADF	NDF	CP	ASH	EE	NFC		NSC (ENZYMATIC)	
							DIFF.	TOTAL	SUGAR	STARCH
-----(%DM Basis)-----										
SILAGES (continued):										
Corn Silage	41.7	25.4	45.6	7.5	2.9	2.4	41.6	38.5	1.5	37.0
Corn Silage	36.9	30.0	53.6	6.3	3.4	2.4	34.3	29.6	1.4	28.2
1st.Ct.Alf.HCS	31.5	35.6	45.4	24.2	13.6	2.9	13.9	5.9	2.6	3.3
Haylage	32.8	33.0	38.1	21.0	10.5	3.1	27.3	7.1	4.3	2.8
<u>Saunders Vet. Clinic, OH 1996:</u>										
Haylage	33.6	45.5	60.6	13.5	9.3	3.2	13.4	5.8	2.0	3.8
Haylage	42.9	41.6	57.8	14.0	11.0	3.2	14.0	6.7	3.4	3.3
Haylage	65.2	31.1	47.7	19.2	8.8	2.6	21.7	13.9	4.8	9.1
Haylage	46.4	37.4	46.9	17.7	8.4	3.4	23.6	12.7	4.7	8.0
Haylage	53.9	37.8	48.0	19.3	9.0	2.5	21.2	10.8	4.9	5.9
Corn Silage	36.0	30.3	49.0	12.9	4.3	3.2	31.7	26.1	2.9	23.2
Corn Silage	34.7	23.2	38.4	14.4	4.9	3.0	39.3	36.2	2.2	34.0
Corn Silage	50.0	19.9	35.9	7.3	2.7	2.6	51.5	53.0	2.6	50.4
Corn Silage	35.8	23.5	40.2	7.2	3.9	2.9	45.8	39.5	2.7	36.8
Corn Silage	31.7	26.1	44.9	11.9	6.3	2.9	34.0	25.5	1.4	24.1
Corn Silage	32.6	30.6	50.0	6.7	4.1	2.0	37.2	28.6	4.6	24.0
Pro-Ton (HCS?)	31.3	34.7	55.7	15.6	10.2	2.5	16.0	7.0	1.7	5.3
Triticale Sil.	32.7	41.6	56.5	13.0	9.6	2.5	18.4	6.0	2.8	3.2
<u>Renaissance Nutrition 1996:</u>										
New York:										
Corn Silage	33.6	28.1	45.2	7.4	3.4	3.4	40.6	36.5	1.3	35.2
Corn Silage	37.8	22.3	39.3	7.0	3.1	2.8	47.8	42.4	1.6	40.8
Corn Silage	36.1	21.1	45.6	7.8	3.2	2.5	41.0	40.4	1.4	38.9
Virginia Corn Silages:										
Mycogen TMF 106	29.3	27.5	48.1	7.9	4.2	2.5	37.4	34.5	1.7	32.9
TMF 106	37.3	26.8	47.8	7.7	3.3	2.9	38.3	38.6	0.8	37.8
TMF 106	28.2	27.1	46.6	8.1	4.2	2.9	38.2	31.6	2.3	29.2
TMF 106	32.6	30.2	51.8	7.8	4.0	2.2	34.2	30.0	4.0	26.0
TMF 106	26.2	27.9	47.8	6.1	3.2	2.7	40.2	37.5	0.8	36.7
TMF 106	29.0	27.5	49.0	6.9	3.9	2.6	37.7	34.2	1.0	33.1
Pioneer	28.4	28.1	46.4	6.8	3.7	3.1	40.0	32.2	1.6	30.6
Pioneer 3173	30.7	29.2	50.6	7.8	5.3	2.8	33.5	31.5	0.9	30.6
PA, MD Corn Silages:										
Uncovered Trench	26.1	28.0	45.1	8.8	4.8	3.2	38.2	27.6	2.2	25.4
Roller-ml Uppt.	38.5	23.1	39.9	7.4	3.1	3.6	46.0	40.5	2.1	38.4
Covered Trench	27.8	29.3	48.8	6.7	4.5	2.6	37.5	26.6	0.7	25.9
Bag	27.9	28.8	49.1	6.9	3.9	2.4	37.8	32.4	1.4	31.0
Covered Trench	29.5	27.5	48.3	7.2	3.4	2.7	38.4	34.7	2.3	32.4
Bag	39.7	25.5	45.9	7.0	3.1	2.3	41.7	31.1	4.4	26.7
Green	31.7	23.8	43.8	6.9	4.2	3.2	41.9	38.2	3.0	35.2
Corn Silage	25.8	32.0	54.1	8.4	5.4	3.3	28.8	20.7	2.7	18.0
Very immature Corn Silage:										
Untreated, Days ensiled										
0	20.8	33.8	58.1	9.1	4.2	1.4	27.2	23.0	12.2	10.9
3	20.9	33.7	58.6	8.9	4.0	1.2	27.3	20.6	11.3	9.3
6	21.3	34.6	59.5	9.4	4.1	1.4	25.5	18.1	11.8	6.4
9	20.8	35.1	59.2	9.3	4.2	1.3	26.1	15.8	12.0	3.8
14	20.3	35.1	60.9	9.7	4.4	1.2	23.9	16.3	9.0	7.3
21	20.5	36.1	61.6	10.5	4.5	1.3	22.2	13.0	4.2	8.8
28	19.3	38.3	64.6	10.1	4.8	1.6	19.0	10.6	2.5	8.1
50	19.7	36.0	59.9	9.6	4.4	1.3	24.8	12.8	4.7	8.1

NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

Sample	DM	ADF	NDF	CP	ASH	EE	NFC		NSC (ENZYMATIC)	
							DIFF.	TOTAL	SUGAR	STARCH
-----(%DM Basis)-----										
SILAGES (continued):										
Very immature Corn Silage:										
Treated with Kemin Silage Saver, Days ensiled										
0	21.7	32.8	58.7	9.1	4.1	1.4	26.8	25.4	11.6	13.8
3	20.5	34.0	58.8	9.4	4.5	1.2	26.2	19.2	11.5	7.7
6	20.9	34.4	58.1	9.8	4.4	1.4	26.3	17.4	12.0	5.4
9	20.2	35.5	59.4	9.9	4.7	1.5	24.6	14.4	9.7	4.7
14	20.2	37.3	60.6	10.7	4.6	1.1	23.0	12.1	4.4	7.7
21	20.0	36.6	61.3	10.6	4.8	1.8	21.5	9.6	2.5	7.2
28	19.2	36.6	61.6	10.7	4.8	1.3	21.7	10.0	2.7	7.3
50	19.2	36.9	62.7	10.5	4.9	1.8	20.0	9.5	2.2	7.3
<u>Ag. Network Inc., NY 1996:</u>										
Corn Sil. (Trtd?)	33.7	22.9	40.1	8.7	4.1	3.1	44.0	34.9	1.3	33.6
Corn Silage	31.0	27.1	47.0	7.2	3.6	2.9	39.3	33.9	1.0	32.9
Corn Silage	29.3	26.7	46.5	9.1	4.7	3.6	36.1	29.9	1.4	28.5
1st.Ct.HCS	31.9	43.9	57.0	17.3	9.9	4.4	11.4	5.2	2.8	2.4
<u>Bioavance Tech., WI 1996:</u>										
1st.Ct.Alf.HCS	32.8	38.7	41.9	21.0	12.1	4.2	20.8	5.0	2.2	2.8
2nd.Ct.Alf.HCS	31.5	34.6	39.2	22.4	9.8	3.5	25.1	7.5	2.4	5.1
Haylage, Silo	41.3	35.5	38.4	23.9	9.2	2.9	25.6	7.8	4.2	3.6
Haylage, Bag	84.9	39.2	56.8	15.2	8.6	2.0	17.4	9.1	4.7	4.4
Haylage	42.5	40.7	60.0	12.9	11.1	2.7	13.3	7.5	2.3	5.2
Haylage, east	62.9	39.5	48.1	21.4	8.2	1.6	20.7	7.8	4.7	3.1
Haylage, west	42.0	37.8	42.5	21.9	9.2	2.6	23.8	6.9	3.4	3.5
Haylage	45.9	37.7	43.0	21.1	9.2	2.7	24.0	6.5	3.8	2.7
Haylage	65.9	38.3	47.2	20.4	8.4	1.9	22.1	9.1	4.3	4.8
Haylage	54.8	38.9	49.1	19.2	9.4	2.8	19.5	6.1	4.0	2.1
Haylage, Silo	50.6	35.4	41.5	21.2	10.1	3.1	24.1	7.5	4.8	2.7
Haylage, Silo	68.2	34.7	44.4	20.7	9.8	2.3	22.8	5.2	4.9	0.3
Haylage	71.7	40.0	51.6	16.9	8.6	1.6	21.3	9.6	4.6	5.0
2nd HCS, Stave	30.5	34.0	40.0	22.8	10.9	4.2	22.1	6.3	2.7	3.6
2nd HCS, Ag Bag	27.4	33.1	37.3	26.6	10.3	3.5	22.5	5.2	2.8	2.4
2nd Ct. Haylage	39.1	30.3	41.3	19.0	9.5	2.9	27.3	5.5	2.0	3.5
Haylage	49.4	34.5	42.9	19.0	10.6	4.3	23.2	4.4	4.1	0.3
1st Ct. Haylage	61.2	44.9	55.5	19.5	9.5	2.8	12.8	2.4	1.7	0.7
HCS, Bunker	37.5	27.0	35.5	24.5	10.9	4.2	24.9	5.2	4.7	0.5
Corn Silage	40.2	26.2	42.1	7.8	3.5	2.6	44.0	36.1	2.2	33.9
Corn Silage	39.8	23.0	39.1	7.2	4.2	2.6	46.9	39.5	3.1	36.4
Corn Silage	31.3	28.6	45.5	7.6	4.9	2.8	39.2	29.9	2.3	27.6
Corn Silage	33.5	21.0	36.2	7.3	3.2	3.1	50.2	41.9	2.2	39.7
Corn Silage	38.4	22.2	37.6	7.3	3.7	2.7	48.7	42.7	2.7	40.0
Corn Silage	25.1	29.7	50.9	7.5	5.2	2.9	33.5	26.5	1.2	25.3
C.Sil., Ag Bag	30.5	25.8	43.5	8.0	5.2	3.3	39.9	33.3	3.2	30.1
C.Sil., Ag Bag	30.5	28.0	46.2	7.4	4.3	3.4	38.8	30.5	1.6	28.9
Corn Silage	23.0	31.2	51.6	5.9	3.5	3.6	35.4	28.9	0.7	28.2
Corn Silage	46.7	22.9	36.6	7.9	5.0	2.1	48.5	41.3	1.5	39.8
Corn Silage	35.3	24.2	41.1	7.9	3.8	3.3	43.9	33.9	1.0	32.9
Oatlage	44.2	35.6	50.9	18.0	9.9	3.1	18.1	8.9	4.3	4.6
Corn Silage	30.0	27.8	43.2	6.6	4.5	3.1	42.7	38.8	2.6	36.1
<u>Skyview Lab, PA 1996:</u>										
Alf. Haylage		36.2	46.8	21.8	9.6	4.4	17.5	6.6	1.5	5.1
Corn Sil. w/NPN		29.1	48.8	9.6	4.1	3.7	33.8	31.2	0.7	30.5
Corn Silage		25.0	42.1	7.3	3.9	3.7	43.0	38.6	0.7	37.9

NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

NFC NSC (ENZYMATIC)

