

**Green Plains Renewable Energy
Shenandoah, Iowa**

IOWA TESTING LAB REPORT NO: 07-F25593
DATE: 11/20/2007
METHOD: AOAC; AACC

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) |
|----------------|-------------------|---------------|-----------------|-----------------|---------|---------------------------|-------------------|--------------------------|--------------------------------|--|---|-----------------------------------|
| 88.12 | 29.96 | 11.93 | ND ⁴ | 9.12 | 6.15 | ND ⁴ | ND ⁴ | 13.75 | ND ⁴ | 3959 | 3722 | 2052 |

| Calcium (%) | Phosphorus (%) | Potassium (%) | Magnesium (%) | Sulfur (%) | Sodium (%) | Chloride (%) | Zinc (ppm) | Manganese (ppm) | Copper (ppm) | Iron (ppm) |
|-------------|----------------|---------------|---------------|------------|------------|--------------|------------|-----------------|--------------|------------|
| 0.02 | 0.84 | 1.08 | 0.33 | 0.64 | 3.97 | 0.16 | 58 | 14 | 7 | 84 |

Amino Acid Analysis:

| Arginine (%) | Histidine (%) | Isoleucine (%) | Leucine (%) | Lysine (%) | Methionine (%) | Cystine (%) | Phenylalanine (%) | Threonine (%) | Tryptophan (%) | Valine (%) |
|--------------|---------------|----------------|-------------|------------|----------------|-------------|-------------------|---------------|----------------|------------|
| 1.52 | 0.86 | 1.2 | 3.61 | 1.12 | 0.58 | 0.61 | 1.68 | 1.13 | 0.23 | 1.6 |

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.



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