

**REF 49.6001**

## ***Dry Extruded Whole Soybeans***

**Here is what you can expect from using extruded soybeans in poultry rations . . .**

- **Excellent source of high quality protein and energy.**  
protein and amino acid digestibility > 90%  
high metabolizable energy value (4180 Kcal/Kg vs. NRC value of 3300 Kcal/Kg)
- **Freshness and stability due to the natural tocophyrols in extruded soybeans.**
- **Excellent flowability in bulk bins and feeders.**
- **Simple method of adding fat to diets.**
- **Very low in anti-nutritional factors and antigenic activity of the soy protein commonly associated with solvent extracted soy proteins.**
- **High in lecithin - a phospholipid important in fat metabolism.**
- **Highly palatable.**
- **Reduces feed-generated dust.**

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### **In Broilers**

- Increases average daily gain by up to 10% over soybean meal or roasted soybean based diets.
- Improves feed per gain by 2.5 - 5.00%.
- Lower mortality rate, especially during stress (like high summer temperatures).
- Increased ratio of unsaturated fatty acids to saturated fatty acids in the meat resulting in healthier product.

### **In Layers**

- Better feed conversion when compared to other soy protein sources. Up to 8% improvement.
- Improves egg production by an average of 3% over control diets.
- Increases egg weight in young layers due to the contribution of linoleic acid.
- Lower mortality especially during periods of high temperatures.
- Modification of unsaturated/saturated fatty acids in the egg.

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# Dry Extruded Whole Soybeans

## Proximate Analysis

|                          |       |
|--------------------------|-------|
| Dry Matter               | 93.0% |
| Crude Protein            | 38.0% |
| Ether Extract            | 18.0% |
| Acid Hydrolysis          | 19.5% |
| Crude Fiber              | 5.2%  |
| Ash                      | 4.5%  |
| Digestible Crude Protein | 33.5% |
| Non-degradable Protein   | 19.0% |
| Free Fatty Acids         | 1.0%  |
| Linoleic Acid            | 9.0%  |
| Linolenic Acid           | 2.0%  |
| Lecithin                 | 0.7%  |

| <b>Bulk Density</b> |                    |
|---------------------|--------------------|
| per ft <sup>3</sup> | per m <sup>3</sup> |
| 35.0 lbs.           | 1236 lbs.          |
| 15.9 kg.            | 561 kg.            |

## Amino Acid Composition<sup>1</sup>

|               | <b>As Fed</b> | <b>% of Protein</b> |
|---------------|---------------|---------------------|
| Arginine      | 2.81          | 7.39                |
| Histidine     | 1.05          | 2.76                |
| Isoleucine    | 1.72          | 4.53                |
| Leucine       | 2.93          | 7.71                |
| Lysine        | 2.40          | 6.32                |
| Methionine    | 0.54          | 1.42                |
| Cystine       | 0.56          | 1.47                |
| Phenylalanine | 1.99          | 5.24                |
| Tyrosine      | 1.52          | 4.00                |
| Threonine     | 1.52          | 4.00                |
| Tryptophan    | 0.59          | 1.55                |
| Valine        | 1.89          | 4.97                |

## Mineral Content

| <b>Major</b> |       |              |              |
|--------------|-------|--------------|--------------|
| Calcium      | 0.25% |              |              |
| Phosphorus   | 0.60% |              |              |
| Sodium       | 0.02% |              |              |
| Chloride     | 0.03% |              |              |
| Potassium    | 1.67% |              |              |
| Magnesium    | 0.26% |              |              |
| Sulfur       | 0.22% |              |              |
| <b>Trace</b> |       | <b>mg/lb</b> | <b>mg/kg</b> |
| Copper       | 8.20  | 18.04        |              |
| Iron         | 38.60 | 84.92        |              |
| Manganese    | 16.54 | 36.39        |              |
| Selenium     | 0.05  | 0.11         |              |
| Zinc         | 7.27  | 16.00        |              |

<sup>1</sup> Calculated at 38% protein and 93% dry matter

## Availabilities

Available Phosphorus  
35%

Available Amino Acids  
Poultry: 92.0%  
Swine: 90.0%