



AGRI→NUTRITION SERVICES, INC.

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May 30, 2013

Don Burns
Absolute Energy
204 State Line Street
Lyle, MN 55953

RE: Example Diets Using Modified DDGS

Dear Don:

Follow-up to your email in which you requested various suggested rations using the modified DDGS.

First let's review what DDGS brings to the ration, primarily energy, protein and phosphorus.

1) FEEDLOT CATTLE:

- DDGS is being used up to approximately 40% of the dry matter as an energy source in feedlot rations. At these levels there is excessive protein and phosphorus in the ration which results in some ending up in the manure. Each cattle feeder needs to evaluate their manure management plan.
- Attached are example basic rations for approximately a 1000 lb animal expressed on a per head per day basis.
 - 1) Corn + DDGS
 - 2) Corn + Corn Silage + DDGS
 - 3) Corn + Alfalfa Haylage + DDGS

2) BEEF BROOD COWS:

- Attached are example basic rations for approximately 1000 lb cow expressed on a per head per day basis.
 - 4) Corn Stalks + DDGS
 - 5) Grass Hay + DDGS

3) DAIRY DRY COWS:

- There are many more variables to contend with in dairy, mineral ratios and DCAD.
- A basic example ration (6) for approximately 1200 lb dry dairy cow expressed on a per head per day basis.

Don, hopefully these basic example diets provide rough guidelines as to how DDGS – dry or modified fit into ruminant rations. To improve the accuracy of these rations would require additional nutrient information on the other ingredients in the ration and fine-tuning the mineral requirements.

Note, in all these rations there is more than adequate amounts of protein and phosphorus. Don't worry about all the other nutrients and values because they may not be correct.

After review, if you have any questions, don't hesitate to call.

Sincerely yours,



John Goehl
Nutritionist

Enc

cc: Steve Markam

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Agri-Nutrition Services, Inc.
 Solution Report
 Plant : MKT - MARKET
 Pricing Plant : MKT - MARKET

*Feed 20T
 (1000*)
 CORN*

Formula Code	Description	Species Code
40LB	JOHN O <i>Dry Matter</i>	6
<u>As-Fed</u>	Amount	Code Name
13.22	11.50	61 CORN .25/12
15.64	8.00	65 CRN DIST GRNS/SOL-7% -Mod.
0.30	0.30	146 LIMESTONE 38.5
0.10	0.10	125 FIXED ING #1
0.10	0.10	251 SALT

Code	Nutrient Name	Actual	Units	Min.	Max.
1	WEIGHT	1.000	LBS	1.00	1.00
8	RUMINANT TDN	86.950	PCT		
11	RUMINANT NE/M	0.955	MCAL/LB	0.90	
12	RUMINANT NE/G	0.635	MCAL/LB	0.61	
13	DAIRY NE/L	0.396	MCAL/LB		
14	SOLUBLE-CHO	6.400	PCT		
16	PROTEIN SOLUBILITY	6.000	%		
17	CRUDE PROTEIN	<u>17.543</u>	PCT	13.00	
20	BYPASS PROTEIN	24.000	%of CP		
21	DEGRADABLE PROTEIN	4.832	PCT		
22	UNDEGRAD. PROTEIN	7.248	PCT		
23	21/17	0.275	DIP		
24	22/17	0.413	UIP		
49	CRUDE FAT	2.800	PCT		
51	CRUDE FIBER	3.520	PCT		
52	A.D. FIBER	6.480	PCT		
53	N.D. FIBER	16.840	PCT		
59	DRY MATTER	72.985	PCT		
60	MOISTURE	27.015	PCT		
62	ASH	4.252	PCT		
63	CALCIUM	0.618	PCT	0.61	0.61
66	PHOS-TOTAL	<u>0.511</u>	PCT	0.20	
67	SALT	0.500	PCT	0.50	0.50
70	POTASSIUM	0.376	PCT		
71	MAGNESIUM	0.132	PCT		
72	SULFUR	0.188	PCT		

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Agri-Nutrition Services, Inc.
Solution Report
Plant : MKT - MARKET
Pricing Plant : MKT - MARKET

Feed - 201
(1000#)
CORN / CORN Silage Page : 1

Formula Code	Description	Species Code	Code	Name	Cost	Min.	Max.
40LB	JOHN O	6					
As-Fed	Amount		Code	Name			
10.45	9.09		61	CORN .25/12	12.00		
15.64	8.00		65	CRN DIST GRNS/SOL-7% -Mod.	8.97	8.00	8.00
6.94	2.43		81	CORN SILAGE	5.00		
0.28	0.28		146	LIMESTONE 38.5	3.00		
0.10	0.10		125	FIXED ING #1	1.00	0.10	0.10
0.10	0.10		251	SALT	5.00		
					194.4		

