



Circular economy for biodiversity Unlocking the green potential

*Skills for sustainable,
resilient, and socially
fair communities*

**EUROPEAN
YEAR OF
SKILLS**

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Date

June

5

3-11 June 2023

**#EUGreenWeek
PARTNER EVENT**

Short introduction of the institution

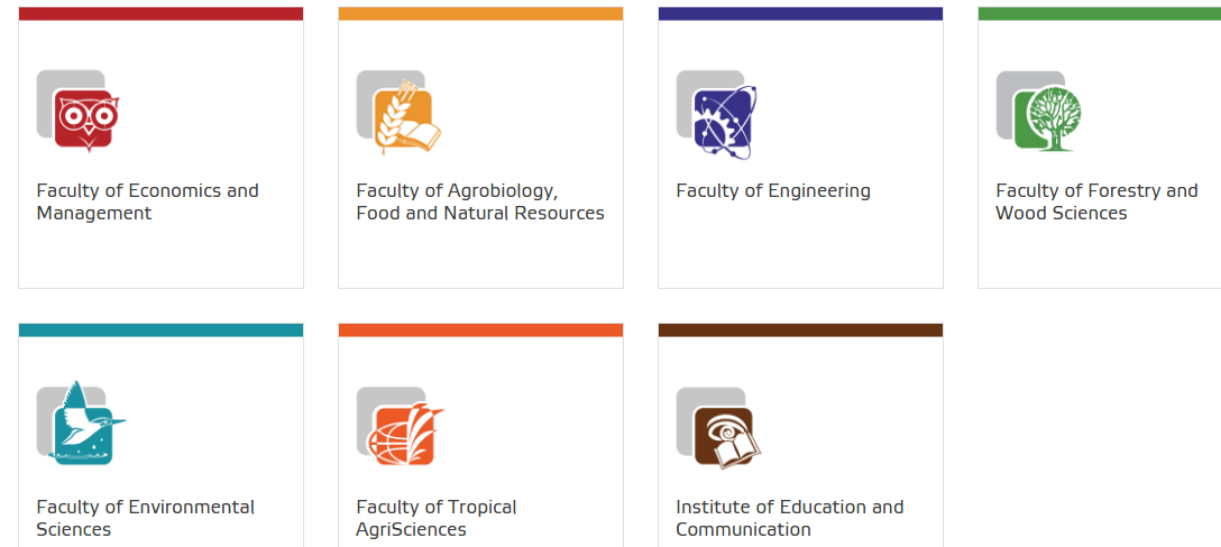


Department of Mechanical Engineering:

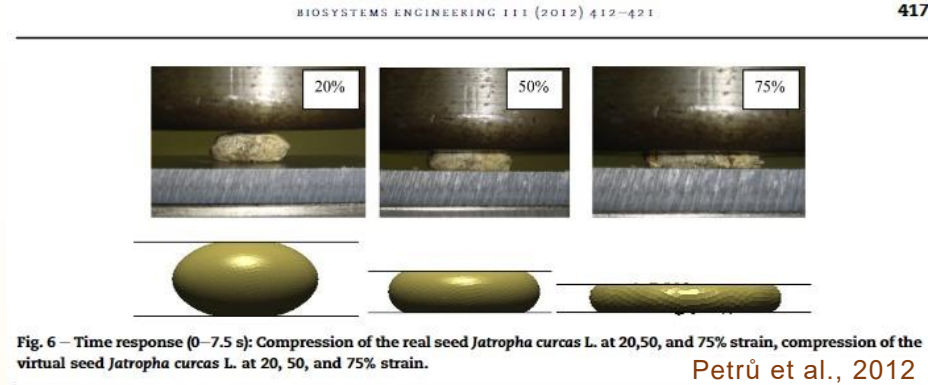
- Researches into energy efficiency utilization.
- Collaborates with other Faculties/Research Institutes on biomass energy processing.
- Collaborates with other EU partners and beyond for KA2 projects
- Collaborates with Farnet a.s. (Czech Republic) specializing in the:
 - development and production of agricultural machines for soil processing and sowing,
 - processing of oilseeds and production of oil processing technologies.

Faculties and Other Parts

Faculties and Institute



Expertise



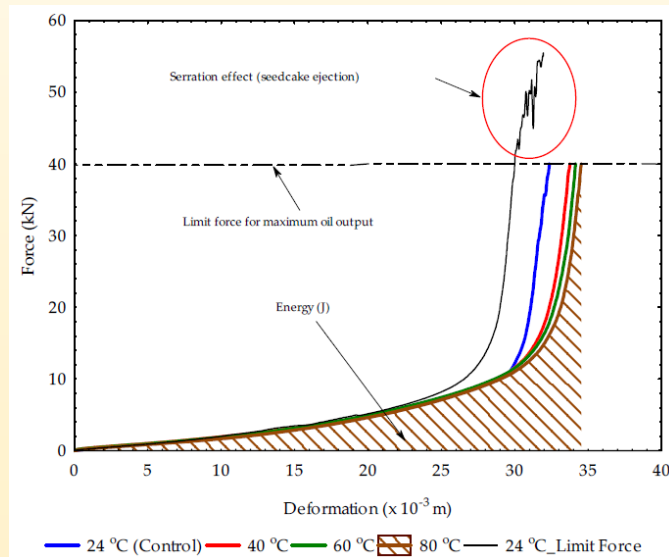
Post-harvesting processing

Keywords

- Edible oilseeds
- Non-edible oilseeds
- Oil extraction
- Residual oil
- Oil quality
- Processing technologies
- Processing factors
- Optimization
- Modelling
- Simulation
- Biomass briquettes
- Elemental analysis
- Proximate analysis
- Energy utilization
- Emission analysis



