



SOY NEWS

Soybean Checkoff Looks to Send Jolt Through Electric Co-ops by Supporting Soy-Based Transformer Fluid

When Americans turned on their air conditioners, fans and televisions today, the transformers that helped electricity flow freely to their homes may have been cooled by a soy-based transformer fluid. The United Soybean Board (USB) and soybean checkoff teamed up with Cargill Industrial Oils and Lubricants, Cooper Power Systems (CPS) and Monroe County Electric Co-operative to host an event to demonstrate how a new soy-based transformer insulating coolant, Envirotemp FR3 fluid, is providing a renewable, cost-effective and safe alternative over petroleum-based mineral oils to rural and municipal electric cooperatives.

"The soybean checkoff continues to proudly support biobased energy solutions like Envirotemp FR3 fluid that create a best-case scenario for farmers and our rural neighbors," said Todd Allen, USB New Uses Committee Chair, ARSPB secretary/treasurer, and a soybean farmer from West Memphis, Ark. "This transformer fluid is safe to the environment and is an efficient solution for co-ops that also creates a new market for U.S. soybeans. What better group to support soy-based technology than the rural cooperatives that supply energy to farmers across the country."

The soy-based fluid has been shown to enhance the loading performance of new

transformers by up to 14 percent or extend their insulation life five to eight times. It is also shown to have a similar positive impact on larger units already in service, such as those found in electric substations.

In addition to performance, electric co-op users have been impressed with the safety of the product. The soy-based fluid has excellent fire-resistant qualities certified by two nationally recognized testing laboratories, UL and Factory Mutual. Both have listings per the National Electrical Code allowing Envirotemp FR3 fluid transformer installations outdoors and indoors, typically without costly fire protection devices. The fluid offers an ignition fire point of 360°C and flash point of 330 °C—more than twice that of petroleum-based mineral oils.

The soybean checkoff funded research in soy-based fluid technology. CPS developed the current technology. In 2004, CPS and Cargill formed an alliance to produce Envirotemp FR3 fluid. Several rural electric cooperatives are using and many others evaluating Envirotemp FR3 fluid for their transformers, in part because they have historically been closely allied with farming communities. Although the cost for Envirotemp FR3 fluid is slightly higher than mineral oils, its soy-based properties contribute to long-term savings that mineral oil cannot deliver. Accelerated-aging tests have

shown that Envirotemp FR3 fluid extends transformer life well beyond that of units with mineral oil. Also, the soy-based fluids have superior environmental attributes.

"Both Cooper and Cargill had been involved in separate efforts to develop soybean-based electrical transformer oil," says Bill Brady, Public Affairs Counselor for Cargill Industrial Oils and Lubricants. "It soon became apparent that our companies had complimentary strengths and we decided the best way to grow the overall market for bio-based fluids was to work together. This made sense not only for our businesses but for the environment and for America's energy independence."

Monroe County Electric Co-operative in Waterloo, Ill., is among several electric cooperatives drawn by the biobased fluid's advantages. The member-owned organization serves three counties in a rapidly growing area just outside of St. Louis. Because it is not-for-profit, it is important that the cooperative provide quality electrical services while protecting the environment at low maintenance costs. Other cooperatives that use the technology include Tipmont REMC in Indiana, Choptank Electric Cooperative in Maryland and HomeWorks Tri-County Electric Cooperative in Michigan.

Soybean Checkoff improves prognosis for new soy nutrition institute

The National Institutes of Health (NIH). The Culinary Institute (CI). The Institute of Food Technologists (IFT). When will the Soy Nutrition Institute (SNI) achieve the prestige and notoriety of these and other world famous institutes? After all, soy represents one of the most respected and healthful foods and food ingredients. Edible soy protein continues to snag news headlines for studies that show it may reduce the risk of breast cancer, cholesterol and Alzheimer's disease.

Within the past couple of years, two leading food processors and manufacturers approach the United Soybean Board (USB) to suggest the need for a stronger edible soy industry voice and coordinator of soyfoods research efforts. USB developed the concept of the SNI, and the board approved it in December 2003. SNI was officially incorporated in 2004 with 10 directors named to its board.

Prior to USB's action, soy represented one of the few agricultural commodity industries without an organization like an institute to conduct research and promotion of mutual interest among all industry

parties. Since the creation of the institute, the board of directors representing soybean farmers and a wide range of soy, food and health industry officials have been appointed. Its mission, developed by a working group of the board, proclaims, "The SNI is a nonprofit organization dedicated to the improvement of the well-being of the general public through support for research and communication of soy nutrition science."