33.51

20.00

Code	Nutrient Name	Actual	Units	Min.	Max.
1	WEIGHT	1.000	LBS	1.00	1.00
8	RUMINANT TDN	84.732	PCT		
11	RUMINANT NE/M	0.919	MCAL/LB	0.90	
12	RUMINANT NE/G	0.610	MCAL/LB	0.61	
13	DAIRY NE/L	0.483	MCAL/LB		
14	SOLUBLE-CHO	11.382	PCT		
16	PROTEIN SOLUBILITY	6.000	%		
17	CRUDE PROTEIN	17.370	PCT	13.00	
20	BYPASS PROTEIN	27.767	%of CP		
21	DEGRADABLE PROTEIN	5.503	PCT		
22	UNDEGRAD. PROTEIN	7.549	PCT		
23	21/17	0.317	DIP		
24	22/17	0.435	UIP		
25	STARCH	3.548	PCT		
49	CRUDE FAT	3.165	PCT		
51	CRUDE FIBER	6.436	PCT		
52	A.D. FIBER	9.396	PCT		
53	N.D. FIBER	22.308	PCT		
59	DRY MATTER	66.654	PCT		
60	MOISTURE	33.346	PCT		
62	ASH	4.764	PCT		
63	CALCIUM	0.601	PCT	0.61	0.61
66	PHOS-TOTAL	0.505	PCT	0.20	
67	SALT	0.500	PCT	0.50	0.50
70	POTASSIUM	0.519	PCT		
71	MAGNESIUM	0.158	PCT		
72	SULFUR	0.205	PCT		

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Agri-Nutrition Services, Inc.
Solution Report
Plant : MKT - MARKET
Pricing Plant : MKT - MARKET

*Feed-dot
(1000)
dry off a May large
+ CORN*

Formula Code	Description	Species Code				
40LB	JOHN O	6				
As-Fed	Amount	Code	Name	Cost	Min.	Max.
12.06	10.49	61	CORN .25/12	12.00		
15.64	8.00	65	CRN DIST GRNS/SOL-7% -Mod.	8.97	8.00	8.00
2.10	1.05	10	ALFALFA HAYL 2	4.00		
0.26	0.26	146	LIMESTONE 38.5	3.00		
0.10	0.10	125	FIXED ING #1	1.00	0.10	0.10
0.10	0.10	251	SALT	5.00		

Code	Nutrient Name	Actual	Units	Min.	Max.
1	WEIGHT	1.000	LBS	1.00	1.00
8	RUMINANT TDN	84.999	PCT		
11	RUMINANT NE/M	0.926	MCAL/LB	0.90	
12	RUMINANT NE/G	0.610	MCAL/LB	0.61	
13	DAIRY NE/L	0.423	MCAL/LB		
14	SOLUBLE-CHO	7.461	PCT		
16	PROTEIN SOLUBILITY	6.000	%		
17	CRUDE PROTEIN	18.008	PCT	13.00	
20	BYPASS PROTEIN	25.155	%of CP		
21	DEGRADABLE PROTEIN	5.569	PCT		
22	UNDEGRAD. PROTEIN	7.456	PCT		
23	21/17	0.309	DIP		
24	22/17	0.414	UIP		
49	CRUDE FAT	2.958	PCT		
51	CRUDE FIBER	5.095	PCT		
52	A.D. FIBER	8.475	PCT		
53	N.D. FIBER	19.570	PCT		
54	LIGNIN	1.733	PCT		
59	DRY MATTER	71.017	PCT		
60	MOISTURE	26.359	PCT		
62	ASH	4.480	PCT		
63	CALCIUM	0.603	PCT	0.61	0.61
66	PHOS-TOTAL	0.511	PCT	0.20	
67	SALT	0.500	PCT	0.50	0.50
70	POTASSIUM	0.492	PCT		
71	MAGNESIUM	0.146	PCT		
72	SULFUR	0.204	PCT		

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Breed Cow
(Corn Stalks)

Formula Code	Description	Species Code				
40LB	JOHN O	6				
As-Fed	Amount	Code	Name	Cost	Min.	Max.
16.87	14.68	6665	CORN STALKS	5.00		
9.78	5.00	65	CRN DIST GRNS/SOL-7% -Mod.	8.97	5.00	5.00
0.12	0.12	146	LIMESTONE 38.5	3.00		
0.10	0.10	125	FIXED ING #1	1.00	0.10	0.10
0.10	0.10	251	SALT	5.00		

Code	Nutrient Name	Actual	Units	Min.	Max.
1	WEIGHT	1.000	LBS	1.00	1.00
8	RUMINANT TDN	61.203	PCT		
11	RUMINANT NE/M	0.590	MCAL/LB	0.50	
12	RUMINANT NE/G	0.329	MCAL/LB		
13	DAIRY NE/L	0.248	MCAL/LB		
14	SOLUBLE-CHO	4.000	PCT		
16	PROTEIN SOLUBILITY	3.750	%		
17	CRUDE PROTEIN	10.831	PCT	10.00	
20	BYPASS PROTEIN	62.710	%of CP		
21	DEGRADABLE PROTEIN	4.165	PCT		
22	UNDEGRAD. PROTEIN	6.666	PCT		
23	21/17	0.385	DIP		
24	22/17	0.615	UIP		
49	CRUDE FAT	3.291	PCT		
51	CRUDE FIBER	25.174	PCT		
52	A.D. FIBER	4.050	PCT		
53	N.D. FIBER	10.525	PCT		
59	DRY MATTER	78.246	PCT		
60	MOISTURE	12.213	PCT		
62	ASH	2.520	PCT		
63	CALCIUM	0.457	PCT	0.45	0.45
66	PHOS-TOTAL	0.311	PCT	0.25	
67	SALT	0.500	PCT	0.50	0.50
70	POTASSIUM	0.910	PCT		
71	MAGNESIUM	0.237	PCT		
72	SULFUR	0.206	PCT		

