# Feedstuffs. Reprint

# New approach to soybean meal looks at bigger picture

## FEED MARKETING ADVISORS

By **PETER SCHOTT** and **RANDY SCHWALKE***

TWO years ago, I wrote an article for *Feedstuffs* titled "Ingredients Reimagined" (*Feedstuffs*, July 2018) that began with a reflection on growing up on a family farm, hauling corn and soybeans to the elevator. As I write this article, I am, in fact, sitting on that very farm.

Over the past two years, I've flown around the world more than once continuing that mission. I've met with grain farmers, animal producers and everyone in between.

Along the way, there have been trade wars, African swine fever outbreaks, a pandemic and more. Through this uncertainty, several things have remained the same: People continue to eat meat, producers continue to raise animals for the industry and farmers continue to grow crops to feed the animals.

During my travels and conversations, I've met with many wonderful people. I'm encouraged by all the innovators, risk takers and "stubborn optimists," each of whom works tirelessly to make the supply chain more secure and efficient.

One recent example is a study conducted by researchers M.A. Ibanez, C. de Blas, L. Camara and G.G. Mateos titled "Chemical Composition, Protein Quality & Nutritive Value of Commercial Soybean Meals Produced from Beans from Different Countries: A Meta-Analytical Study" that will be published in the September issue of *Animal Feed Science & Technology*.

In this study, Ibanez et al. (2020) performed a meta-analysis of 18 different studies with 1,944 samples to quantify the relationship between the country of origin of soybeans and the chemical composition, protein quality and nutritive value of the resulting soybean meal.

*Peter Schott is co-founder and chief executive officer of Genesis Feed Technologies, providing innovative technology solutions for feed businesses, and an advisor for FEED MARKETING LLC, an advisory firm owned by Randy Schwalke, providing a wide range of business advisory services for the feed industry.

Soybeans originating from Argentina, Brazil, the U.S. and India were evaluated. The study then looked at several quality indicators for soybean meal: crude protein, crude fiber, neutral detergent fiber, sugars and amino acid profiles.

The results were processed using the Nutrient Value Calculator from Genesis Feed Technologies. When comparing cost reductions with the incorporation of data from the study, premiums of U.S. soybean meal range from $14.57 to $23.24 per metric ton over Argentine soybean meal and range from $2.48 to $10.26/mt over Brazilian soybean meal.

This was exciting for a number of reasons. The first was to see an economic advantage for U.S. soy. I'll admit a bias, but growing up as a farm kid from the Midwest will leave you cheering for the home team. Second, it was gratifying to see a tool our company developed used at this scale. Third, the study results show that soybean meal (and, presumably, other ingredients) have a different value in different markets.

(More information on the study is available at https://genesisfeedtech.link/USMeal, or register to watch a recording of the webinar at https://genesisfeedtech.link/EV-US-Soy.)

Why does all of this matter? Because it reinforces the message that there is more to soybean meal than protein. It compels buyers to consider what the true value is of soybean meal and other ingredients for the supply chain.

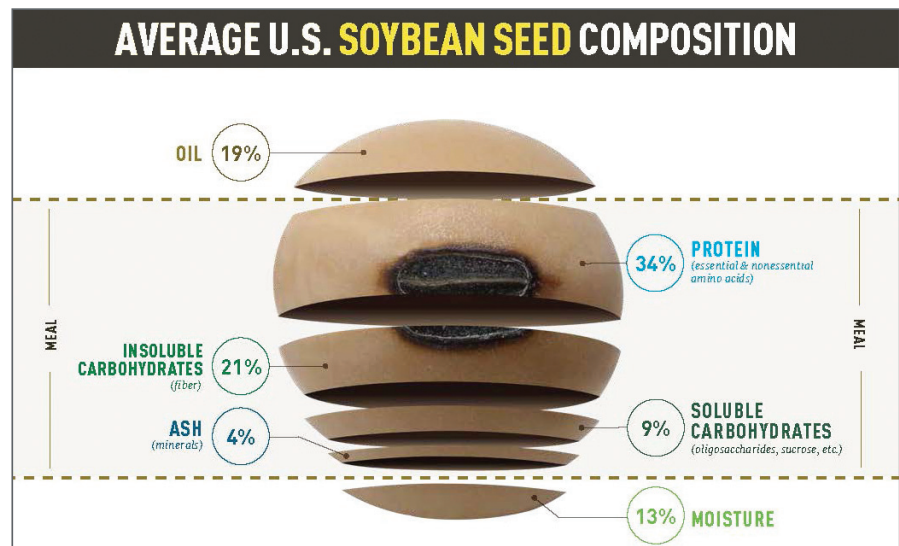By looking at soybean meal through this lens, buyers will carefully select an origin based on true quality, leading to improved animal performance. This type of approach builds a comprehensive method to determine quality. It brings the buyer and the nutritionist together to make purchases to improve performance and reduce the cost of goods sold.

This study is the beginning of including sucrose in energy calculations. Many in the industry have known for some time that sucrose is a key contributor to energy. The availability of sucrose in soybeans can be variable, so it is important to know this measure when making purchasing decisions. Since 1 kcal of energy can affect formula costs by 9 cents/mt, the differences can be dramatic.

This approach shifts the conversation from crude protein to a broad set of factors that includes amino acid digestibility, which plays a key role in performance and has been shown to vary depending on the origin.

Last, this approach will shift how soybeans are grown from a focus on genetics to the value basis for the industry. A number of groups in the industry are starting to look at the production factors that influence the amino acid and energy content of soybeans.

The published study and economic results are exciting. They bring together a wide breadth of data alongside real-world economics. Maybe it's just me, but I don't know many people working in feed production who wouldn't get excited about saving $2-23/mt on ingredient purchases.



AVERAGE U.S. SOYBEAN SEED COMPOSITION

OIL 19%

PROTEIN 34% (essential & nonessential amino acids)

MEAL

INSOLUBLE CARBOHYDRATES 21% (fiber)

SOLUBLE CARBOHYDRATES 9% (oligosaccharides, sucrose, etc.)

ASH 4% (minerals)

MEAL

13% MOISTURE

*Source: United Soybean Board.*

Allow me to conclude with a story:

*A group of blind men heard that a strange animal, called an elephant, had been brought to the town, but none of them were aware of its shape and form. Out of curiosity, they said: "We must inspect and know it by touch, of which we are capable." So, they sought it out, and when they found it, they groped about it.*

*The first person, whose hand landed on the trunk, said, "This being is like a thick snake." For another one whose hand reached its ear, it seemed like a kind of fan. Another person, whose hand was upon its leg, said the elephant is a pillar like a tree trunk. The blind man who placed his hand upon its side said the elephant "is a wall." Another who felt its tail, described it as a rope. The last felt its tusk, stating the elephant is that which is hard, smooth and like a spear.*

The feed industry has approached ingredient purchases and usage in the same way. One individual looks at the soybean meal and says "crude protein," while another says "amino acids" and others have been saying "sucrose." It is my hope that studies like the one published will compel us to take a step back and look at the bigger picture. ■