



FACCE SURPLUS

SUSTAINABLE AND RESILIENT AGRICULTURE FOR FOOD AND NON-FOOD SYSTEMS

FACCE SURPLUS (Sustainable and Resilient agriculture for food and non-food systems) is an ERA-NET Cofund, formed in collaboration between the European Commission and a partnership of 15 countries in the frame of the Joint Programming Initiative on Agriculture, Food Security and Climate Change (FACCE-JPI).

FACCE SURPLUS is committed to improve collaboration across the European Research Area in the range of diverse, but integrated, food and non-food biomass production and transformation systems, including biorefining. Among other things, the ERA-NET Cofund aims to support innovation and value creation from biomass and biorefineries and organises joint calls between funding bodies from Member States and the European Commission.

It contributes to the strategic objective of FACCE-JPI to build a European Research Area in the domain of agriculture, food security and climate change as well as to the scientific objective of enhancing resilience in agricultural production systems. In turn, this will contribute to tackling the Grand Challenge of ensuring food security and agricultural production in the face of climate change.

FACCE SURPLUS First call and Second call

The first call for transnational research projects was launched in January 2015 with an indicative total available budget amounted to 17M€. In November 2015, 14 projects were selected to receive funding in the frame of FACCE SURPLUS.

Recognising that other initiatives are considering the scope and application of large-scale biorefineries in the EU context, the second call of FACCE SURPLUS focuses on the small-scale biorefinery concepts and their potential role in enhancing the sustainability and productivity of EU agriculture, as well as their scope to benefit the rural economy. 10 partners joined this call for transnational research projects with an indicative budget of 6,25M€. The deadline for submission of pre-proposals was March 7, 2017, while the deadline for full proposal submission is July 17, 2017.

For further information please visit facesurplus.org and facejpi.com



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AGRONICKEL

Developing Ni agromining on ultramafic land in Europe

The pressure to produce both food and biomass for renewable energy on existing agricultural land is comprehensive. Meanwhile large parts of European soil are unfavorable for plant growth especially in rocky areas which contain high concentrations of metals and deficiency of nutrient (N, P and K).

The idea of phytomining metals emerged in the 90s and the goal was to cultivate plants able to accumulate trace metals from metal-rich soils and transport them to the shoots (>1%), which could then be harvested as a bio-ore to recover highly valuable metals, e.g. nickel (Ni). More recently, the concept has evolved as an integrated chain from soil management to production of bio-sourced refined metal products. Nickel agromining can offer an eco-efficient alternative to classical pyro- or hydrometallurgical processes, as well as providing biomass for local energy production

The research project **AGRONICKEL**, funded within the frame of FACCE SURPLUS, aims to implement agroecosystems which can lead to better soil resource efficiency and to offer a fully integrated, new agromining agriculture that could cover thousands of km² in Europe and benefit local communities with sustainable rural development.

The project has identified, and aims to overcome, the bottlenecks that need to be solved before agromining fully develops in Europe. Traditional agronomy has already been developed for the Ni-hyperaccumulator *Alyssum murale* but further steps need to be taken in the move towards a more resource-friendly agriculture.

Expected results

- Crop itinerary for metal hyperaccumulators including agroecological systems
- Better fertility of ultramafic agricultural land
- Potential value of hyperaccumulator biomass for energy purposes
- Optimized process for high added-value products of nickel
- Guidelines for other metals agromining (Co, Au, etc.)

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Project partners: CSIC, Spain; University of Natural Resources and Life Sciences Vienna, Austria; CNRS, France; Jagiellonian University, Poland; University of Tirana, Albania; Università di Firenze, Italy; Eastern Macedonia and Thrace Institute of Technology, Greece and MICROHUMUS, France.

Total funding: 589.000 €

Project period: 2016 – 2018

For more information, please visit: facceturplus.org/research-projects/agronickel

