

## PA #20 BioRural success stories: The Biobased Garden

In 2014, Delphy and Rusthoeve jointly started the realisation of the Biobased Innovations Garden Rusthoeve with the following ambition:

The BioBased Innovations Garden is internationally recognised as the Biobased Delta's breeding ground for innovation in the cultivation and application of new green raw materials in the processing industry. The Rusthoeve is therefore the place where (agricultural) entrepreneur(s), knowledge institutions and demand from the business community (construction and chemistry) meet and innovations emerge. To this end, knowledge institutes and companies have close ties and branch offices at the Rusthoeve.

This was the first large demonstration field in the Netherlands where several potential raw materials are grown side by side. To make the possibilities of green resources more visible and tangible, the Rusthoeve has been set up as a crop garden and experimentation area as a 'show case' with various innovative potential crops. The Biobased Innovation Garden Rusthoeve has become a place where over 100 different potential biobased crops have been grown in recent years.



*Figure 11: Innovation Garden Rusthoeve*

This includes the Interreg NI/VI project Growing a Green Future (2017), within this project we have taken many steps to realise this ambition. The aim of the project is to organise clusters and chains of companies and knowledge institutions around combinations of product, market and technology (PMT) in the field of the biobased economy and green raw materials. Networks at the intersection of technology areas and applications will be formed, focusing on realising synergy between different companies and institutions.

These networks provide a platform for knowledge exchange, active formation of partnerships and for generating ideas 'from outside'. Activities are linked to the needs of the business community.

Within the project, there is also room for inspiration and experimentation to arrive at new value chains in the biobased economy.



Alongside this project and over the years many analyses have been done on several crops, business cases have been made. The biobased garden is visited by many people every year, including entrepreneurs, farmers and students.

As part of the biobased economy, Rusthoeve and Delphy also see opportunities for greensourcing (artificial) fertilisers, crop protection agents of natural origin, ingredients (minerals, fatty acids, proteins, fibres, sugars) and protein transition.

A further selection and linking of crops to potential applications in supply chains may lead to further research on a plant species (breeding/cultivation method) that should contribute to its suitability as a crop for applications within the Biobased Economy in the long run.

For example; Several research and developments have been started in cooperation with the business community, such as now on growing Dutch cotton and natural rubber from dandelion. Hopeful results have been obtained from analyses on wormwood for insect repellent contents which offers opportunities for arable farming. Also, crops that may have a limited role in the biobased economy but offer opportunities as food such as sweet potato, sorghum and gluten-free amaranth have emerged in the biobased garden sidelines.

Thanks to the BO Akkerbouw and the Province of Zeeland, we can continue to work on Rusthoeve in the coming years to spread the knowledge we have gained, continue to develop this knowledge, and make more important steps in the actual production of raw materials for the biobased economy.



*Figure 22: Innovation Garden Rusthoeve 2*