Sample	DM	ADF	NDF	CP	ASH	EE	DIFF.	TOTAL	SUGAR	STARCH
-----(%DM Basis)-----										
SILAGES (continued):										
<u>Hooper Feeds, PA 1996:</u>										
Haylage	45.5	29.2	38.3	22.4	10.8	3.7	24.8	4.8	4.8	0.0
Haylage	59.3	35.9	43.6	19.9	9.5	2.5	24.5	9.8	4.8	5.0
<u>Cargill Liquid Products, NY 1996:</u>										
Corn Silage	28.0	31.1	52.0	6.2	3.0	3.0	35.8	25.1	2.0	23.1
Corn Silage	30.4	29.7	46.6	6.8	3.0	3.7	39.9	32.0	1.6	30.5
Haylage	43.7	36.1	40.9	21.6	11.6	3.4	22.5	4.0	2.6	1.4
HCS Harvestore	50.7	46.2	51.6	19.7	9.4	2.9	16.4	5.9	2.8	3.1
" Stave	43.5	38.7	43.0	22.3	11.1	4.2	19.4	5.5	3.1	2.4
Haylage	46.5	36.6	43.3	22.6	10.1	4.0	20.0	7.1	3.8	3.3
Haylage	42.8	32.3	35.4	22.8	9.9	6.1	25.6	6.4	5.1	1.3
Corn Silage	41.3	21.4	34.5	7.2	3.6	4.0	50.7	38.6	2.0	36.6
Corn Silage	39.0	26.7	46.1	8.0	4.6	3.7	37.6	27.3	3.2	24.1
Corn Silage	38.1	23.7	39.9	8.2	4.0	3.6	44.3	32.0	3.2	28.8
Corn Silage	32.3	25.7	43.2	8.1	3.7	3.5	41.5	29.1	1.7	27.4
<u>Thousand Hills Dairy Herd Services, IA 1996:</u>										
3rd Ct. HCS	42.1	34.5	37.9	20.7	11.4	3.9	26.1	9.2	3.5	5.7
<u>D. Roseler-Countrymark Co-op, OH 1996:</u>										
C. Sil., Bunker	30.3	26.2	44.2	8.0	4.0	3.5	40.3	33.8	1.2	32.6
C. Sil., Bunker	30.8	22.1	40.2	8.8	4.0	3.4	43.6	38.4	1.3	37.1
C. Sil., Upright	32.8	25.4	43.2	12.7	5.2	2.8	36.1	32.1	2.9	29.2
C. Sil., Upright	32.6	25.8	45.3	7.6	4.0	3.1	40.0	31.8	1.6	30.2
C. Sil., Bunker	29.7	23.3	38.4	13.1	4.0	3.5	41.0	36.4	1.3	35.1
Corn Silage	34.0	22.0	37.4	7.7	3.6	3.4	48.0	40.2	1.6	38.6
Haylage	44.7	29.3	35.4	23.3	11.0	3.1	27.3	8.2	5.7	2.5
<u>Miner Institute, NY 1996:</u>										
Corn Silage	32.7	22.1	36.4	6.4	3.9	4.0	49.3	45.5	1.7	43.8
Corn Silage		26.3	41.8	7.0	3.9	3.6	43.7	35.8	1.3	34.5
Haylage	37.5	35.3	44.5	18.6	11.9	4.3	20.8	5.9	2.7	3.2
MML Silage		33.5	45.5	19.1	9.7	3.0	22.7	5.4	4.0	1.4
MMG Silage		31.6	38.1	18.1	11.7	4.5	27.7	7.8	3.4	4.4
<u>North Florida Holsteins, 1996:</u>										
C. Sil., Bunker	31.1	30.8	54.7	9.3	3.7	4.5	27.8	22.7	2.1	20.6
<u>Schiltz Feed & Farm Supplies, NY 1996:</u>										
Haylage	39.2	39.1	47.8	19.2	9.8	2.8	20.4	8.0	3.1	4.9
Corn Silage	24.9	27.9	46.3	7.1	3.4	2.9	40.3	31.2	1.3	29.9
<u>Akey, Inc., OH 1996:</u>										
Corn Silage	35.5	25.7	43.5	8.4	5.0	3.1	40.0	30.9	3.6	27.3
<u>New York Samples, 1996:</u>										
Corn Silages:										
Nutramatic Silo	26.2	38.8	67.1	9.4	3.3	2.0	18.2	15.5	2.7	12.8
Stave Silo	26.6	38.7	64.7	8.8	3.0	1.8	21.7	12.2	3.6	8.6
<u>WVU Sample, 1997:</u>										
1 st Ct Haylage (Fresh chop)	45.0	37.2	46.1	16.0	10.2	2.9	24.9	11.9	10.7	1.2
Corn Silage (Fresh chop)	22.3	27.4	50.0	7.8	5.0	3.0	34.5	36.0	15.0	21.0
<u>Ohio Co., WV 1997:</u>										
Alfalfa Haylage	39.2	30.4	39.1	24.7	10.8	2.9	22.5	8.4	4.9	3.5
Corn Silage	37.8	23.8	43.3	8.2	3.5	2.0	43.0	35.2	1.4	33.8
<u>Preston Co., WV 1997:</u>										
Soybean Silage	42.3	35.0	51.1	10.2	9.7	1.7	27.3	15.0	6.4	8.6
Corn Silage	27.8	26.1	47.7	7.4	3.0	3.5	38.4	30.6	2.2	28.4
Haylage (Ag Bag)	48.1	34.3	59.6	12.3	7.7	3.3	17.0	13.1	6.6	6.5

NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

Sample	DM	ADF	NDF	CP	ASH	EE	DIFF.	NFC		NSC (ENZYMATIC)	
								TOTAL	SUGAR	TOTAL	STARCH

-----(%DM Basis)-----

SILAGES (continued):

D. Roseler-Countrymark Co-op, OH 1997:

Corn Silage	32.0	22.9	38.9	11.0	3.3	3.5	43.3	36.2	2.4	33.9
Corn Silage	30.2	27.0	47.4	6.9	3.3	2.4	40.0	32.1	1.9	30.2
Corn Silage	30.7	35.6	63.9	9.0	4.5	1.4	21.2	20.7	8.4	12.4

Taff Dairy, AL 1997:

Corn Silage	35.2	26.3	48.7	6.7	3.0	2.5	39.0	30.3	3.7	26.6
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Finger Lakes Nutrition Services, Inc., NY 1997:

Haylage	26.0	38.8	51.4	18.9	10.6	5.4	13.8	7.4	3.3	4.1
Corn Silage	26.8	29.0	45.7	6.9	3.4	3.4	40.7	31.6	2.2	29.4

Hinders Nutrition Consulting, CA 1997:

Alfalfa Silage	36.1	26.5	30.1	28.0	9.2	3.3	29.4	14.4	11.5	2.9
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Milkin' Menus, PA 1997:

Corn Silage	33.5	25.0	47.7	9.3	3.5	2.6	37.0	31.1	2.8	28.3
Corn Silage	30.4	22.4	42.0	7.6	3.7	2.7	44.0	31.5	3.1	28.4
Corn Silage	33.5	22.9	43.8	7.3	3.3	2.5	43.1	29.8	3.3	26.5
Corn Silage	31.2	25.8	45.7	8.2	3.3	2.7	40.1	34.5	1.7	32.8
Corn Silage	31.5	21.3	41.4	8.8	3.0	2.5	44.3	36.9	2.8	34.1
Corn Silage	30.9	31.4	56.8	7.2	3.4	1.7	30.9	17.9	2.8	15.1
Corn Silage	33.5	20.2	39.8	6.7	2.8	3.3	47.3	39.9	2.8	37.1
Corn Silage	29.5	27.6	49.6	8.2	3.7	2.6	36.0	31.2	3.2	27.9
Corn Silage	27.4	25.7	49.5	8.1	3.3	3.4	35.8	32.1	2.3	29.8