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Agri-Nutrition Services, Inc.
Solution Report
Plant : MKT - MARKET
Pricing Plant : MKT - MARKET

Breed Cow
(Med Grass Hay)

Formula Code	Description	Species Code				
40LB	JOHN O	6				
As-Fed	Amount	Code	Name	Cost	Min.	Max.
16.29	14.66	5426	GRASS,HAY,MED	1.00		
9.78	5.00	65	CRN DIST GRNS/SOL-7% -Mod.	8.97	5.00	5.00
0.14	0.14	146	LIMESTONE 38.5	3.00		
0.10	0.10	125	FIXED ING #1	1.00	0.10	0.10
0.10	0.10	251	SALT	5.00		

Code	Nutrient Name	Actual	Units	Cost	Min.	Max.
				60.53		
1	WEIGHT	1.000	LBS		1.00	1.00
8	RUMINANT TDN	64.514	PCT			
11	RUMINANT NE/M	0.655	MCAL/LB	0.50		
12	RUMINANT NE/G	0.343	MCAL/LB			
13	DAIRY NE/L	0.665	MCAL/LB			
14	SOLUBLE-CHO	12.063	PCT			
16	PROTEIN SOLUBILITY	3.750	%			
17	CRUDE PROTEIN	15.613	PCT	10.00		
20	BYPASS PROTEIN	44.320	%of CP			
21	DEGRADABLE PROTEIN	7.858	PCT			
22	UNDEGRAD. PROTEIN	7.755	PCT			
23	21/17	0.503	DIP			
24	22/17	0.497	UIP			
49	CRUDE FAT	3.583	PCT			
51	CRUDE FIBER	2.200	PCT			
52	A.D. FIBER	35.569	PCT			
53	N.D. FIBER	60.369	PCT			
59	DRY MATTER	80.458	PCT			
60	MOISTURE	19.543	PCT			
62	ASH	8.773	PCT			
63	CALCIUM	0.509	PCT		0.50	0.50
66	PHOS-TOTAL	0.376	PCT		0.25	
67	SALT	0.500	PCT		0.50	0.50
70	POTASSIUM	1.921	PCT			
71	MAGNESIUM	0.148	PCT			
72	SULFUR	0.264	PCT			

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Agri-Nutrition Services, Inc.
Solution Report
Plant : MKT - MARKET
Pricing Plant : MKT - MARKET

*Dry Loss -
Early
(Gran Way)*

Formula Code	Description	Species Code				
40LB	JOHN O	6				
As-Fed	Amount	Code	Name	Cost	Min.	Max.
23.93	21.54	5426	GRASS,HAY,MED	1.00		
11.73	6.00	65	CRN DIST GRNS/SOL-7% -Mod.	8.97	6.00	6.00
0.22	0.22	146	LIMESTONE 38.5	3.00		
0.14	0.14	251	SALT	5.00		
0.10	0.10	125	FIXED ING #1	1.00	0.10	0.10

Code	Nutrient Name	Actual	Units	Min.	Max.
				54.87	
1	WEIGHT	1.000	LBS	1.00	1.00
8	RUMINANT TDN	63.476	PCT	60.00	
11	RUMINANT NE/M	0.643	MCAL/LB		
12	RUMINANT NE/G	0.331	MCAL/LB		
13	DAIRY NE/L	0.651	MCAL/LB	0.63	
14	SOLUBLE-CHO	11.891	PCT		
16	PROTEIN SOLUBILITY	3.214	%		
17	CRUDE PROTEIN	14.934	PCT	13.00	
20	BYPASS PROTEIN	43.629	%of CP		
21	DEGRADABLE PROTEIN	7.666	PCT		
22	UNDEGRAD. PROTEIN	7.268	PCT		
23	21/17	0.513	DIP		
24	22/17	0.487	UIP		
49	CRUDE FAT	3.423	PCT		
51	CRUDE FIBER	1.886	PCT		
52	A.D. FIBER	36.551	PCT		
53	N.D. FIBER	61.333	PCT		
59	DRY MATTER	81.839	PCT		
60	MOISTURE	18.161	PCT		
62	ASH	8.953	PCT		
63	CALCIUM	0.551	PCT	0.55	0.55
66	PHOS-TOTAL	0.352	PCT	0.30	
67	SALT	0.500	PCT	0.50	0.50
70	POTASSIUM	1.971	PCT		
71	MAGNESIUM	0.140	PCT		
72	SULFUR	0.255	PCT		