Inspirational ideas

NEWSLETTER MAY 2019

Fertile Circularity

Effective bottom-up approach for dairy farmers

"Improving soil fertility, quality of the soil, air and groundwater by reducing phosphorus and nitrogen leaching. That is the cornerstone of the project 'Fertile Circularity Achterhoek'" says Carel de Vries. He is the project leader of this project, established in 2013 in the eastern part of the Netherlands. "It's very important that every farmer who participates in our project, fills in the *Kringloopwijzer*. This online tool is used to monitor the nutrient cycle of animal feed, soil and fertiliser. It can help dairy farmers to improve the circularity of their farm and therefore resolve almost all the environmental problems".

Online tool to manage the use of plant nutrients

KringloopWijzer is an online management tool for farmers to monitor the nutrient cycle of animal feed, soil and fertiliser and improve their nutrient management. The tool was developed in cooperation with the Wageningen University and Research. Every farmer participating in Fertile Circularity must fill it in. To do so, farmers use the available data their dairy farm such as the number of cows, hectares of land and how much feed they give to the cows. The *Kringloopwijzer* then provides an overview of the nutrient cycles on the farm, including phosphate, ammonia and greenhouse gas emissions. This information allows farmers to use nutrients, especially nitrogen and phosphorus, more efficiently. Carel explains "This can be done for instance by using a more efficient feed composition for the cows. The most ideal situation would be that with less feed, you will be able to achieve a higher yield of milk and meat."

Sharing experience and knowledge

Farmers who participate in the Fertile Circularity project share their experiences and knowledge in study groups. These groups are organised upon request by the farmers. "Currently there is a lot of demand for in-depth studies around soil fertility. Therefore, we make sure that this topic is on the agenda of the study groups. These meetings are held on the farm of one of the participating farmers. Everyone shows their available data and we invite an expert to answer questions or share knowledge. The farmers can also compare their data, so that they can learn from each other", explains Carel.

Win-win situation

Toon Hulshof is one of the farmers participating in the project. He owns a 65 ha farm with 130 milk cows and 70 young animals (young stock). Hulshof told us: "Approximately 5 years ago I heard about the precursor of the *Kringloopwijzer*. I'm always open to innovations and deepening my knowledge, so I decided to fill in this tool. Next, there was a meeting being organised in the neighbourhood where you could find out more about the Fertile Circularity project, which was planning to build on the results of the *Kringloopwijzer*. I decided to apply to join the project; that's where it all started. The interesting

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thing about the *Kringloopwijzer* is that it gives you an overview of all the data on your farm and it shows how everything is related. I started working on nitrogen and phosphorus since the project first began in 2013. When we set up a climate working group in 2016, we found out that the measures that we were taking to reduce our nitrogen and phosphorus emissions were also reducing our carbon footprint. The project is teaching me a lot, and there are quite a few things that I can immediately use on the farm. In my opinion, that is the attraction and the power of the project. It creates win-win situations for all the parties involved."

Positive results

In addition to the new insights and knowledge that farmers have gained in this project, it has also had other positive results. Carel de Vries: "Crop yields have increased with lower manure applications, which means that phosphate and nitrogen are used better. This is helping farmers to fulfil their legal requirements to limit the surplus of nitrogen in the soil to prevent this nutrient leaching into the groundwater. These measures to lower the surplus of minerals simultaneously lead to lower greenhouse gas emissions. This shows that climate, economy and groundwater quality go hand in hand. Profit for the environment and for the dairy farmer."

A broad consortium

Fertile Circularity has a wide variety of parties in its consortium. De Vries: "We started this project with a group of farmers who were members of the agricultural association LTO Noord. They had decided that they wanted to collaborate on improving nutrient cycles. A real bottom-up approach. Next, the local Water Board also wanted to join, because the aims of the Fertile Circularity were in line with their strategic vision. Water company Vitens, Rabobank, dairy company Friesland Campina and a cattle feed company also approached us to join the project."

Reward for farmers with a good mineral cycle

"We now have 350 farmers and 18 agricultural contractors participating in the project. The project is mainly paid by the farmers through an annual membership fee of €300. We are still thinking about how to promote and encourage farmers' achievements resulting from their use of the *Kringloopwijzer*. If a farmer has good results, can they be rewarded somehow? We currently have a pilot with the Rabobank: farmers with good results in their mineral cycle get a discount on the interest rate of their mortgage. Our partner Friesland Campina launched an initiative to reward the farmer with the most sustainable milk by paying a higher price for the milk from her farm."

The Kringloopwijzer as an export product

"We truly believe that rewarding and appreciation works best when you want to change things in agriculture, instead of rules and limitations. In addition, we hope that our project can serve as a pilot for the agricultural policy of the European Union. The system of the *Kringloopwijzer* can be easily adapted for other European countries provided that dairy farmers have enough data available" concludes De Vries.

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Photos: Fertile Circularity projet

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