



Food & Biobased Research

Programme overview



WAGENINGEN
UNIVERSITY & RESEARCH

Wageningen Food & Biobased Research enables a responsible and healthy society based on a circular economy by innovations with significant impact on fresh, food and biobased products and their supply chains.

The existing and future challenges of partners in government, business, society and science inspired us to define eight new programmes which demonstrate and extend the impact of fundamental and applied research. Let's connect and innovate!

Programmes of Wageningen Food & Biobased Research

- 1 Food waste prevention & utilisation
- 2 Biorefinery
- 3 Renewable materials
- 4 Postharvest quality: a fresh view of supply chains
- 5 Food innovations for responsible choices
- 6 Smart customised nutrition & health
- 7 Protein for life
- 8 Biobased chemicals & fuels

Food waste prevention & utilisation

Preventing and reducing food waste and maximising utilisation of (unavoidable) side streams, such as potato peel and corn stover, are our focus here. By catalysing and accelerating the transition to a circular economy – in the Netherlands and globally – we contribute to a responsible food consumption and production system, reducing carbon emissions and increasing food security.

Our ideal is a supply chain with zero food waste, providing consumers with a diversity of sustainable foods, perfectly tailored to individual needs. With enabling technologies and big data already supporting our efforts, we play our part in building a circular economy.

Contact: toine.timmermans@wur.nl



Biorefinery

Biomass is an indispensable solution to the world's need for food, energy, chemicals, materials, pharmaceuticals and other products. Biorefining allows the highest possible added value to be extracted from biomass in these diverse applications, and we are one of the world's leading research and development institutes in this area.

Leveraging on our comprehensive toolbox of biorefining technologies, we provide clients with tailor-made solutions. We have special expertise in mild pretreatment and separation technologies, which allow the functionality of biomass components to be retained. Since we cover the whole value chain, from the efficient use of raw materials to value creation, our specialists can connect supply chain partners in the biobased and circular economy to each other in the most efficient way.

Contact: gulden.yilmaz@wur.nl



Renewable materials

Our activities in renewables focus on developing performance materials that can compete with and replace their virgin and fossil equivalents. We draw our resources – valuable building blocks and polymers – from both biomass and waste produced by industries and consumers. In our pilot facilities our experts convert these materials into sustainable and innovative products with excellent functional properties.

We have developed many new renewable materials and products for our customers, ranging from biobased plastics for packaging and housings for electronics to textiles, building materials, paper and board made from natural polymers such as cellulose and starch. Our ambition is to continuously develop even more valuable products, and by doing so bring the circular and biobased economy ever closer.

Contact: christiaan.block@wur.nl



Postharvest quality: a fresh view of supply chains

At Wageningen Food & Biobased Research, we enable the chain to supply fresh, tasty high-quality fruit, vegetables and flowers, on time, around the world. By developing and using innovative technologies and strategies, including quality phenomics, interactive storage systems and smart-chain solutions, we measure, predict and control product quality throughout the supply chain.

Our flagship project in this field, GreenCHAINge (2015-2019), has already delivered quality control tools that empower chain partners to make excellent choices around fresh-produce markets, storage and transport. We expect similar outcomes, for quality prediction, from the follow-up project starting in 2019.

Contact: matthijs.montsma@wur.nl



Food innovations for responsible choices

Consumer demand for food products with clear origins is growing rapidly. Products must also be safe, nutritious, tasty and sustainably-produced. We help food manufacturers to meet these challenges, providing insights and guidance on ingredient functionality, structuring technologies like 3D food printing, shelf-life management and reducing sugar, salt and fat.

3D food printing offers an exciting opportunity to bring chain partners together to create a flexible and robust roadmap. We have also established a public-private partnership that will increase consumer acceptance of food products with reduced sugar, fat and salt.

Contact: joost.blankestijn@wur.nl

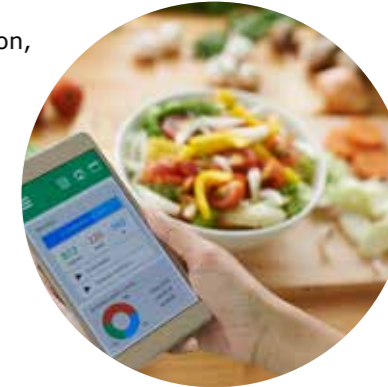


Smart customised nutrition & health

Personalised nutrition helps people make healthy choices that fit their physical condition, preferences and socio-economic status, making it easier for them to adopt long-term, healthy-eating behaviour. Personalising food choice has huge potential for addressing lifestyle-related diseases and disorders such as allergies.

