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INTERVIEW: France's Valorex Extracts Value from Overlooked Grains

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9 March 2010 - Biodiversity and the environment are key issues in the reform of the Common Agricultural Policy (CAP). EU experts have also listed increased crop rotation and well-managed pastures among some of the measures to help store as much carbon as possible in the ground.



Pierre Weill
CEO
Valorex

However, there are relatively few commercial crop varieties in the world and these are cultivated in monocultures. This lack of farmland biodiversity can be traced to changes in farming practices and increased agricultural intensity.

Although monoculture often requires an extensive use of pesticides, herbicides, and is very labour and energy intensive; farmers reduce diversity because it is easier to harvest a single crop.

"Corn and most of the dominant plants are poor in omega-3. When we lose the balance in our soils, we also lose the balance in our bodies", warns Pierre Weill, CEO of French thermo-extrusion specialist company Valorex.

According to FAO estimates, 75% of the world's food is generated from only 12 plants and 5 animal species. This shows that there is an untapped potential for increasing the range of food products suitable for human consumption.

Since its creation in 1993, Valorex had spotted the potential and importance of biodiversity.

Weill, commenting on its dependency on large-scale corn cultivation, describes the feed industry as "carnivorous". When choosing corn only, farmers are looking at the short-term benefits as the crop represents a cheap source of energy and protein.

Valorex, which produces various seeds, but whose flagship crop is extruded linseed, even argues that the cost of linseed can be less than soy, although grain prices can fluctuate.

In an interview with the 'New York Times', Julia Laurain, a ruminant engineer at Valorex, said that even if linseed costs more, it yields cost savings because the production of milk jumps about 10%. Besides, the omega-3 benefits of linseed help keep animals healthier and they live longer and produce milk for more years.

These benefits are also carried over into the products manufactured from the cow's milk.

In a 2008 project carried out by Danone with its milk suppliers, in which Valorex collaborated, dairy producers were asked to feed their cows with more essential fatty acids to boost the milk's omega-3 and omega-6 levels.

Linseed and alfalfa were fed to approximately 50,000 cows. As a result, the animals were able to increase milk output with higher omega-3 and omega-6 levels, as well as improve their health status. According to Danone, the inclusion of linseed and alfalfa resulted in an extra 34% of omega-3 content in the finished dairy product.

In the US, Valorex is also working with leading organic yoghurt manufacturer Stonyfield Farm, which is currently 83%-owned by Danone. By the end of 2010, all the organic milk farmers who supply Stonyfield will adopt the "Greener Cow" method, which originated in France.

This method, developed with Danone and Valorex, will demonstrate Stonyfield Farm's commitment to curbing the bovine contribution to climate change. By changing the cow's diet to include more omega-3 from alfalfa, linseed and grasses, which are easily and naturally broken down inside the ruminant's stomachs, dairy farmers will be able to significantly reduce the amount of methane gas they produce.

Stonyfield Farm argues that the method helps reduce methane emissions by 12% by adjusting the cattle feed mix to produce fewer burps. At the same time, the new feed, high in omega-3, can result in 29% more omega-3 content in the milk, as well as fewer saturated fats.

Improving cattle feed is expected to play a significant part in the US dairy industry's plans to cut annual greenhouse gas emissions related to the production of fluid milk by 25% by 2020.

One of Valorex's primary goals is, indeed, to develop the link between the environment and nutrition. The company's extruded linseed, and other seeds, are able to fulfill nutritional requirements with environmental benefits, resulting in less methane emission.

A feeding regime containing extruded linseeds was tested last year by a team of French researchers. They discovered that a dietary supply of extruded linseeds decreased methane production both with hay and maize silage diets, without altering milk yield in dairy cows.

The regime has been qualified as 'one of the most efficient yet studied' in terms of reducing cow methane emissions.

Scientists from the Saint Genès Champanelle branch of INRA carried out the study after having recorded positive results from two previous experiments in 2007. A first experiment showed that increasing extruded linseed supply in a hay-based diet resulted in a decrease in methane production. The second experiment was carried out using a maize silage-based diet and the same linseed supply.

Each experimental period lasted four weeks, and for each experiment, no significant difference among diets was shown for dry matter intake and for milk yield. In addition, it was shown that linseed supply significantly decreased methane emission in both experiments.

Extruded linseed has also been shown as beneficial in pig and piglet diets.

Presenting at the 42nd Journées de la Recherche Porcine in Paris last month, Valorex scientists demonstrated that the incorporation of extruded linseed (3.5%) in piglet

weaning diet, i.e. from 21 to 42 days of life, resulted in growth performance with a higher feed consumption (+7.5%), a higher average daily gain (+9%) and a reduced feed conversion ratio (-5.5 %).

They concluded that extruded linseed is an efficient source of n-3 polyunsaturated fatty acids for piglets and could be an alternative to the introduction of fish polyunsaturated fatty acids in piglet's weaning diets.

The Valorex researchers also presented trials showing that adding extruded linseed in pig diets induced an increase by a factor of 8, 10, 6 and 5 in the alpha-linolenic acid content, respectively in raw chops, cooked chops, cooked ham and dried ham. They also found that linseed supplementation can lower the cholesterol content of meat. In addition, alpha-linolenic acid is linked with a lower risk of cardiovascular disease in humans.

Commenting on the 42nd Journées de la Recherche Porcine, Pierre Weill says: "This was an opportunity for Valorex to maintain and make new relations with scientists. Research has always been an important point of our policy. Innovation is constantly requested by our customers. We are not just a food manufacturer; we are also a seller of grey matter".

Based in Combourtillé in the Ille-et-Vilaine department of Brittany, Valorex reported a turnover of 55 million euro last year and allocated 5% of that amount to research and development. The company has 85 employees and has 2 factories in France and works in 3 others located in Germany, Switzerland and Portugal.

Valorex produces 100,000 tons per year of extruded products made from linseed, lupines, rapeseed, peas, hemp seed and field beans. The company is also building a new factory now for linseed extrusion for food.