Non-Linear processing (Kabutey et al., 2019)



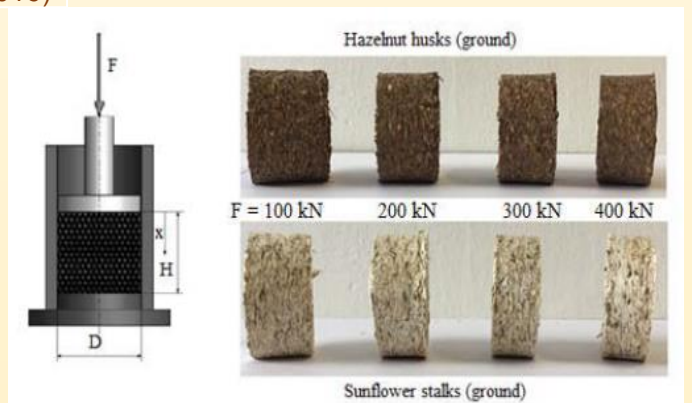
Linear processing (Kabutey et al., 2022)



Proximate, Elemental and Calorific analyses



SEM analysis



Briquettes densification (Demirel et al., 2018)

Expertise



Extracted oils from oil-bearing plants/crops



Oilseeds cakes for densification processing



Topic and project idea

CALL - FAIR, HEALTHY AND ENVIRONMENTALLY-FRIENDLY FOOD SYSTEMS FROM PRIMARY PRODUCTION TO CONSUMPTION (HORIZON-CL6-2023-FARM2FORK-01)

HORIZON-CL6-2023-FARM2FORK-01-3: Improving yields in organic cropping systems

CALL - CLEAN ENVIRONMENT AND ZERO POLLUTION (HORIZON-CL6-2023-ZEROPOLLUTION-01)

HORIZON-CL6-2023-ZEROPOLLUTION-01-4: Environmental sustainability and circularity criteria for industrial bio-based systems

CALL - CLEAN ENVIRONMENT AND ZERO POLLUTION (HORIZON-CL6-2023-ZEROPOLLUTION-02-TWO-STAGE)

HORIZON-CL6-2023-ZEROPOLLUTION-02-1-two-stage: Optimisation of manure use along the management chain to mitigate GHG emissions and minimize nutrients/contaminants dispersion in the environment

CALL - LAND, OCEAN AND WATER FOR CLIMATE ACTION (HORIZON-CL6-2023-CLIMATE-01)

HORIZON-CL6-2023-CLIMATE-01-6: Analysing fossil-energy dependence in agriculture to increase resilience against input price fluctuations

HORIZON-CL6-2023-CLIMATE-01-7: Enhancing the sustainable production of renewable energy at farm-level

CALL - RESILIENT, INCLUSIVE, HEALTHY AND GREEN RURAL, COASTAL AND URBAN COMMUNITIES (HORIZON-CL6-2023-COMMUNITIES-01)

HORIZON-CL6-2023-COMMUNITIES-01-6: Inclusive and smart ways to communicate sustainability of food

Processing of plants
oil-based feedstocks and Biomass
towards renewable energy efficiency



Topic and project idea

DESTINATION 1. CLIMATE SCIENCES AND RESPONSES FOR THE TRANSFORMATION TOWARDS CLIMATE NEUTRALITY

HORIZON-CL5-2023-D1-01-10: Improving the evidence base regarding the impact of sustainability and climate change education and related learning outcomes

HORIZON-CL5-2023-D1-01-11: Needs-based adaptation to climate change in Africa

DESTINATION 3. SUSTAINABLE, SECURE AND COMPETITIVE ENERGY SUPPLY

HORIZON-CL5-2023-D3-01-01: Renewable Energy Valleys to increase energy security while accelerating the green transition in Europe

HORIZON-CL5-2023-D3-02-07: Development of next generation advanced biofuel technologies

HORIZON-CL5-2023-D3-02-16: Accelerating the green transition and energy access in Africa

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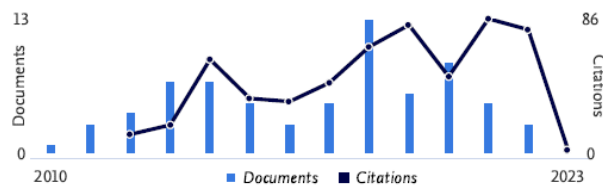
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