WAGENINGEN FOOD & BIOBASED RESEARCH

Foundation
- 1918

Turnover
- 28 M€

Employees
- 203 FTE

Branches
- Research & Development; Consultancy; Toll processing

Key materials
- Bioplastic (PLA, PHA, PEF, PBS)
- Biobased chemicals
- Biobased composites and resins
- Coatings, paints and glues
- Agrofibres
- Sustainable packaging

Key products
- R&D biobased materials & chemicals
- R&D biorefinery
- Policy advise
- Recycling studies

WAGENINGEN
UNIVERSITY & RESEARCH

Wageningen Food & Biobased Research

Business Unit Biobased Products

The Biobased Products business unit of Wageningen Food & Biobased Research develops innovative processes to convert green, raw materials (biomass) into biobased products. In close cooperation with industrial partners, governments and other research institutes, Wageningen Food & Biobased research creates market-oriented solutions.

With over thirty years of experience in biobased Research & Development, we are a key partner for partners wishing to valorise biomass or wishing to develop sustainable, profitable products based on biobased building blocks.

Working with Biobased products

- Technologies for biorefinery, chemical, microbial and enzymatic conversion and materials processing all in one place
- We can work on lab and pilot-scale (0.5 to 200 L)
- Expertise on valuable biomass components, intermediates and end-products and able to connect one with the other
- Great network throughout the value chain that allows us to connect partners in supply and demand
- Over thirty years of experience with market-oriented, sustainable and profitable biobased solutions

Quote from one of our partners:
'Wageningen Food & Biobased Research can bridge the space between academic and industry very well. They help with implementation and commercialisation. We highly value their clear arrangements, particularly regarding confidentiality and IP.'

Biorefinery

Do you wish to increase the value of your biomass? We deploy our biorefinery technologies to separate and isolate biomass into multiple fractions for multiple products. In the Biobased Products Innovation Plant we bundle our expertise and key biorefinery technologies for pre-treatment, separation, processing and analysis of biomass. Depending on the technology or process deployed, we can obtain products up to 99.9% purity.

Analysis of biomass, intermediates and end-products

Untreated biomass and biomass side streams are very heterogeneous and complex renewable resources. Understanding the natural variability and the biomass composition is essential for R&D, process and product development. We are able to perform in-depth biomass analysis using

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state-of-the-art equipment in combination with standardized protocols. Moreover, we have the infrastructure to test intermediates and end-products on a.o. mechanical strength, water and heat-resistance and barrierproperties for gasses. We provide clients with tailor-made analysis solutions for selected biomass, intermediates and end-products.

Chemical, microbial and enzymatic conversion

In which intermediate or end product are you interested, or which product can be obtained after biorefinery of your biomass? Conversion technologies enable us to turn the components obtained after biorefinery into an even broader range of products, with more applications and added value. These products can range from small organic molecules (chemicals) to large polymers. We use our expertise on chemical and biotechnological conversion routes and polymer chemistry to develop processes for products such as fuels, building blocks (e.g. monomers for polymer conversion), plastics, coatings and additives. We advise companies on the most sustainable and profitable route, intermediate or end-product.

Material processing

The end-products that we work on, have to abide to specific material properties, such as strength, water-resistance or heat-resistance. Our processing and compounding facilities enable us to develop biobased materials, that we can test in our conditioned materials laboratory. We process biobased polymers for use in bioplastics, composites, coatings and adhesives and resins. We also work on materials based on vegetable fibres and other polymers made by plants, such as paper, cardboard, composites and paints.