Using artificial intelligence, we are supporting industry to develop reliable, evidence-based personalised nutrition guidance. We are experienced in nutrition, food choice and eating behaviour in targeted populations like the elderly and children, and study the health effects of food and ingredients for these target groups but also at the personal level.

Contact: liesbeth.luijendijk@wur.nl



Protein for life

Rising global demand for high-quality protein can be met by developing new sustainable protein sources and improving existing ones. Powered by this conviction, our experts are working on technological innovations that increase sustainable-protein availability and optimise their nutritional value, texture and taste. This will provide food manufacturers with new opportunities for the development of innovative protein products.

In the Sustainable Future Proteins project (2016-2019) our research team is investigating how to estimate the bio-functional activity of sustainable proteins, and developing innovative tools that support the systematic evaluation of their nutritional value.

Contact: gerhard.deruiter@wur.nl



Biobased chemicals & fuels

Climate change and the depletion of fossil feedstocks are the primary drivers for developing a circular and biobased society. Biobased chemicals provide sustainable replacements for fossil-based products in applications such as personal care, water treatment, lubricants, paints and coatings. They can also be used in biobased fuels and as polymer building blocks in the packaging, electronics or automotive sectors. Moreover, biobased chemicals can replace hazardous petrochemicals with a safer equivalent.

We support the private sector in developing bio and chemo-catalytic or fermentative technologies for the production of biobased chemicals. Such chemicals provide industry and consumers with products that ensure an enhanced performance and a reduced ecological footprint. Biobased chemicals also offer higher value-added outlets for biomass side and waste streams for the agricultural & forestry industries and municipal waste processing.

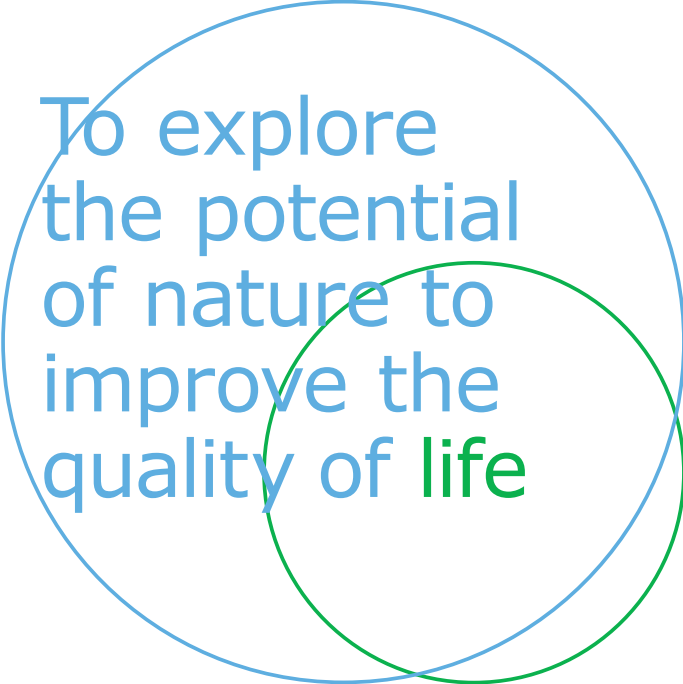
Contact: jacco.vanhaveren@wur.nl



Cooperating with Wageningen Food & Biobased Research

Wageningen Food & Biobased Research develops knowledge and technologies that help companies, government authorities and other research organisations create innovative solutions for a healthier, sustainable and prosperous world.

We help clients worldwide to develop healthy and tasty food, sustainable food chains and 'green' alternatives for products currently produced from scarce fossil resources. Our clients value us for our focus on finding solutions, our knowledge level and the quality of our research. As a contract research organisation, we work with companies individually (bilateral), or with various organisations at the same time (public-private partnerships). Confidentiality and appropriate agreements on intellectual property (IP) form the basis for our relationships.



To explore
the potential
of nature to
improve the
quality of **life**

Wageningen Food & Biobased Research

Bornse Weilanden 9
6708 WG Wageningen
the Netherlands

T +31 317 48 00 84

W www.wur.eu/wfbr

E info.wfbr@wur.nl