BioBoost
Accelerating biobased horticulture

# Materials from grass clippings

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|---|---|
| Crop | Grasses<br>*Poaceae* |
| Croppart | Stem<br>Leaf |
| Application area | Materials |
| Public availability | Semi-public |
| Relevant plant compounds | fibers<br>proteins<br>cell fluids |

## Description

**Green light for GrasGoed**

The Interreg project ‘GrasGoed – Natuurlijk Groen als Grondstof’ (GrassGood – Natural Green as Raw Material) allows nature managers, companies, and knowledge institutions in the border region between Flanders and the Netherlands to give a new life to the ‘leftovers’ of nature conservation.

The clippings left over from managing wet regions (such as reed-lands, wet meadows, damp heath, etc.) are often under-utilised or not utilised at all. This is unfortunate because thousands of tonnes of clippings are created every year. Not only is it logistically difficult to remove the clippings from these regions, dumping clippings is a costly business. This project aims to solve these problems by improving mowing, transport, and processing machinery, developing new products, and creating a market.

**Reap what you sow**

Giving clippings a second life as a sustainable product is the goal that GrasGoed wants to achieve. We are collecting as much grassy biomass together in the three regions as possible to create an economically interesting amount. To this end, we are improving, among other things, the mowing, pretreatment, and transport systems. This way, the clippings are gathered from the environment better, meaning it will be dry and thus less expensive to transport.

We are also improving the machines that break down the cell structures of the grass and separate these into fibres, proteins, and cell fluids. Lastly, we are developing new, regional products that use these fibres, proteins, and cell fluids as raw materials. Some examples are paper and cardboard, insulation, or peatless potting soil from grass fibres. We also try to convert the protein concentrate and the nutrient-rich fluid into livestock feed or soil enhancers.

**From Grass through Product to better**

There are 12 partners working together in GrasGoed to come up with solutions to strengthen the links in the chain from grass to product. The environmental organisations Natuurpunt, Grenspark De Zoom-Kalmthoutse Heide, Natuurmonumenten, and Brabants Landschap are looking for techniques to mow the wet meadows without damaging the surrounding environment. The clippings come from three regions: Altena-Biesbosch/ Vlijmens Ven, Grenspark De Zoom-Kalmthoutse Heath, and the Dommeldal and Zwarte Beek Vallei.

Two green maintenance companies, Verschoor Groen & Recreatie and VanderVelden, are developing machines to more efficiently collect the clippings from wet regions and prepare them for transport on-site. The companies Grassa and Newfoss process the grass clippings into raw materials. Millvision and Agricon, two product developers, in turn create new prototypes and products using these raw materials. Avans Hogeschool and Inverde take care of the inventorying and market development, as well as translating the new knowledge from the project into teaching materials.

**Grow with us**

There could be a place in GrasGoed for you, too. An amazing amount of new products can be developed using clippings, but the market is still new. We would like to open the market up even more together with developers of biobased products. Companies and institutions that want to operate sustainably and with social responsibility are invited to see what is possible, together with us, when using new biobased products. We also regularly organise demonstrations and expert meetings that you can register to attend.

## Pros and cons

- Upgrading the value of a very important residual stream worldwide
- More sustainable alternative for conventional insulation materials with large environmental footprints

- Conventional methods in the building sector need to be transformed in order to apply this material
- New product on a very competing market
- New harvesting techniques are necessary

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## Used conversion methods

### Mechanical-Physical processes

Pressing

Fractionation

Fiber separation

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## Resources

https://www.grasgoed.eu/en/ Initiative website

https://newfoss.com/en/ Article