Food Quality in Digital Age

Mendel University in Brno

FOODTECH MENDELU

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PhD students: Ing. Veronika Božena Hendrychová, Mgr. Michal Kolář

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Mendel University in Brno

Institute & 5 Faculties:

- Faculty of AgriSciences
- Faculty of Forestry and Wood Technology
- Faculty of Business and Economics
- Faculty of Horticulture
- Faculty of Regional Development and International Studies
- Institute of Lifelong Learning

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Faculty of AgriSciences

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- 100+ years' tradition of agricultural education
- 15 scientific departments
- 34 study programmes in agricultural sciences
- 2,100+ students
- 2,000+ ha of experimental sites
- 1 university production and research farm

Faculty of AgriSciences

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Our team V 4

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3D Food printing

- innovative manufacturing process
- utilizes digital data to create a three-dimensional object
- the shapes, textures, and nutritional profiles of the foods
- customizability through
  - •the design parameters
  - •the use of different types of printing materials

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health

preference

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3D Food printing

- Formulations
- Model design
- 3D printing
- Post-processing
- Analysing texture, structure ..

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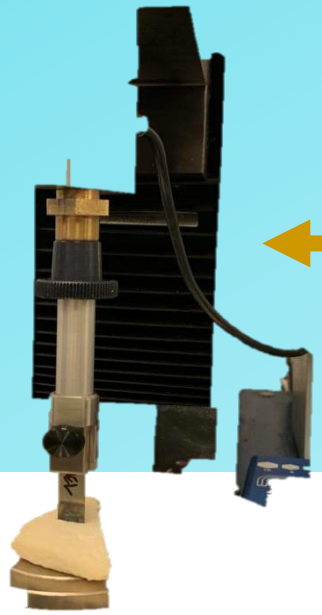
- Already printed matrices: chocolate, marzipan, chickpeas, soy protein, calcium caseinate and whey protein



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Design products

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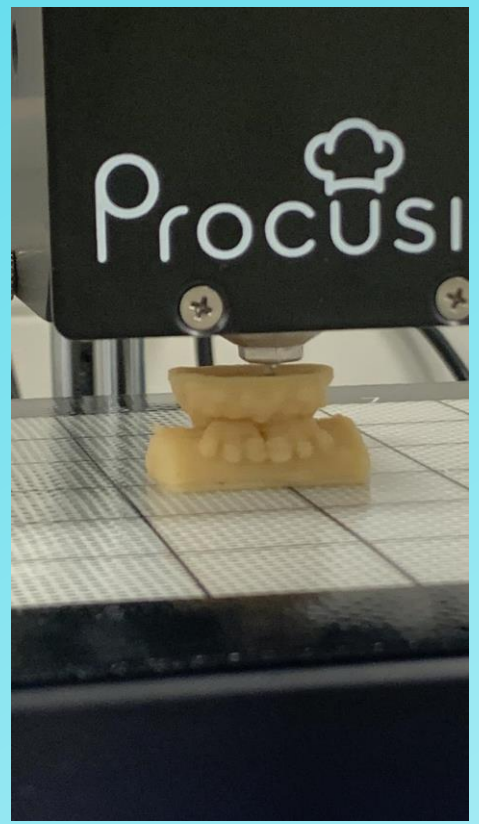

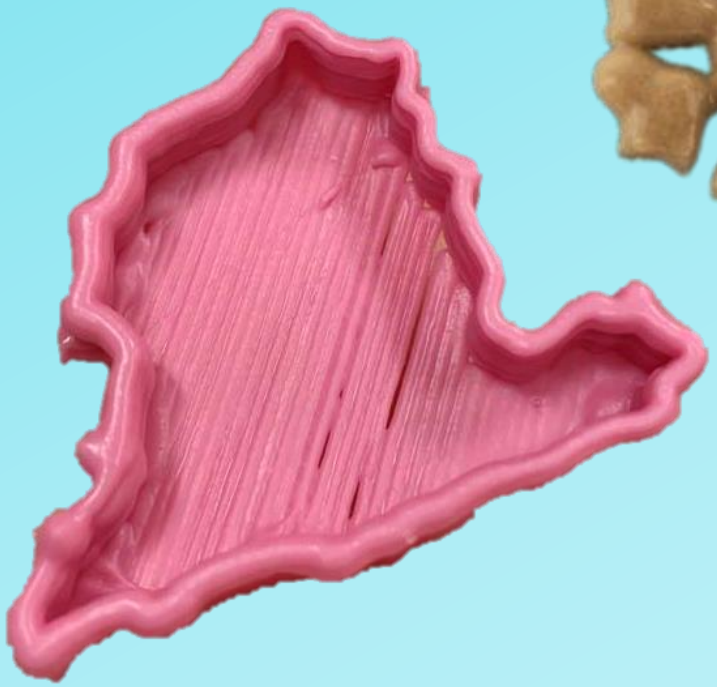

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Edible insects

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- **Permitted species**: Acheta domesticus
  Locusta migratoria
  Tenebrio molitor
  Alphitobius diaperinus
- High **quality** source of **proteins**, fats and other nutrients
- Can be one of the ways to ensure nutritional and ecological **sustainability** in the future

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Our topics

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- **Edible insects** → potentially a great source of proteins, fats, minerals and vitamins
- Different regimes of killing and oven drying (temperature/time)
- Different ways of flavoring mealworms with seasoning mix
- Determination of the optimal addition of insect raw material to meat products
- **Meat products** → sausages, fine salami, paté etc.
- **Analyses of the final products** → texture analysis, color measuring, sensory analysis etc.

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Our products

Salamy with addition of 5% Lesser mealworm „Buffalo“ (*Alphitobius diaperinus*)

Salamy with addition of 5% Mealworm paste (*Tenebrio molitor*)

Sausages with addition of 3% and 5% Mealworm paste (*Tenebrio molitor*)

Sausages with addition of 3% and 5% Lesser mealworm „Buffalo“ (*Alphitobius diaperinus*)

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Thank you for your attention

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