HAY:

WVU 1993:

Alfalfa	89.0	29.0	40.0	20.0	9.2	3.0	27.8	22.0	4.2	17.8
Grass	89.4	42.7	63.9	10.3	6.8	1.8	17.2	8.7	4.8	3.9

Texas Samples 1993:

2nd Ct. Coastal	88.8	36.7	73.8	6.7	4.9	1.3	13.3	16.7	5.0	11.7
3rd Ct. Coastal	85.8	33.1	69.6	15.4	7.7	1.9	5.4	5.1	4.0	1.0

Comyn Va. Herd Management 1993:

Orchg:Clover Hay	78.2	33.8	61.7	17.3	6.2	3.1	11.7	16.0	4.7	11.3
Tim:Orch. Hay	82.0	37.3	66.8	11.2	5.7	2.0	14.3	18.0	4.8	13.2

Farmland Ind. Samples 1994:

Alfalfa Hay	35.5	44.0	19.0	9.8	2.2	25.0	14.5	4.4	10.1
Alfalfa Hay	25.0	31.8	21.5	12.3	2.1	32.3	11.4	3.8	7.6

Moundsville, WV Sample 1994:

Rnd.Bale 1st ct.	80.8	47.9	76.4	6.7	8.1	2.0	6.8	6.2		
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Rocky Mtn. Nutr. Consult., WI Samples 1995:

Mixed Hay	87.5	32.1	44.3	19.6	9.9	3.2	23.0	12.3	5.1	7.2
Alf. Hay Cubes	91.8	36.0	46.1	20.5	9.5	2.5	21.4	9.0	4.3	4.7

Mary Beth Hall, Florida 1996:

Alfalfa 5/19/94	26.4	32.7	24.3	9.7	2.4	30.9	13.8	11.1	2.7
Alfalfa 6/10/94	32.2	43.6	20.5	8.0	4.4	23.5	12.9	2.8	10.1
Alfalfa 6/17/94	42.8	50.3	15.0	7.3	1.5	26.0	10.7	1.4	9.3
Red Clover 5/19/94	18.7	26.8	30.2	9.5	3.3	30.3	12.6	5.3	7.3
Red Clover 5/29/94	21.5	28.5	21.8	8.9	5.5	35.2	17.6	8.0	9.6
Red Clover 6/10/94	24.0	33.0	17.6	8.2	3.5	37.7	18.4	9.2	9.2
Reed Canary 5/19/94	25.1	49.2	25.4	9.4	3.0	13.1	13.8	3.1	10.7
Reed Canary 5/25/94	30.9	57.9	17.6	8.8	3.7	12.0	12.4	2.7	9.7
Reed Canary 6/17/94	38.8	69.8	10.9	6.3	2.3	10.7	9.2	1.8	7.4
Timothy 5/19/94	25.0	45.7	13.3	7.0	2.5	31.5	22.1	6.2	15.9
Timothy 5/26/94	27.6	53.0	10.3	6.6	3.5	26.7	19.7	5.6	14.1
Timothy 7/27/94	36.9	65.0	5.1	4.0	2.9	23.1	14.0	2.7	11.1

NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

Sample	DM	ADF	NDF	CP	ASH	EE	NFC		NSC (ENZYMATIC)	
							DIFF.	TOTAL	SUGAR	STARCH

-----(%DM Basis)-----

HAY (continued):

WVU Sample, 1996:

2nd Ct. Hay 42.8 58.1 16.9 8.0 1.4 19.0 11.8 4.6 7.2

Biovance Tech., WI 1996:

Alfalfa Hay? 74.9 33.4 46.1 25.1 10.7 2.3 15.8 8.9 5.3 3.6
 Alfalfa Hay 90.7 29.0 38.0 17.9 9.9 2.5 31.7 10.3 5.7 4.6

Ohio Co., WV 1997:

1st Ct Grass Hay 92.9 40.9 63.9 12.8 7.2 2.9 13.3 6.1 6.1 0.0
 2nd Ct Grass Hay 92.4 38.0 54.2 11.3 7.8 2.0 24.7 11.5 8.4 3.1

Preston Co., WV 1997:

1st Ct Grass Hay 41.3 71.5 11.1 5.6 2.2 9.6 10.4 7.5 2.9
 1st Ct Grass Hay 37.2 70.1 9.1 4.4 2.1 14.4 14.7 11.7 3.0

Hardy Co., WV 1997:

Orch.Grass Mix 89.0 39.8 66.0 10.2 7.4 2.1 14.3 12.7 8.6 4.1
 Alfalfa Hay 88.5 33.7 45.8 17.0 8.6 2.4 26.2 12.5 5.0 7.5

WVU Sample, 1997:

1st Ct Grass Hay 87.3 37.5 60.9 8.6 7.5 2.0 21.0 14.6 9.6 5.0

PASTURES:

WVU Rotated:

Clover 4/11/93 11.0 18.8 24.5 8.3 4.3 44.6 26.0
 Clover 9/31/93 29.3 43.7 15.5 7.6 2.7 30.6 16.1
 Fescue 4/11/93 18.7 34.9 22.8 8.1 4.0 30.2 21.1
 Fescue 5/10/93 34.1 58.3 12.3 7.9 2.5 19.2 13.6

VPI, 1997: (Frozen Samples)

Spring Clover 21.9 20.2 27.4 22.4 8.9 2.8 38.6 16.1 11.6 4.5
 Fall Clover 27.9 23.9 31.0 20.4 9.9 2.4 36.3 17.6 13.1 4.5
 Spring Orch.Grs 26.5 20.8 41.6 22.6 8.5 4.1 23.3 27.6 20.0 7.6
 Fall Orch.Grass 23.6 24.6 46.4 23.5 9.8 4.1 16.2 17.2 12.6 4.6

GRAINS:

Barley, ground 87.1 7.7 22.0 11.8 3.0 1.4 61.8 56.1 2.6 53.5
 Corn, ground 89.1 3.3 13.4 9.9 1.5 3.8 71.4 73.3 1.1 72.2
 Oats 89.9 19.1 40.3 14.1 2.9 2.4 42.4 43.9 2.8 41.1
 Soybeans 88.7 10.8 20.8 35.3 5.8 18.4 19.7 20.8 1.1 19.7
 Speltz 88.3 14.3 26.5 10.0 3.0 1.6 58.9 60.1 1.5 58.6
 Wheat 87.8 3.3 12.1 10.9 1.8 1.4 73.8 65.8 2.0 63.8

