Report on Analysis of Soymeal Samples:

Ag Com ExPress® Composite Sample

Summary of Analytical and Digestibility Data

This report includes results from wet chemistry analysis conducted by Eurofins Nutrition Analysis Center (Des Moines, IA) and a broiler digestibility trial carried out at the University of Illinois by Dr. Carl Parsons. The samples tested included ExPress® soymeal from Ag Com.

Chemical Composition (Table 1):
The measured values for moisture, crude protein, crude fat, crude fiber, and total lysine were within the expected ranges.

The lysine-to-crude protein ratio, a key indicator of potential heat damage, was greater than 6%, suggesting that lysine integrity was preserved during processing. In other words, mechanical processing via extrusion did not show any signs of lysine damage despite high processing temperatures.

Trypsin inhibitor levels in the ExPress® soymeal from Ag Com were within acceptable specifications (<10,000 TIU/g).

Table 1. Chemical composition and trypsin inhibitors of soy meals

Item,	ExPress® soymeal. Ag Com
Moisture, %	3.50
Crude protein, %	45.81
Crude fat, %	6.50
Crude fiber, %	5.80
Trypsin inhibitor,	9,960
Urease activity, pH	< 0.02
Total lysine, %	2.84
Lysine/Crude protein, %	6.20

Metabolizable Energy: The energy values for the Ag Com Composite are presented in Table 2. Gross energy (GE) refers to the total energy content of a feedstuff and represents

the heat released when the feed is completely combusted. While GE provides a general measure of energy, it does not reflect the actual energy available to the animal. Metabolizable energy (ME), on the other hand, accounts for losses through urine and gases produced during digestion, offering a more accurate estimate of the energy available for maintenance, growth, and production.

Table 2. True Metabolizable Energy Evaluation

Sample	Dry Matter *(%)*	Feed Gross Energy *as-is(kcal/g)*	TME_n *(kcal/g DM)*
AgCom Composite	96.3	4.877	3.424

Amino Acid Concentrations and Digestibility (Table 3):
ExPress® soymeal from AgCom, when evaluating standardized ileal digestibility coefficients—an important measure of how well amino acids are absorbed—the ExPress® meal demonstrated superior digestibility, averaging 88.96% soymeal sample.

ExPress® soymeal from whole soybeans:

- **Lysine:** 87.03%
- **Methionine:** 91.93%
- **Cysteine:** 79.02%
- **Threonine:** 84.98%

Table 3. Amino acid content and digestibility coefficients

	Ag Com Composite	
Amino Acid	*Total*	*Digestible*
ASP	5.17	89.00
THR	1.81	84.98
SER	1.97	87.08

GLU	8.41	92.11
PRO	2.35	88.81
ALA	2.03	88.02
CYS	0.67	79.02
VAL	2.34	86.63
MET	0.66	91.93
ILE	2.23	91.16
LEU	3.60	91.28
TYR	1.62	89.36
PHE	2.40	91.68
LYS	2.98	87.03
HIS	1.23	86.33
ARG	3.34	93.01
TRP	0.53	94.88
Average		**88.96**

General Conclusions of Analytical and Digestibility Data

Whole soybeans processed via high-shear dry extrusion and mechanical pressing (i.e. ExPress®) technology displayed low antinutrient levels (< 10,000 TIU/g) with a Lys:CP ratio > 6.0 indicating proper processing.