

Novel rapeseed proteins in Finnish dairy cow's diets

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Relatively cool and humid conditions of the short growing season in Finland support grass production making dairy a well-suited value chain for Finland. The grass is ensiled into high-quality silage for the long indoor-feeding period based on innovations originating already from the early part of last century when Finnish scientist A.I. Virtanen was awarded the Noble Prize in 1945. The national dairy herd comprises 280.000 cows on 8.000 dairy farms. But the structural development is fast as dairy farmers struggle with economic profitability together with other European dairy farmers. However, the dairy sector covers approximately 40% of the whole agricultural income and dairy products are an important and highly valuable part of the Finnish diet. According to global statistics, the consumption of dairy products per capita is the highest in Finland.

Rapeseeds feeds

Finnish dairy farms rely on homegrown feeds. On average 55% of dairy cow diets (on dry matter basis) is based on grass silage produced on-farm and 17% of mainly home-grown cereals barley and oats. Around 28% are purchased feeds including protein supplements and various by-products. A Finnish speciality is the great popularity of rapeseed based protein supplements for dairy cows. Active national research on this topic has proven that rapeseed feeds is equal if not superior compared to soya bean based feeds on a grass silage and cereal-based diets. Thus the use of soya is very low, and the largest Finnish dairy company Valio Ltd. has committed that no GMO feeds are used in producing milk on the cooperative farms owning it.

Organic pilot farm

A EuroDairy pilot farmer Arto Hämäläinen from Valtimo, Finland produces organic milk with 70 cows and relies on versatile feed production on-farm. The total mixed ration is based on grass-clover silage which is supplemented with home-grown cereals, rapeseeds and peas. The cows also receive commercial high protein concentrate from the milking robot, which currently includes peas and faba beans as protein ingredients.



Faba beans

Hämäläinen has succeeded in producing organic rapeseed, but he says it is best to grow several different species to reduce the risk of serious crop failure. The popularity of faba bean has increased rapidly in Finland over the last few years. Hämäläinen will also include it in the crop rotation next year encouraged by a new earlier faba bean cultivar coming to the market. Peas and faba beans can also be harvested as whole crop cereal silages if growing conditions do not allow them to ripen in time, says Hämäläinen. This was the case for his peas last summer, and the current autumn probably results in the same decision this year. Cows don't mind as pea whole crop silage is highly palatable according to Hämäläinen.

Research Themes

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