Texas Samples 1993:

Stm. Flaked Milo 84.1 6.1 14.5 11.4 1.5 3.2 69.4 73.5 0.7 72.8

Renaissance Samples 1993:

HMEC 67.0 8.7 19.6 7.7 1.2 2.6 68.8 69.0 0.8 68.2
 HMEC 67.4 7.9 19.2 7.3 1.2 2.2 70.2 68.8 1.2 67.6
 HMEC 65.3 7.5 17.7 7.9 1.3 1.8 71.4 65.4 1.2 64.2
 HMEC Snapplage 59.7 8.0 17.5 7.8 1.7 1.9 71.0 64.9 1.3 63.6
 HMSC 64.3 3.3 11.1 8.6 1.4 3.0 75.9 73.8 1.6 72.2

Ditson Samples, MD & WV 1994:

HM Corn 75.8 2.1 11.7 9.5 1.6 3.6 73.7 75.6 0.9 74.7
 HM Barley 70.8 7.8 22.1 10.5 2.4 2.1 62.9 68.8 2.5 66.3

Comyn - Va. Herd Management 1994:

TMR 44.0 25.1 40.5 20.7 7.7 4.8 26.3 23.9 2.4 21.5
 TMR 42.6 25.0 42.1 14.4 6.5 2.6 34.4 29.9 2.9 27.0

Farmland Ind. Samples 1994:

Corn 3.8 13.3 9.3 1.6 3.7 72.1 74.7 1.1 73.6
 " 3.0 11.3 8.7 1.6 5.4 73.0 75.3 1.2 74.4
 " 2.5 11.3 8.1 1.3 4.1 75.2 74.9 1.2 73.7

NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

Sample	DM	ADF	NDF	CP	ASH	EE	NFC		NSC (ENZYMATIC)	
							DIFF.	TOTAL	SUGAR	STARCH

-----(%DM Basis)-----										
GRAINS (continued):										
High Oil Corn	4.0	14.4	10.5	2.5	13.2	59.4	60.1	2.0	58.1	
" " "	4.0	12.5	10.6	1.9	13.6	61.4	65.2	1.5	63.7	
" " "	3.3	13.5	10.0	2.5	13.8	60.2	61.7	1.8	59.9	
" " "	3.1	13.8	10.4	2.3	11.9	61.6	61.2	1.6	59.6	
<u>Moundsville, WV 1994:</u>										
Feed Ration	84.3	5.8	17.7	16.4	6.1	3.0	56.8	55.0	4.2	50.8
<u>Chalupa Samples 1995:</u>										
HM Corn	76.8	2.4	10.2	8.6	1.3	3.6	76.3	75.0	0.8	74.2
<u>Homestead Ag. Prod., WI 1995:</u>										
TMR	57.0	19.2	29.7	19.3	8.0	6.3	36.7	32.9	3.9	29.0
TMR	55.3	21.2	24.9	17.3	12.5	5.2	40.1	30.7	2.5	28.2
<u>Rocky Mtn. Nutr. Consult., WI Samples 1995:</u>										
HMSC	70.9	4.2	15.0	9.7	2.0	6.3	67.0	57.9	1.0	56.9
W. Cottonseed	90.5	37.5	47.2	19.9	3.9	19.0	10.0	9.3	2.2	7.1
Protein Mix	92.2	8.7	16.4	50.0	5.2	8.7	19.7	22.5	1.1	21.4
Dry Cow Springer (grain)	86.4	12.7	31.1	14.3	7.1	4.8	42.7	46.7	5.2	41.5
TMRS:										
Dry Cow Far Out	56.6	34.6	48.3	14.9	8.4	2.9	25.5	14.1	3.6	10.5
Dry Cow Springer	62.9	26.5	41.4	16.2	8.1	3.5	30.8	22.2	3.8	18.4
Post Fresh Pen 1	45.7	26.8	37.3	17.2	9.3	5.0	31.2	20.7	2.5	18.2
Post Fresh Pen 2	61.8	25.5	38.7	15.5	7.6	3.4	34.8	23.7	3.2	20.5
High Cow	51.2	22.2	34.4	18.9	9.1	6.6	31.0	21.2	2.5	18.7
Low Cow	56.1	24.1	37.8	17.5	9.2	5.3	30.2	21.4	2.5	18.9
<u>Anderson Dairy Management, PA Samples 1995:</u>										
Snap Ear Corn (w/husks stave)	60.9	11.9	25.1	8.2	2.1	3.1	61.5	63.0	1.1	61.9
Snap Ear Corn (w/husks)	55.8	12.6	28.4	7.9	3.3	3.2	57.2	57.6	0.7	56.9
<u>Farmland Ind., 1995</u>										
Popcorn	88.0	4.9	19.4	13.3	1.6	3.3	62.4	58.9	1.6	57.3
HMC	76.4	2.5	10.6	8.7	1.3	3.2	76.3	75.1	0.8	74.3
HMC	71.7	3.6	14.4	11.1	1.8	5.0	67.7	66.8	0.8	66.0
<u>Ditson, MD, 1995</u>										
Barley	87.0	8.2	25.6	11.9	3.0	2.0	57.5	61.1	2.6	58.5
<u>WVU Sample, 1995:</u>										
Ear Corn	80.1	8.8	22.9	8.5	1.5	3.8	63.4	62.2	2.0	60.2
<u>North Florida Holsteins, 1996:</u>										
Dry Cow TMR	43.9	26.6	42.7	15.0	12.1	4.4	25.8	21.5	2.2	19.3
High Cow TMR	50.0	22.3	38.4	17.3	9.3	5.7	29.4	27.9	3.8	24.1
<u>Skyview Lab, 1996:</u>										
HMC Combine		9.0	22.0	8.3	1.1	3.5	65.1	69.1	0.5	68.6
<u>Thousand Hills Dairy Herd Services, IA 1996:</u>										
Shell Corn	89.5	5.3	17.6	8.2	1.4	4.0	68.7	68.4	0.3	68.1
<u>SF Services, Inc., AR 1996:</u>										
ECSTRA	91.1	14.7	19.6	44.5	9.7	16.2	10.1	13.4	1.1	12.3
<u>D. Roseler-Countrymark Co-op, OH 1996:</u>										
High Grp TMR	41.4	23.3	33.7	19.9	9.9	5.6	30.8	21.7	3.4	18.3
HMSC	64.1	2.2	9.9	8.0	1.4	4.1	76.7	76.0	0.5	75.5
HMC	66.7	3.7	15.4	8.5	1.7	5.4	69.1	69.0	0.7	68.3
<u>Anderson Dairy Management, PA Samples 1996:</u>										
HM Snap Ear Corn	71.2	17.0	38.2	8.1	2.8	3.5	47.4	48.7	1.2	47.5
<u>Griffin Ind., KY 1996:</u>										
TMR	60.6	19.7	30.9	17.1	9.0	4.5	38.6	29.5	1.4	28.0

NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

Sample	DM	ADF	NDF	CP	ASH	EE	NFC		NSC (ENZYMATIC)	
							DIFF.	TOTAL	SUGAR	STARCH

-----(%DM Basis)-----

GRAINS (continued):

Miner Institute, NY 1996:

HMEC	72.7	5.3	14.4	8.8	1.6	3.3	72.0	69.0	0.9	68.1
HMEC		7.0	18.2	8.8	1.5	4.0	67.6	65.5	0.9	64.6
HMSC		2.8	12.6	9.0	1.5	4.6	72.3	71.8	0.5	71.3
Ground Corn		3.5	13.6	9.3	1.3	3.6	72.3	72.3	0.6	71.7

Keyes, FL 1996:

W. Cottonseed	89.7	39.3	49.4	18.4	3.0	18.5	10.0	3.5	1.5	2.0
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Farmland Ind., 1996:

Ground Corn	86.4	3.4	12.5	9.2	1.4	3.9	72.9	78.8	1.1	77.7
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DuPont, 1997:

High Oil Corn	89.9	3.9	18.7	9.5	2.1	8.1	61.7	62.2	2.2	60.0
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O.H. Kruse Grain & Milling, 1997:

Rolled Wheat	86.0	3.2	14.8	15.6	1.7	1.9	66.0	65.6	3.9	61.7
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Milkin' Menus, PA 1997:

MaxiCarb	88.0	8.7	20.2	12.9	6.5	6.8	53.7	52.8	12.5	40.3
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Preston Co., WV 1997:

HMCorn	59.6	2.0	8.7	9.2	1.5	2.8	77.9	79.0	1.2	77.8
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BYPRODUCTS:

Almond Hulls	78.9	21.2	26.0	7.1	6.3	3.8	56.8	48.3	3.0	45.3
Beet Pulp	90.4	26.7	48.1	9.8	4.6	1.3	36.1	12.8	1.2	11.6
Buckwheat Hulls		48.7	62.0	9.2	2.2	1.2	25.4	26.1	1.5	24.6
Wet Brewers	20.7	22.5	57.5	31.4	4.3	8.3	0.0	10.4	0.6	9.8
Dried Brewers		19.2	52.4	34.5	3.8	6.1	3.1	18.4	5.1	13.3
Canola	89.4	15.1	20.7	42.0	7.1	4.4	25.8	14.7	2.8	11.9
Corn Cobs	91.9	37.0	79.9	4.7	2.2	1.3	11.9	12.1	2.4	9.7
Corn Distillers	85.5	22.6	41.1	30.0	5.9	12.7	10.3	12.3	3.4	8.9
Corn Gluten Fd.	88.5	12.7	49.2	18.5	4.5	3.1	24.7	18.5	4.1	14.4
Corn Gluten Ml.	90.8	8.9	7.0	72.3	2.2	1.3	17.3	12.0	1.2	10.8
Hominy	87.4	5.6	23.3	10.8	2.2	3.9	59.9	53.5		
Hominy	86.7	7.5	26.4	12.0	3.6	10.3	47.8	45.6	3.5	42.1
Peanut Meal		6.0	18.2	51.3	5.0	7.3	18.2	26.9	1.8	25.1
Soyhulls	89.8	48.9	66.6	13.7	4.8	0.8	14.1	5.3	1.6	3.7
SBM 44%	89.4	6.4	9.6	48.2	7.3	0.5	34.4	17.2	10.7	6.5
SBM 48%	90.7	6.6	9.5	52.6	7.2	1.4	29.3	16.5	10.4	6.1
Wheat Bran	88.3	10.8	42.1	16.3	5.7	3.0	32.9	44.8	2.4	42.4
Wheat Midds	88.4	12.4	42.3	19.0	5.3	2.2	31.2	31.5	3.7	27.8
Wheat Straw	92.2	55.9	83.7	3.5	3.0	1.3	8.6	5.1	1.4	3.7

Ohio Co., WV Samples 1993:

Bakery Waste	70.0	0.7	4.3	13.4	3.0	5.2	74.2	78.8	5.1	73.7
Salad Waste	8.9	21.9	29.5	17.8	11.6	2.6	38.7	28.6	4.9	23.7

Green Giant Samples 1993:

Broccoli Fines	8.7	14.0	16.1	36.7	6.9	6.1	34.1	20.1	5.3	14.9
Corn Fines	4.4	17.5	19.3	24.4	6.0	7.4	42.9	32.6	8.3	24.3
Garlic Rework	9.8	13.2	15.4	33.1	6.5	5.6	39.3	23.2	5.2	18.0
Garlic Pasta	61.5	2.1	0.4	5.0	5.8	76.5	12.3	7.5	3.6	3.9

Nutrena 1995:

Bakery Waste	91.2	2.3	5.1	10.6	3.7	11.4	69.2	60.8	4.7	56.1
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Miracle/McNess Co., 1995:

Kellogs Waste (cereal)	92.7	3.3	16.3	10.1	3.8	2.5	67.3	66.2	4.5	61.7
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Kalmbach Feeds, Ohio 1995:

Cookie Meal	91.0	4.6	13.5	13.1	3.9	10.1	59.4	59.1	4.6	54.5
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NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

Sample	DM	ADF	NDF	CP	ASH	EE	DIFF.	NFC	NSC (ENZYMATIC)	
								TOTAL	SUGAR	STARCH
-----(%DM Basis)-----										

BYPRODUCTS (continued):

