



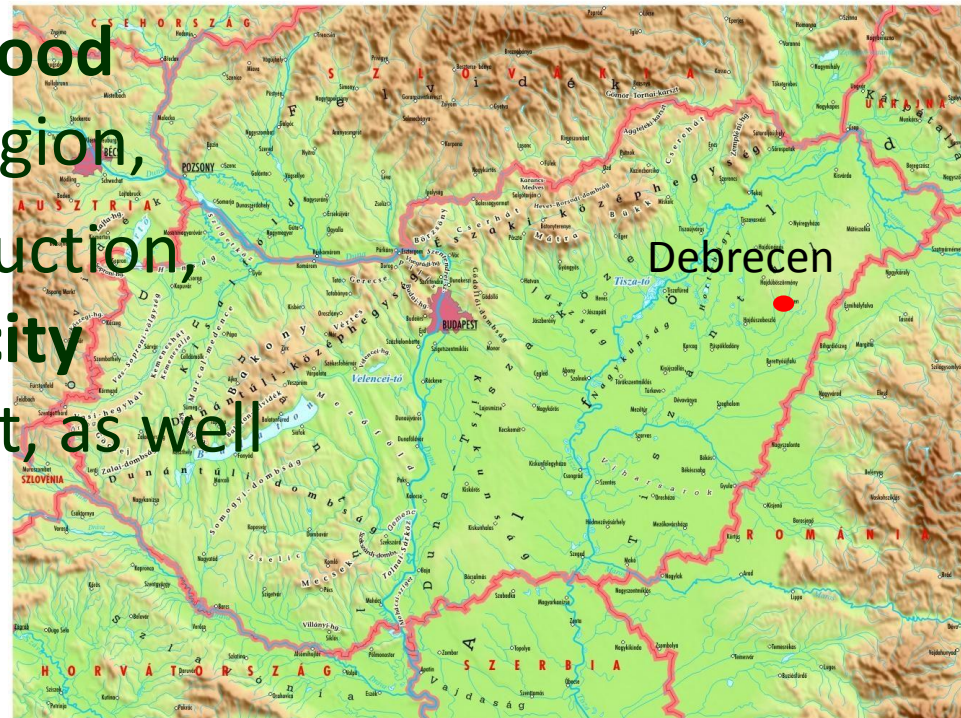
University of Debrecen
*Faculty of Agricultural and Food Sciences
and Environmental Management*



Education & RTD activities of the Faculty
(short introduction)

Background

- **Agricultural/rural region** accounting for 22, 23 and 60% of the total arable lands, animal husbandry and horticulture of Hungary, resp.
- **Skilled human resources** in the whole production chain,
- 19% of the national **agro-food GDP** is generated in the region,
- Beyond raw material production, the **food processing capacity** has always been significant, as well
- **Agro-food heritage & modern technologies**





Faculty of Agricultural and Food Sciences and Environmental Management

Institutes:

- Agricultural Chemistry and Soil Science
- Animal Science, Biotechnology and Nature Conservation
- Crop Production and Agricultural Botany
- Food Science
- Food Technology
- Horticulture
- Land Use, Technology and Regional Development
- Nutrition science
- Plant Protection
- Water and Environmental Management
- *Agricultural Laboratory Centre*

Some basic data:

- Number of students: ~ 1.600
- Two doctoral schools

The Faculty has ISO 9001 and ISO 14001 certifications



Among the **World TOP 200-300**

Agriculture Faculties
(2015 - 2020)





More than 150 years of higher education in agricultural sciences

B.Sc. courses

- Agricultural science
- **Food engineering***
- Game management
- Horticulture
- Horse breeding and Equestrian Sports
- Nature protection management

Master courses

- **Animal husbandry***
- Crop production
- **Environmental management***
- **Food safety and quality***
- Horticulture
- Nature conservation & management
- **Plant protection***
- **Water management engineering***

**: courses also available in English*

Since 2015 September:

Dual Education & Training Programme

*(university – agro-industry cooperation
in vocational training)*

Since 2016 September:

Undivided (5 year) training in Agriculture (Master equivalent)



RTD mission statement of the Faculty

*„Improvement of the health status of the European population and decreasing the presence/occurrence of diseases affecting large populations via **development of healthy and safe food in a sustainable environment.**”*

Main focus areas of RTD and innovation

① Healthy food

Safe & traceable food and feedstuffs having special quality features for promoting human and animal health

② Healthy environment

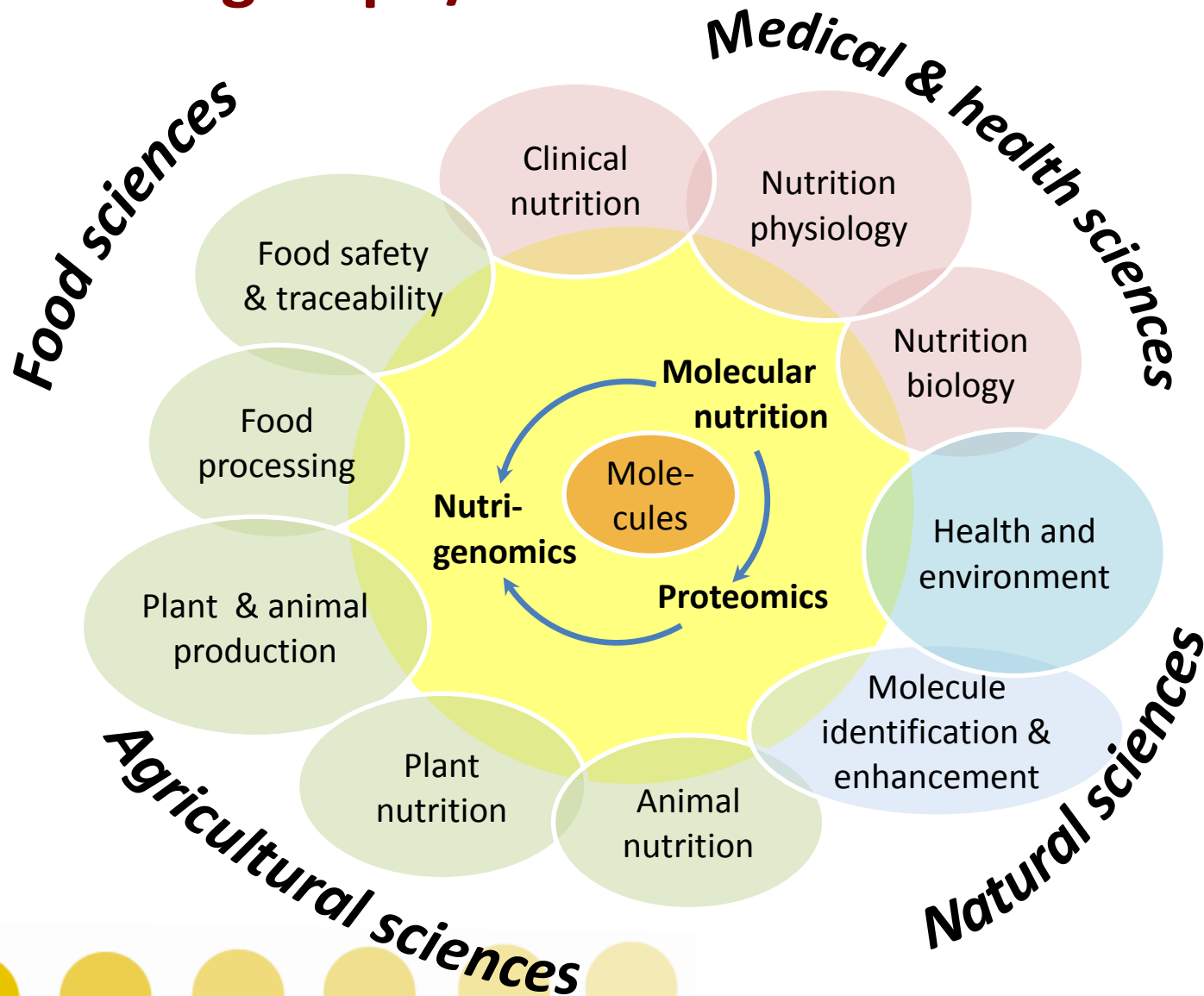
Precision agro-technologies for environmental sustainability & adapt to climate change, based on renewable energy from agricultural by products

