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Soybeans: Truly sustainable feed ingredient? Part 2

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By Kelly Coleman

Non-GMO alternatives, sustainability certification

Nationally accepted protocols ensure that U.S. soybeans are raised sustainably.

Research and development that began decades ago led to the widespread use of today's superior-performing soybeans. Considered genetically modified organisms (GMOs), these beans are safe to produce and eat, and offer a range of benefits that include the use of significantly less pesticides and herbicides, greater yields, cleaner water and healthier soil.

Although such benefits naturally support their global culture, farmers do have alternatives to GMO soybeans.

Non-GMO alternatives

Some farmers raise organic beans to meet market demand. This can be done on the same farms that raise GMO beans, but in separate fields according to organic protocols. There is also a conventionally bred non-GMO bean developed expressly for use in aquafeeds. It offers higher omega-3 and lower oligosaccharide content for better digestion by carbohydrate-intolerant marine fish.

"It all comes down to market demand," said Laura Foell, who farms soy and corn with her family in Sac County, Iowa, USA. "Farmers could be persuaded to grow organic or specialty beans, but the cost is much higher because of the extra inputs and labor costs required, and the environmental costs of wind and soil erosion due to increased tillage. If the price point can be met on a consistent basis, we'll be more open to produce those beans."

Foell pointed out that because yields are typically lower with non-GMO beans, more land is required to grow the same amount of harvest.

"With biotech beans, we can get the same yield on less acreage," she said. "So we were able to convert some of our farmland back to wildlife conservation land, which is part of our commitment to biodiversity. That has provided a habitat for songbirds, bees, migratory birds and butterflies. We'd have to claim that land back to get the same yield from specialty crops, and losing that wildlife habitat is something you can't put a price on."

Sustainability assurance protocol

Whether biotech, organic or non-GMO conventionally grown, American soybeans are grown in accordance with the U.S. Soybean Sustainability Assurance Protocol (SSAP). The SSAP was developed in 2013 to ensure and document that every link in the U.S. soy supply chain operates sustainably, with sound environmental objectives, social responsibility, promotion of economic growth and continuous improvement in agricultural practices.

The protocol describes the regulations, processes and management practices that ensure sustainable soybean production, and is a key part of the overall U.S. soybean producer sustainability program. The approach is audited, measurable, quantifiable and results-driven, and international certification is available.

The protocol focuses on four sustainability directives:

- ***Biodiversity***
  The protocol prohibits soybeans from being produced on highly diverse grasslands, forests and wetlands. It ensures the protection of the habitats of endangered or threatened species and migratory birds.
- ***Conservation Practices***
  Producers practice conservation tillage to increase soil health and reduce erosion, runoff and energy use. The protocol prescribes crop rotation to improve soil biodiversity and precision farming techniques to reduce inputs, such as small doses of fertilizer applied beneath the soil for each seed planted, as opposed to topside spraying of an entire field.
- ***Human Health And Welfare***
  Producers must comply with all federal and state laws for the protection of the environment, laborers and health of the community.
- ***Continuous Improvement***
  The protocol encompasses the numerous federal and state programs for conservation, environmental quality, agricultural water enhancement and wildlife enhancement. It includes the continuous technology transfer of best management practices developed by the National Sustainable Soybean Initiative and field office technical guides for local soil conditions. It also mandates the development of additional performance metrics.

A certificate of compliance with the Soybean Sustainability Assurance Protocol can be provided to international feed mills from U.S. soy exporters to confirm the soy they export was produced with sustainable farming practices.

Sustainability certification

This type of sustainability certification for feed ingredients is becoming more important and necessary, according to Chris Stock, sales manager for feed company Zeigler Brothers.

“We are feeling downward pressure from retailers and consumers to obtain various sustainability certifications,” Stock said. “Zeigler is a specialty feed company within the aquaculture industry, which means we must constantly innovate and work with alternative ingredients. We adopted soy a long time ago and are very comfortable with it.”

Stock said Zeigler does get questions about the sustainability of feed ingredients.

“We’re always looking to bolster our statements on feed sustainability, which is hard to define because it’s a consumer-defined term. Certification of soy ingredients grown under the SSAP will help to appease consumer concerns.”

Brent Babb, regional director at the U.S. Soybean Export Council, said SSAP has been benchmarked against the Roundtable for Responsible Soy (RTRS) in a comprehensive 2013 study and found to be equivalent in establishing sustainability standards.

“The U.S. Soybean Sustainability Assurance Protocol actually has higher standards in biodiversity and wildlife protections than the RTRS, especially concerning endangered species and diverse ecosystems such as grasslands, forests and wetlands,” Babb said. “The main points of differentiation between the two standards are in social justice protections for labor. Since most American soy producers are self-employed family farmers, these requirements aren’t applicable to U.S. soy.”

Babb pointed out that SSAP was recently recognized as equivalent to the Dutch Feed Industry Association's sustainability standards for feedstuffs imported throughout Europe. This is seen as a step forward for allowing U.S. soy grown in accordance with SSAP to be accepted by various European sustainability certification schemes for aquaculture, poultry and swine production.

Continued commitment

Dr. Michael Cremer, senior technical advisor for the Global Soy in Aquaculture Program for the U.S. Soybean Export Council and a key architect of that program for the past 25 years, pointed out that as much as sustainability has recently become a global buzzword for the food industry, it's nothing new to U.S. soybean farmers.

"The U.S. soy industry has always been committed to producing soy products in a sustainable way," Cremer said. "That also holds true for the Global Soy in Aquaculture Program. By promoting soy as an alternative protein to limited supplies of wild-caught fishmeal and fish oil in aquafeeds, our focus has always been to help global aquaculture become more sustainable and scalable to meet growing demand."

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