Making Europe less dependent on protein import

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The European Union aims to make the animal feed industry in Europe less dependent on plant protein imports from North and South America. Wageningen UR is studying the opportunities for new protein sources such as algae, beet greens and rape oil. It is also performing tests for the further development of European soya production.

People are consuming more and more meat, a logical consequence of a growing global population and increasing prosperity. The animal feed industry therefore needs more raw materials for animal protein. Soya takes first place due to its good amino acid composition and digestibility. According to Chris de Visser, Biorefinery business developer at Wageningen UR, Europe imports over 30 million tons of soya from the Americas each year. 'This dependency makes Europe vulnerable, which is something the EU hopes to change," De Visser explains.

European soya

De Visser is part of the Protein Crops focus group of the European Innovation Partnership, which studies the possibilities for increasing the European vegetable protein production; including soya. Approximately 400,000 hectares of soya is grown in Europe today. For Europe to replace half of the soya imports from North and South America by soya from European soil would require a substantial expansion in production. Wageningen UR works with Agrifirm on developing a strategy for creating a North-western European soya cultivation area in which adapted, high-yield varieties will be a precondition to success. De Visser: "Only if we can achieve a considerable increase in yield per hectare would arable farmers be willing to replace wheat and maize by soya."

Biorefinery

According to De Visser alternatives for soya are also needed: "With our partners we are looking into the oil cake of rapeseed and sunflowers, for example. This is a by-product of the production of vegetable oils, the nutritional quality of which can be improved by adapting the biorefinery process. We are also researching whether we can extract a fully-fledged protein concentrate from other agricultural side streams such as sugar beet greens."

Algae and duckweed

Algae and duckweed are possibilities for the future. "Potentially they can produce four to five times as much protein per hectare as soya. Results from our tests with biorefinery also show that the resulting protein has a high quality. The problem is that the protein is packaged in a lot of water which has to be extracted first. We are therefore working on developing a method for extracting the water at acceptable costs."

Animal feed industry

De Visser expects that Europe will be able to better provide for its own protein demands in ten years' time if the European animal feed industry and breeders join forces to create a market for alternative protein sources. "European supermarkets are already aiming for products that are completely free from genetically manipulated raw materials. This creates opportunities for GM-free protein sources from Europe."

Provided by Wageningen University