<u>Rocky Mtn. Nutr. Consult., WI Samples 1995:</u>											
Beet Pulp Pell.	88.2	30.0	46.4	8.4	8.0	1.0	36.2	26.1	1.6	24.5	
Wet Brew (Pabst)	28.4	22.5	56.8	28.5	4.7	8.2	1.8	9.7	1.0	8.7	
<u>Farmland Ind. Samples 1995:</u>											
Milo DDG	86.0	24.4	42.9	34.9	4.7	10.1	7.4	15.1	1.9	13.2	
Corn DDG	89.0	18.6	42.9	32.0	4.4	12.3	8.4	11.8	1.6	10.2	
Onion Byproduct	90.9	20.6	25.1	8.6	7.3	1.5	57.5	33.6	4.1	29.5	
Corn DDGS	87.2	17.1	49.1	30.2	3.8	9.2	7.7	17.5	1.1	16.4	
<u>Homestead Ag. Prod., WI 1995:</u>											
Wet Brew (Kratz)	23.7	26.2	60.8	26.6	4.6	7.4	0.6	16.7	0.9	15.8	
<u>Michigan State Univ., 1995:</u>											
AR Soy	88.8	12.4	43.2	35.8	4.0	0.4	16.6	27.0	0.3	26.7	
<u>W.B. Fleming, Co., KY 1995:</u>											
Wet Gluten Feed	52.1	10.7	37.6	23.8	6.2	2.1	30.3	28.8	4.4	24.4	
Hominy (?)	87.5	3.5	12.2	9.5	1.7	4.6	72.0	70.3	1.7	68.6	
Lacto-Whey	59.6		83.3			8.3		1.06	1.03	0.03	
<u>Griffin Ind., KY 1996:</u>											
Bakery Byproduct-Plant Sample Dates:											
12/11/95	92.4	8.7	12.1	12.0	5.1	12.0	58.8	56.6	5.5	51.1	
12/12/95	91.8	4.4	9.0	13.7	4.1	10.2	63.0	63.7	6.4	57.3	
1/5/96	93.2	9.6	13.9	11.9	5.1	13.1	56.0	56.4	8.7	47.7	
1/8/96	91.7	9.9	13.8	12.5	5.2	10.0	58.5	56.5	7.3	49.2	
1/9/96	91.4	11.3	15.4	11.8	5.9	11.1	56.1	55.3	9.1	46.2	
1/10/96	92.2	9.4	13.4	11.9	5.2	10.0	59.5	59.2	8.6	50.6	
1/11/96	91.6	9.6	13.8	12.1	5.5	11.1	57.5	55.1	8.6	46.5	
1/12/96	91.7	10.0	13.9	11.9	5.7	11.5	57.0	55.1	8.6	46.5	
1/15/96	91.2	9.1	13.1	11.3	5.8	11.2	58.6	58.4	8.5	49.9	
1/16/96	89.9	9.0	12.7	11.2	5.5	8.9	61.7	60.1	9.2	50.9	
1/17/96	90.9	7.9	11.3	12.2	5.3	8.9	62.3	63.5	8.5	55.0	
1/18/96	93.4	7.1	10.7	11.2	5.6	13.4	59.1	59.3	8.0	51.3	
Dry Cane Molass.	97.6	20.7	26.5	7.4	11.7	1.2	53.2	36.0	9.8	26.2	
Cookie Meal	89.4	3.8	9.6	8.6	3.9	6.5	71.5	68.8	9.8	59.0	
Cookie Meal-Plant Sample Dates:											
9/2/96	90.5	7.2	16.3	18.3	5.4	8.9	51.1	50.8	5.9	44.9	
9/3/96	90.3	6.0	14.2	17.7	5.7	7.9	54.5	52.1	5.8	46.3	
9/4/96	90.1	8.2	16.9	18.7	6.1	10.2	48.1	50.4	5.6	44.7	
9/5/96	90.6	6.8	15.6	17.6	5.4	9.9	51.6	52.1	6.9	45.1	
9/6/96	90.0	5.6	13.7	18.6	5.5	6.5	55.7	52.8	7.4	45.4	
<u>Biovance Tech., WI 1996:</u>											
Wet Brewers	21.9	24.8	64.8	29.3	3.9	6.6	0.0	12.6	1.1	11.6	
<u>North Florida Holsteins, 1996:</u>											
Crown Wt Brewers	20.1	24.0	62.4	25.8	5.0	6.4	1.5	14.1	1.2	12.9	
White Hominy Fd.	88.2	5.7	24.0	10.8	2.6	8.4	54.2	55.5	1.6	53.9	
Yellow Hominy Fd.	87.9	4.6	18.5	10.4	2.4	4.8	64.0	65.5	1.0	64.5	
<u>Keyes, FL 1996:</u>											
Citrus Pulp	90.0	22.5	20.5	5.9	6.7	2.6	64.4	33.0	10.5	22.5	
Cottonseed Hulls	89.8	48.5	62.9	5.7	3.0	3.5	9.4	2.5	1.0	1.5	
<u>Farmland Ind., 1996:</u>											
Corn Distillers Syrup:											
11/95	33.3	2.5	6.1	20.1	11.1	8.5	54.2	10.2	4.2	6.0	
3/96	30.8	1.4	7.2	17.0	10.5	9.3	56.0	15.4	10.0	5.4	
Degermed Flaked											
Corn	88.2	3.0	8.1	7.9	0.5	1.3	82.3	87.1	0.3	86.8	

NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

Sample	DM	ADF	NDF	CP	ASH	EE	DIFF.	NFC	NSC (ENZYMATIC)		
								TOTAL	SUGAR	STARCH	
-----(%DM Basis)-----											

BYPRODUCTS (continued):

Griffin Ind., KY 1997:

Bakery Feeds, Inc.-Honeybrook, Pa, Plant Sample Dates:

3/20/97	89.6	7.2	20.0	13.6	3.6	8.6	54.2	55.3	10.6	44.7
3/21/97	87.6	8.9	24.3	14.9	4.9	7.1	48.8	53.0	9.6	43.4
3/24/97	92.6	2.4	4.5	10.4	3.1	16.2	65.7	63.2	10.7	52.5

Cookie Meal:

9/23/97	90.3	7.2	10.7	12.0	4.7	8.0	64.7	63.4	14.5	48.8
9/24/97	93.1	8.5	11.8	11.2	4.5	8.4	64.2	60.7	16.6	44.2
9/25/97	92.6	9.1	13.1	11.2	4.1	9.9	61.7	60.5	14.9	45.6
9/26/97	87.5	6.5	9.7	11.4	4.2	9.2	65.5	62.7	16.3	46.4

Citrus Pulp:

Pellets	86.0	16.1	22.1	7.0	6.6	2.0	62.3	37.7	29.9	7.8
" +Molasses	86.3	15.8	20.6	5.8	8.3	1.9	63.5	41.3	36.0	5.3

Farmland Ind., 1997:

Milo DDGS:

970217	89.5	21.8	32.7	28.3	4.6	8.6	25.8	15.4	5.1	10.3
970218	89.0	19.3	33.1	28.5	4.7	9.2	24.5	14.1	5.0	9.1
970219	89.1	20.3	33.0	28.2	4.7	8.9	25.2	14.6	5.3	9.3
970220	89.1	23.7	30.8	27.9	4.9	9.4	27.0	14.2	5.1	9.1

Corn DDGS:

970221	90.9	20.3	39.0	24.7	4.2	10.5	21.7	11.8	3.2	8.6
970222	91.1	19.3	40.2	24.8	4.1	9.8	21.1	12.0	3.2	8.8
970223	91.2	20.0	40.2	25.6	4.0	9.6	20.6	11.5	3.2	8.3
970224	91.1	20.9	40.7	25.6	4.2	9.5	20.0	11.9	3.2	8.7

Hinders Nutrition Consulting, CA 1997:

Corn Germ Meal	15.8	48.1	23.4	1.9	0.8	25.8	33.3	2.1	31.1
Brewers Barley Malt	17.4	41.9	31.4	4.4	0.4	21.9	18.4	5.1	13.3
Corn Gluten Feed	12.0	43.1	23.0	7.5	1.3	25.1	22.8	4.2	18.6
Beet Pulp Pellets	27.4	44.7	10.9	8.9	0.8	34.7	20.8	1.1	19.7
Molasses Beet Pulp	21.8	42.0	8.7	7.1	0.4	41.9	29.4	7.8	21.7
Light Grey Beet Pulp	23.9	48.3	10.9	9.0	0.3	31.6	14.5	1.4	13.1

Almond Hulls:

812858	22.8	32.0	7.4	6.1	5.0	49.5	35.5	30.6	4.9
813446	28.8	41.9	5.6	7.7	2.4	42.5	33.9	30.9	3.0
813447	24.8	38.8	5.7	8.0	3.3	44.3	34.3	31.7	2.6
813448	24.7	36.1	5.6	6.0	2.9	49.5	34.8	32.8	2.0
817748	19.1	30.3	5.7	6.7	2.9	54.4	42.9	41.5	1.4
817749	26.7	40.4	5.8	7.1	3.3	43.4	30.9	28.5	2.4
823402	25.7	38.6	5.4	6.9	3.0	46.1	40.2	33.6	6.6
823403	32.5	49.5	4.3	7.7	3.2	35.3	28.2	21.8	6.4

Beet Pulp:

816031	20.3	43.5	15.3	13.2	0.6	27.4	18.0	13.2	4.8
817758	18.3	40.0	15.1	12.6	0.7	31.6	17.9	13.7	4.2
817759	17.1	35.7	13.7	12.9	0.5	37.2	28.7	23.2	5.5
817760	18.0	39.2	14.6	12.6	0.6	33.0	18.7	12.9	5.8
817761	20.2	43.5	14.4	12.8	1.0	28.3	15.5	10.0	5.5
817762	21.0	43.8	14.2	13.5	1.0	27.5	15.0	11.2	3.8
818183	26.6	53.3	14.7	12.8	1.0	18.3	7.2	1.4	5.8
818184	20.1	47.6	16.0	13.2	0.7	22.5	7.2	5.3	1.9
818185	26.6	55.8	15.0	11.1	0.7	17.3	6.6	0.9	5.7
819267	18.7	44.6	15.4	13.0	0.6	26.4	12.1	11.3	0.8
819436	24.9	54.5	13.1	9.1	0.6	22.7	6.6	0.6	6.0

NUTRIENT ANALYSES OF FEEDSTUFFS (continued)

Sample	DM	ADF	NDF	CP	ASH	EE	DIFF.	NSC (ENZYMATIC)		STARCH
								NFC	TOTAL SUGAR	
-----(%DM Basis)-----										

BYPRODUCTS (continued):

819437	20.2	47.7	13.7	14.0	0.5	24.2	11.3	10.5	0.8	
Canola Meal:										
823400	17.7	27.9	39.6	8.0	4.6	20.0	19.1	9.6	9.5	
823401	17.5	29.3	41.2	8.0	4.0	17.4	20.6	9.7	10.9	
Hominy	5.3	22.4	11.7	2.9	7.1	55.9	54.6	5.5	49.1	
Wheat Midds	12.2	41.0	18.0	5.6	4.3	31.2	41.1	8.6	32.5	
<u>Biovance Tech., WI 1997:</u>										
Dog Food Commodity:										
Pellets	88.9	4.4	14.8	30.7	5.8	15.3	33.4	34.7	2.0	33.4
Ground	89.8	4.3	18.0	35.3	9.2	8.1	29.5	31.7	2.4	30.9
Fermenten	88.1	7.5	24.4	54.6	3.1	4.5	13.4	24.8	3.0	21.8
<u>Touchstone Laboratory, WV 1997:</u>										
Salad Byproduct:										
9/3/97	4.3	33.7	40.9	13.5	7.9	2.7	34.9	15.0	10.2	4.8
10/9/97	4.7	30.0	35.4	13.5	7.5	2.2	41.4	20.6	14.3	6.3
<u>Milkin' Menus, PA 1997:</u>										
Chocolate Byproduct:										
9/12/97	91.9	7.2	14.6	12.6	3.0	21.2	48.7	42.0	29.6	12.4
11/18/97	90.8	6.6	12.0	11.9	1.8	23.3	51.0	46.2	34.1	12.1
<u>L.A. Hearne, Co., CA 1997:</u>										
Apple Pulp	25.4	31.1	43.3	3.9	3.4	4.2	45.2	38.2	20.8	17.4
Blackeye beans	88.6	4.7	18.8	23.6	4.6	1.1	51.9	46.0	8.6	37.5
Dry lima beans	88.3	6.8	20.1	27.0	5.2	0.7	47.1	31.3	8.2	23.1
Corn nuts	86.4	2.2	15.4	9.8	2.0	3.3	69.6	67.9	3.6	64.3
Carrot Pellets	82.5	16.6	21.3	7.5	7.2	1.6	62.6	47.8	28.7	19.1
<u>Miner Institute, NY 1998:</u>										
Linseed Meal	89.9	14.3	26.8	37.9	6.5	3.9	25.0	15.1	5.2	9.9