This spring, a board-appointed working group developed a tactical plan and provided a recommended framework for the SNI. The SNI board reviewed it at its most recent meeting in late July and requested additional modifications of the plan and estimated budget numbers. The plan's key insights offer a glimpse at how the SNI may function.

The SNI board working group suggested it needs to provide a global scope of focus for soy food and nutrition science. They want it to focus on issues that have a broad interest across the soybean industry. And they set two goals for SNI. The first is to seek to increase scientific knowledge

and awareness of the benefits of soy nutrition to targeted audiences and key influencers. The second goal is to establish the credibility of the SNI as a source of information on soy health and nutrition research so it can become the primary resource for scientific knowledge on soy nutrition and health issues.

For soy research, the SNI identified five priorities:

- Questions about the allergenicity of soy about: additional research holds the potential to help scientifically clarify the issue.
- Through initial research, soy has shown promise in reducing the risk of breast cancer, but additional evidence is needed.
- The SNI wants to emphasize soy's contribution to heart health in the context of the broader health benefits of daily soy consumption for total wellness.
- New soybean varieties with oil that doesn't require hydrogenation for certain applications in food have entered the marketplace. The SNI will examine the dietary effects of these new soybean oils.
- Soybean oil also proves to be a good source of omega 3 fats in the diet. The SNI wants to make the public aware of this benefit through research and communication.

Soybean Checkoff continues quest to look beyond the Bushel

The customer's always right. Businesses have lived by these important words to meet customer demand for decades. U.S. soybean farmers are no different. The United Soybean Board (USB) and soybean checkoff launched the Select Yield & Quality Initiative three years ago to better meet customer quality demands and now international customers are providing feedback to U.S. farmers as to why this initiative is so vital.

"We targeted the Upper Midwest with this initiative, not because farming abilities are lacking in this area, but because the geographic conditions tend to produce lower protein levels," says Greg Anderson, USB Chairman and soybean farmer from Newman Grove, Neb. "By working with seed companies and processors, the soybean checkoff is trying to provide farmers with varieties that hit 19 percent oil and 35 percent protein, but without a yield drag and in some cases, that even offer a premium."

Checkoff farmer-leaders landed on the 19-35 goal based on input from overseas customers and the constant

demand for Hi-pro soybean meal. The combination of 19 percent oil and 35 percent protein maintains the oil levels needed to supply the market and allows high enough protein to satisfy customers needing consistency for feed. International buyers all over the world are telling checkoff farmer-leaders they want to buy U.S. soybeans, but that they may be forced to look elsewhere, more specifically Brazil.

"The high levels of protein and oil content are very important to us," said Cindy Yang Xiuchun, manager with Qinhuangdoo Golden Sea Grain & Oil Industry Co. based in China. "Nowadays the oil content and protein levels of Brazilian beans are much higher than those from the United States; that means we'll get a better profit by producing soybean meal with more oil and higher protein. Of course, the [amount of] heat-damaged beans from Brazil are higher than those from the United States, which is a disadvantage. So if you can produce soybeans with higher protein those will be the best beans in the world."

With China being the number one

export customer for U.S. soybean farmers, and customers throughout China and all of Asia demanding higher protein, it's hard to ignore the need for higher protein and oil. But Anderson stresses checkoff farmer-leaders don't want farmers to sacrifice in this quest for improved quality.

"Yield is king and that will never change. We're farmers and we know that better than anyone," says Anderson. "What we want our fellow farmers to do is consider yield and agronomics first, then ask their seed dealer which of those varieties will yield the highest protein and oil combination. Right now our survey data shows one in three farmers in the Upper Midwest are doing just that and that's a huge success for the checkoff. But we want to get every single farmer asking about 19,35."

Farmers in other parts of the Midwest and the South may wonder why the checkoff is focusing so heavily on quality in the Upper Midwest. The biggest reason is the impact on overall averages for the U.S. as well as perception internationally of the quality of U.S. soybeans. On top of that, checkoff-funded research has shown the loss of one major customer could truly impact every single soybean farmer. If the United States were to lose China as a customer, the price of soybeans could drop 31 cents and 640,000 soybean acres could be lost.

For more information on how to reach the 19 percent oil and 35 percent protein levels in U.S. soybeans, visit worldsbestbeans.com

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