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- **Allows use of low cost co-products from food industry.**
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- **Decrease cost of adding phytase and monocalcium phosphate to the diet**
- **Increase in intestinal health.**

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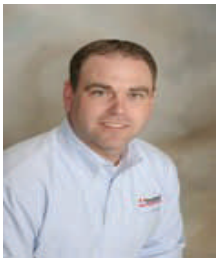
# Fermented Liquid Feed

by Robert Fischer, PhD

As a nutritionist I am continually looking for new technology and opportunities to improve the profitability of our customers involved in swine industry. In December I had the opportunity to travel to Denmark to observe first-hand Fermented Liquid Feeding. I will be honest with you that prior to going to Denmark I had my reservations about fermented liquid feeding and was unsure about the ability to bring this technology to the US. After seeing the equipment involved in the fermented liquid feeding system, pigs consuming the fermented liquid feed, and reviewing production numbers from farms using this technology, US producers need to keep an open mind to this new technology and look for opportunities to increase profitability in a very challenging swine industry. While there is an increase in equipment cost initially with installing the liquid feeding system, the increase in production performance and reduced feed cost attained with using fermented liquid feeding will result in a return on investment within two years. Below are some highlights about fermented liquid feed and some reasons why fermented liquid feeding can reduce cost of production and decrease the incidence of enteric health challenges.



Robert Fischer, PhD Swine Nutritionist

**What is fermented liquid feeding?** Inoculated fermented liquid feed is produced by the controlled fermentation of the energy supplying portion of the diet (the cereals or starch based co-products). **Continued on page 2.**

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# Fermented Liquid Feed (cont. from page 1)

Fermented Liquid Feed equipment as seen in Denmark.

The temperature of the liquid cereal must be controlled (between 50 & 70°F) and it must be inoculated with specially selected lactic acid bacteria that can produce a high concentration of lactic acid in 24h. A high concentration of lactic acid is needed so that when the fermented liquid cereal is mixed with other ingredients to produce a diet, the final diet fed to the pigs still contains 150 mMol lactic acid. The fermented co-products are food co-products developed from the food industry that are inoculated with a special lactic acid producing bacteria prior to entering the liquid co-product holding tank. The active lactic acid bacteria added to the co-product quickly take control by eliminating the growth of other yeasts and bacteria resulting in a "preserved" product that has a very long shelf life. Industries involved in potato, vegetable, milk and fish processing, starch and sugar manufacture, baking, brewing and bio-ethanol production all generate co-products that can be valuable and cost-saving inclusions in liquid diets. Many of these materials are acidified at the source of production to prevent spoilage. Then, the inclusion of these acidified components in liquid feeds has been shown to reduce significantly the incidence of *Salmonella* and other enteropathogens in pigs.

# BRSV Part 1

## By Dr. Mick Harding

***"Nationwide studies have shown that BRSV is present in 38% to 76% of beef and dairy herds"***

For many years, the feedlot industry identified a respiratory problem in cattle that was diagnosed as an allergic reaction to changes in feed. Upon necropsy these animals would have fluid filled lungs and foam extending up and out of their trachea. This would look like a classic allergic reaction. Because of microscopic lesions found in the lungs, a virus was suspected, but when tissues were submitted to the lab, no virus could be found. It was later determined the virus could not survive the transport techniques. When the lab was basically moved to the field the pathogen known as Bovine Respiratory Syncytial Virus (BRSV) was first isolated. Nationwide studies have shown that BRSV is present in 38% to 76% of beef and dairy herds.

BRSV-infected cattle are considered to be the primary reservoir of the disease. Transmission is mainly by nose to nose contact. Length of time for the disease to transmit thru the herd is dependent on the confinement status of the herd. In a feedlot the disease can spread thru in 3 -10 days. On pastured cattle it may take weeks to months to spread thru the herd. Once exposed it requires 2-4 days for a susceptible animal to begin showing clinical signs of the disease. In a susceptible herd you can expect 100% of the animals to become infected with the virus, 20-50% to show clinical signs, and less than 5% to die.

Like other viruses that attack the respiratory tract, BRSV reduces the resistance of the respiratory tract and makes the animal more susceptible to secondary lung infections. BRSV may occur in cattle of any age; however, I have never seen an adult animal with the condition. It is most commonly identified as an important disease agent in nursing (pasture pneumonia) and weaned calves.