RTD topics of the Faculty

- **Conventional agriculture** RTD: plant production, animal husbandry, horticulture, agri-biotechnology, landscape ecology, integrated technologies, ecological/organic production
 - **Environmental management and protection:** monitoring, water quality, pollution-mitigation, waste management, nature conservation
 - **Food science & technology:** analytics, processing technologies, food prototypes, quality assurance, toxicology,
 - **Interdisciplinary** topics: regional and rural development, agri-economics, life cycle assessment, etc.



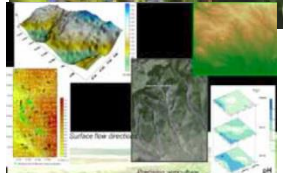
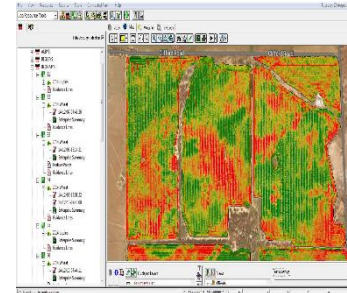
Synergies of the core- and connected research groups / areas of Debrecen University



Integrated RTD topics

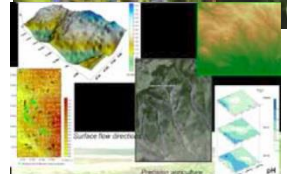
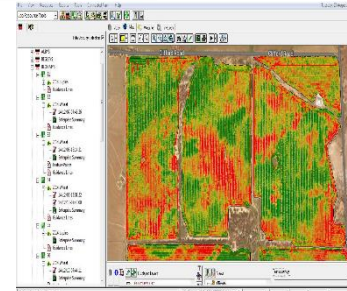


- a) Development of **foodstuffs with special health benefits**
- b) **Resource efficient (precision) technologies** for plant production, animal husbandry & horticulture
- c) Integration of **agri-environmental schemes** into agricultural production
- d) Utilisation of **renewable energy** sources of agricultural origin
- e) Development of technologies adequate to **climate change**



Possible areas of cooperation

- Development & testing of **functional food prototypes**
- **Resource efficient** plant and animal production **technologies**
- Utilisation of **renewable energy** sources of agricultural origin
- Development of technologies adequate to **climate change**
- **Agri-environmental programmes** in agricultural production



Food Technology Innovation Centre

HU1430



Units:

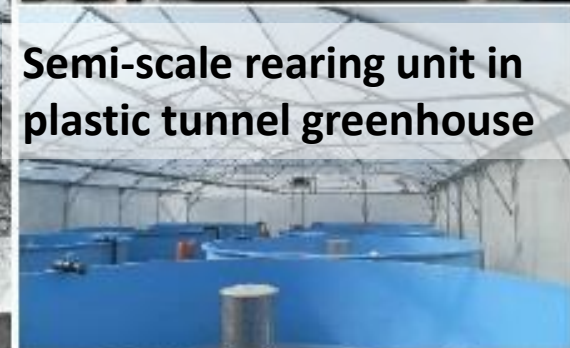
- Meat processing
- Dairy unit & lab
- Milling unit
- Bakery & confectionery
- Pasta unit
- Vegetable & fruit processing

Capacity of the plants: processing app. 150-200 kgs / 500 litres of raw material / day

Aquaculture lab



Indoor tank system



Semi-scale rearing unit in plastic tunnel greenhouse



Plastic tunnel hydroponic unit

Hydroponic unit in plastic tunnel greenhouse

(12 x 11 m² substrate + 4 x 40 m² raft units)





University of Debrecen
*Faculty of Agricultural and Food Sciences
and Environmental Management*



Thank you for your attention!

