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ANNEX

Detailed overview of concrete projects: Carbon Farming Vlaams Hoeverund and Colruyt Group

The actual projects at Vlaams Hoeverund are pilot projects that apply different crops, crop rotations, combinations of crops and techniques and so on to keep carbon in the soil. It is quite an authentic way of working, tailored to the farm - which also gives energy (on both sides). In this overview, we will elaborate a little on the concrete stories.

Two projects at Jos Raeymaekers (Webbekom)

1. Mowing winter barley

Jos undertook to mow a cut of winter barley 'Galileo' (3.5 ha). The barley was mowed 2nd half of April 2022, and was stored in bales as fodder for cattle. Afterwards, the mown winter barley can shoot up again, in order to provide a good yield of grain in the summer. In this way, the soil is covered for a whole winter, which benefits overall fertility and contributes to carbon storage. "*This practice seems very interesting to us, on the one hand to do carbon storage in the soil and on the other hand to break the limited crop rotation grass - maize grass,*" says Jos. As a result, more local fodder is available and there is still the advantage of a cut in a cereal crop. This provides an opportunity for wider crop rotation.



2. Underseeding of grass in maize cultivation



Underseeding grass in maize cultivation (a 0.5 ha trial in a 2.75 ha plot): grass is an extra ground cover. When the maize is mowed, the grass remains and you do not have bare soil the grass in turn ensures that this fixation is possible. The undersown grass consists of different types of grass that will be analysed monthly from September onwards to determine which type of grass takes up the largest amount of residual nitrogen from the soil.

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Two projects at Claudio Saelens (Beernem)

1. Sorghum cultivation (1.2ha)

Sorghum is a type of grass, similar to maize. A grass cut can be made twice (covering in winter: Sorghum is a C4 plant and needs a minimum soil temperature for sowing). Sorghum can be sown afterwards at a minimum soil temperature. This is a protein-rich food source and can be fed to cattle after ensiling together with maize.





2. Energy rye / sowing spring rye

This project also looks at breaking the grass-maize monoculture. Energy rye is an additional ground cover that can also be used as roughage, which is also an advantage. It is an alternative to grass. At the same time, there is no bare soil, which means there is more drought resistance. An early harvest is also possible.



Project at Sandra Patyn / Frederik Van de Sompel (Sleidinge)

Pilot project shredding willow

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Shredded wood has a very good effect on CO2 storage. Sandra and Frederik set up a pilot project to use shredded willow as litter in the cattle pens (3 ha). Afterwards, it is applied to the fields as farmyard manure. Wood chips from coppice can contribute to a better soil quality by using them in composting.

Wood chips also contribute to the structure and biology of the soil, thus ensuring a good soil quality. This was also demonstrated in the test by Koen Willekens (ILVO) in connection with the valorisation of wood flows. Adding lignin-rich material to the soil promotes the growth of useful saprophytic fungi. They have a low biodegradability, are relatively low in nutrients and have a high C/N ratio of about 90.



In order to promote stable carbon compounds in the soil, stable manure is combined with the wood chips and the aerobic process in the manure heap results in composting. Currently, the regulations regarding the use of wood chips are being adjusted (VLAREMA). This is to create direct use of wood chips on the soil and farm composting. Since the woodchips are only placed at the front of the boxes, sleeping and lying comfort for the Belgian Blue cattle is guaranteed, because they remain sprinkled with wheat straw at the back. There is also no adverse effect whatsoever on the claw quality of the animals. The farmer's experience is that composting only takes place on the manure pile and therefore no temperature increase can be observed at stable level.

Project at Luc Poppe (Wachtebeke)

Field with barley/peas and along outside triticale with vetches (2.2 ha)

These are mowed and ensiled in mid-May and serve as protein-rich feed for the growth of young cattle instead of feeding soya. After harvesting, maize is sown in combination with runner beans, again to reduce dependence on protein imports (soy). In addition, the aim is to work without artificial fertiliser: after all, both the peas and the runner beans are able to form a symbiosis with nodule bacteria and thereby make atmospheric nitrogen available for plants. Neighbouring plants can also benefit from this conversion.

The animals are also fed soy-free. During the meat production period, the animals are fed Euroclim feed, which reduces methane emissions by 30% and thus also reduces CO2 emissions because it is





made from 100% European raw materials. This trial is running at several members of the Board of Directors of Vlaams Hoeverund.





Project at Johan Pattyn (Ardooie)

Additional trees planted for extra shade for the cattle

This project aims to do agroforestry through strips in the meadow. Trees are planted in rows next to/in the meadow where the cattle graze. This way, the cattle in the field will get more shade (a requirement in the specifications), and it is scientifically proven that trees keep carbon in the soil through their roots and take CO2 out of the air through their foliage.

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