

## Insta-Pro® Extrusion Technology

### Analysis of ExPress® Soybean Meal

#### Proximate Analysis

Dry Matter	94.00%
Crude Protein	43.00% - 46.00%
Crude Fat*	6.00% - 8.00%
Crude Fiber	5.50%
Ash	5.30%
Undegradable Protein	50.00% - 55.00%
	<i>(% of Crude Protein)</i>
Free Fatty Acids	0.50%
Linoleic Acid	3.00%
Linolenic Acid	0.65%
Lecithin	0.20%

\*Values vary based on bean type, testing procedures, and operational & maintenance practices.

- Based on the assumption that raw soybeans approximate analysis is within the following ranges:

Moisture	9.00% - 11.00%
Crude Protein	36.00% - 38.00%
Crude Fat	16.00% - 20.00%

#### Average Bulk Density

Per ft <sup>3</sup>	Per m <sup>3</sup>
35.75 lbs.	1,262 lbs.
16.25 kg.	574 kg.

#### Amino Acid Composition    % Digestibility\*\*\*

	As Fed	Poultry*	Swine**
Arginine	3.20	93.20	93.70
Histidine	1.20	89.70	89.42
Isoleucine	2.20	92.00	89.72
Leucine	3.50	92.00	88.48
Lysine	2.86	88.70	90.90
Methionine	0.60	90.60	88.85
Cysteine	0.66	83.40	81.98
Phenylalanine	2.30	93.40	90.01
Tyrosine	1.60	92.10	86.91
Threonine	1.60	87.90	79.14
Tryptophan	0.70	97.10	88.38
Valine	2.40	89.10	87.37

\*True digestibility (cecectomized cockerels)

\*\*Apparent ileal digestibility (T-cannulated barrows)

\*\*\*Extrusion temperature of 320°F (160°C)

#### Mineral Content

<b>Major:</b>	Calcium	0.26%
	Phosphorus	0.63%
	Sodium	0.04%
	Chloride	0.04%
	Potassium	2.20%
	Magnesium	0.30%
	Sulfur	0.30%

<b>Trace:</b>	Copper	23 ppm
	Iron	120 ppm
	Manganese	30 ppm
	Zinc	40 ppm

**All values are typical analytical results and not guaranteed levels.**

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#### Energy Content (Dry Matter Basis)

	<u>Kcal/Lb.</u>	<u>Kcal/Kg.</u>
TME <sub>n</sub> : Poultry <sup>a</sup>	1535	3385
ME: Swine <sup>b</sup>	1876	4128
	<u>Mcal/Lb.</u>	<u>Mcal/Kg.</u>
NE <sub>m</sub> : Ruminants <sup>c</sup>	1.08	2.38
NE <sub>g</sub> : Ruminants	0.78	1.72
NE <sub>L</sub> : Dairy	1.03	2.27
ME: Ruminants	1.56	3.43
TDN: Ruminants	88.00%	
Neutral Detergent Fiber:	11.00%	
Acid Detergent Fiber:	10.00%	

#### Typical Inclusion Rates<sup>1,2</sup>

- May be used as the major source for protein for all specie
- Inclusion rate will vary with specie and the stage of production:
  - Monogastrics: Inclusion from 15% to 40% of the complete diet
  - Ruminants: Inclusion up to 25% of the grain mix

<sup>a</sup>Parsons et al., 2016

<sup>b</sup>KSU, 1998

<sup>c</sup>Calculated based on NRC Dairy, 1989, Page 9

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