

**Golden Grain Energy LLC
New Hampton, Iowa**

IOWA TESTING LAB REPORT NO: 05-001401
DATE: 2/22/05
REC'D DATE: unknown
METHOD: AOAC; ICP; MOD/AOAC

PROXIMATE ANALYSIS, CALCULATED DE, ME AND NE VALUES FOR SWINE, AND MINERAL AND AMINO ACID CONTENT OF DDGS.¹

Proximate Analysis:

Dry Matter (%)	Crude Protein (%)	Crude Fat (%)	AH Fat (%)	Crude Fiber (%)	Ash (%)	Nitrogen Free Extract (%)	Carbohydrates (%)	Acid Detergent Fiber (%)	Total Digestible Nutrients (%)	Digestible Energy ² (kcal/kg)	Metabolizable Energy ² (kcal/kg)	Net Energy ³ (kcal/kg)
87.70	29.98	12.70	ND ⁴	7.53	5.55	44.24	51.77	ND ⁴	86.92	4164	3914	ND ⁴

Mineral Analysis:

Calcium (%)	Phosphorus (%)	Potassium (%)	Magnesium (%)	Sulfur (%)	Sodium (%)	Chloride (%)	Zinc (ppm)	Manganese (ppm)	Copper (ppm)	Iron (ppm)
0.08	0.80	1.04	0.35	0.56	0.35	ND ⁴	45	14	5	91

Amino Acid Analysis:

Arginine (%)	Histidine (%)	Isoleucine (%)	Leucine (%)	Lysine (%)	Methionine (%)	Cystine (%)	Phenylalanine (%)	Threonine (%)	Tryptophan (%)	Valine (%)
1.40	0.87	1.22	3.64	1.11	0.60	0.63	1.53	1.14	0.30	1.61

¹ Nutrient values expressed on 100% dry matter basis.

² DE (for swine) = 4,151 – (122 x % Ash) + (23 x %CP) + (38 x %Fat) – (64 x %Crude Fiber); ME (for swine) = DE x [1.003 - (0.0021 x %CP)], Noblet and Perez (1993).

³ NE (for swine) = 328 + (0.599 x ME) – (15 x %Ash) – (30 x %ADF), Ewan (1989).

⁴ ND = not determined.

APPARENT AND STANDARDIZED TRUE ILEAL DIGESTIBILITY OF CRUDE PROTEIN AND AMINO ACIDS OF DDGS FOR SWINE (100% DRY MATTER BASIS).

	DM	CP	Agr	His	Ile	Leu	Lys	Met	Phe	Thr	Trp	Val	Ala	Asp	Cys	Glu	Gly	Pro	Ser
TOTAL, %	89.4	29.82	1.32	0.80	1.09	3.36	0.94	0.56	1.41	1.10	0.24	1.44	2.14	1.93	0.53	5.01	1.17	2.39	1.39
AID¹, %		59.24	69.06	72.35	67.68	81.33	52.11	77.39	74.84	56.78	48.66	67.19	71.31	56.24	67.14	78.97	25.66	7.24	66.25
A DIG², %		17.66	0.91	0.58	0.74	2.74	0.49	0.43	1.05	0.63	0.12	0.97	1.52	1.09	0.36	3.96	0.30	0.17	0.92
SID³, %		68.59	77.45	75.48	71.07	83.11	55.88	79.04	78.69	63.59	56.65	70.92	75.47	61.74	71.09	81.44	52.90	55.15	72.25
S DIG⁴, %		20.45	1.02	0.60	0.78	2.80	0.53	0.44	1.11	0.70	0.14	1.02	1.61	1.19	0.38	4.08	0.62	1.32	1.00

	NDF, %	ADF, %	ADICP ⁵ , %	Mean particle size, µm	Soluble CP, %	Ash, %	Bulk density, lbs/ft3	pH
OTHER	25.63	14.52	6.29	873.84	28.80	4.24	28.00	4.30

¹ AID = Apparent Ileal Digestibility

² A DIG = Apparent Ileal Digestible CP & Amino Acids

³ SID = Standardized True Ileal Digestibility

⁴ S DIG = Standardized True Ileal Digestible CP & Amino Acids

⁵ ADICP = Acid Detergent Insoluble Crude Protein



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