

The newRIFF project: new life for Rice by-products and agricultural wastes: insects bioconversion for Fish Feed production

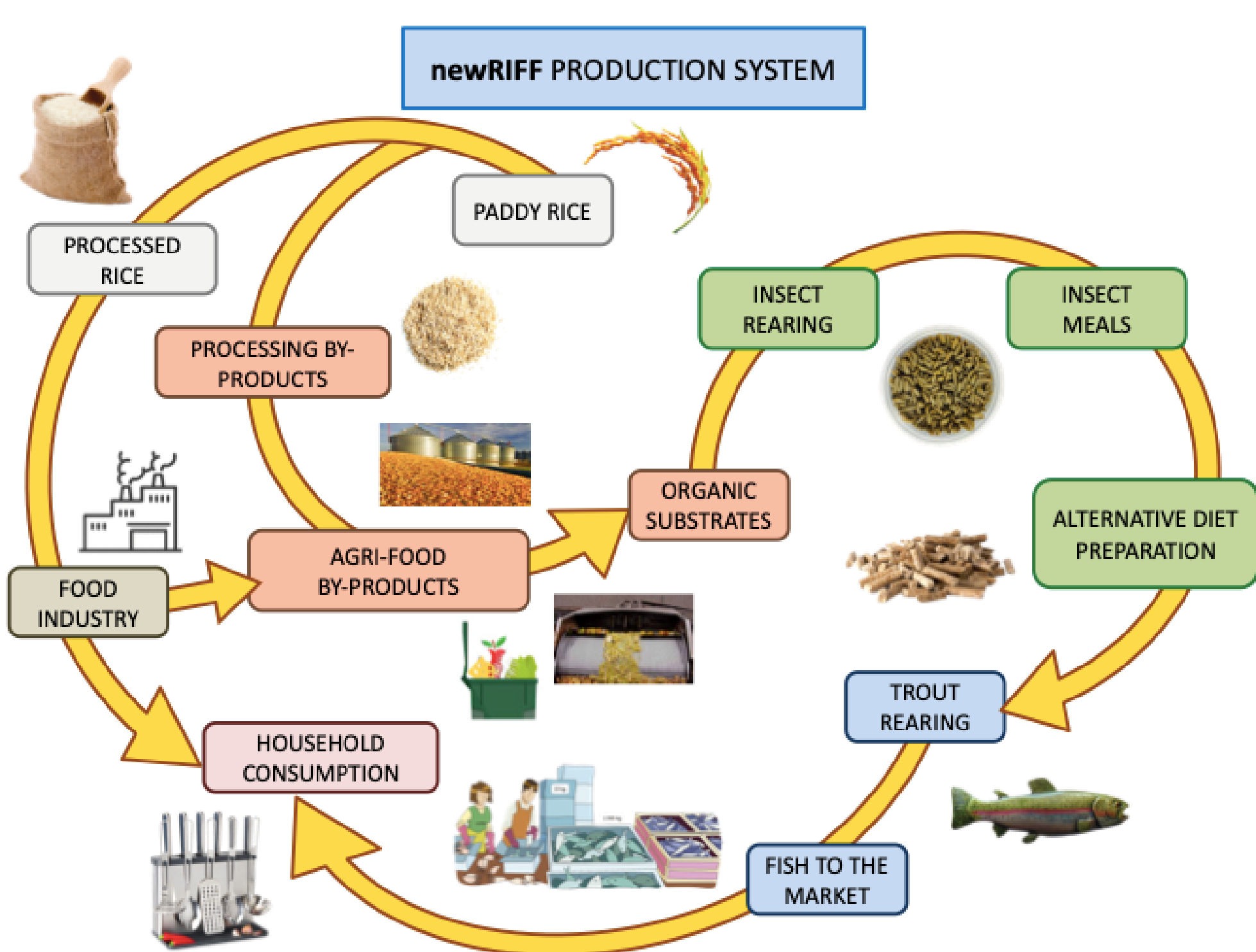
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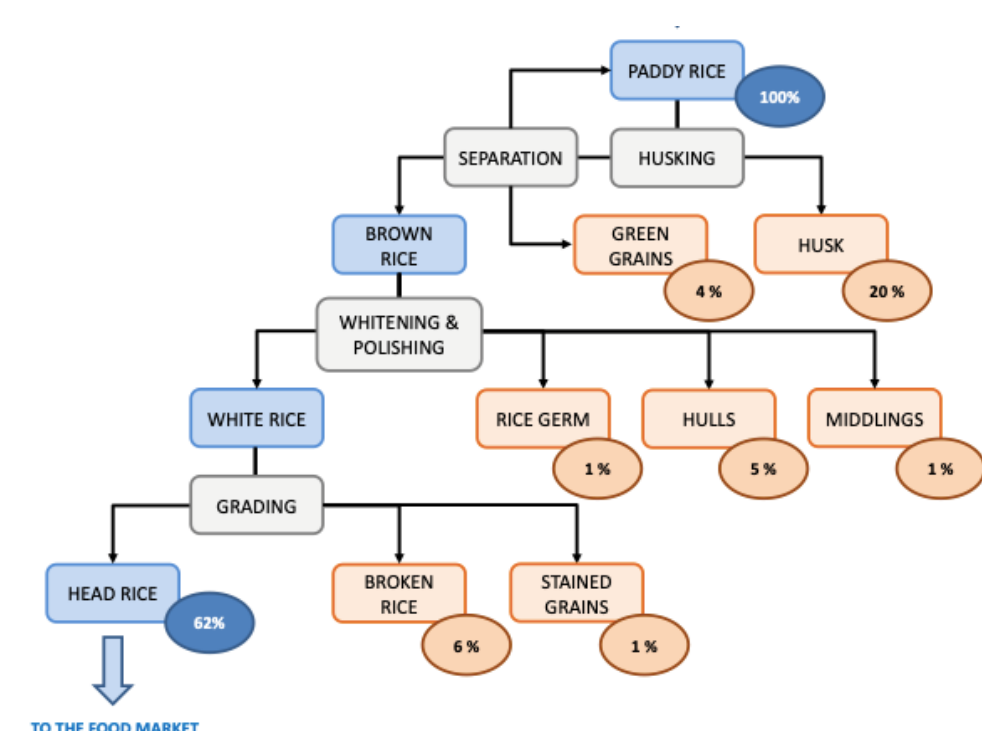


- ✓ The **newRIFF** project aims to test the suitability for recovery and enhancement of **paddy rice processing by-products**, and to use them, together with **other by-products matrices**, as a substrate for the **rearing of insects** to be used in turn for aquafeed formulations
- ✓ Tests of feed thus produced will be carried out with the **rainbow trout** (*Oncorhynchus mykiss*) as a pilot species, due to its importance in the Italian aquaculture sector (70% of the finfish production), particularly in North Italy

PROJECT GOALS

- Test the activities of **two insect** species as bio-converters of mix of agricultural organic matrices into protein source for farmed fish
- Assess the **productive performance of trout** fed with traditional protein sources diets partially substituted by insect meal
- Analyze if the use of insect meal - produced by insect reared on a mix of substrates affects the **quality and the safety** of the produced fish
- Study the **consumer acceptance** for food produced using insect meal as well as his **willingness to pay** for sustainable fish food
- Evaluate the economic, environmental and social **sustainability** of the **newRIFF** designed production processes with a life cycle approach
- Support policymakers in the revision and/or setting up of **policies & guidelines** for enhancing the valorisation of organic by-products and wastes as substrates for feed production

PROJECT "PARTICIPANTS"



Rice and other waste and by-products of agro-food chains



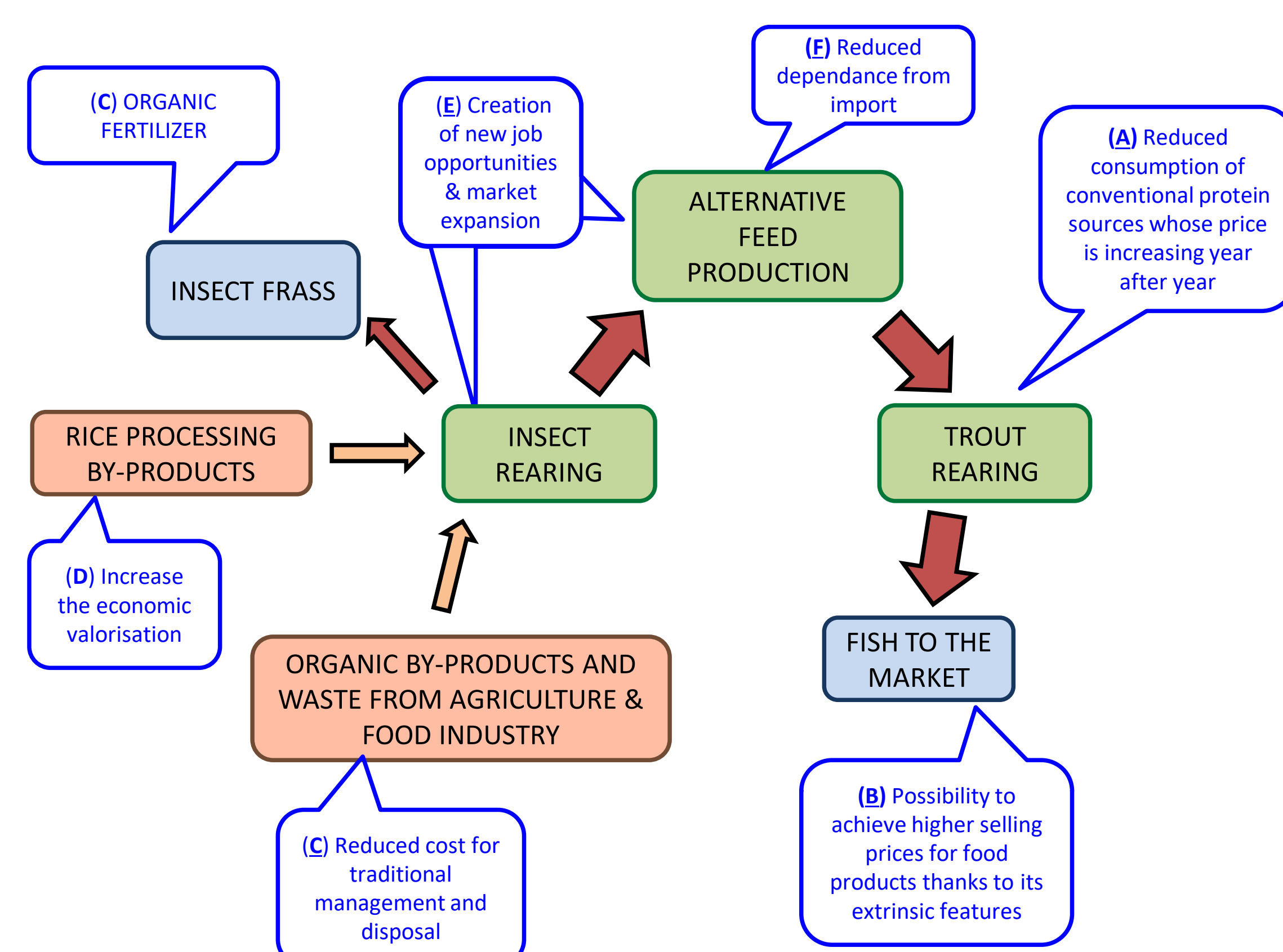
Black soldier fly (BSF, *Hermetia illucens*) and yellow mealworm (TM, *Tenebrio molitor*)



Rainbow trout (*Oncorhynchus mykiss*)

PROJECT EXPECTED IMPACTS

- ✓ Reduction of the reliance on imported protein sources and promoting the utilization of **locally produced protein feed**
- ✓ Improvement of the **consumers' acceptance** of alternative protein sources
- ✓ Development of new business opportunities for the commercialization of innovative protein sources
- ✓ **Support policymakers** in the revision and/or setting up of policies for enhancing the valorisation of organic by-products and wastes as substrates for feed production



<https://newriff.unimi.it>