

INSECT REARING PLANT



130

million tonnes of biowaste is generated annually in Europe ¹, representing **a major squandering of resources** such as energy, land, water, labour and capital.



“We combine biology with new technologies to transform a waste problem into a resource with relatively low energy inputs!”

Andrea Antonelli, professor at UNIMORE

IS THERE A SUSTAINABLE WAY TO FEED THE GROWING HUMAN POPULATION THAT ALSO ALLOWS A TRUE VALORISATION OF FOOD WASTE?



➤ WHAT?

UNIMORE & KOUR Energy's researchers are developing a new circular economy concept whereby insects, i.e. the black soldier fly (BSF) larvae, are reared on food waste from restaurants to obtain a biomass rich in proteins, fats and chitin, which can be used in many industrial applications. Additionally, the resulting organic residues after insect rearing (the frass) is a good quality soil improver.

➤ WHEN?

The greatest challenge to industrial rearing is regulatory. Currently the EU does not allow to use anything defined as 'waste' as feed for animals. Insects being considered livestock, they cannot be fed with waste.

➤ WHY?

BSF larvae are able to thrive on a wide variety of organic substrates, which gives a great opportunity to valorise organic waste.

Because they are cold-blooded, insects like BSF are 12 times more efficient than cattle in converting feeding substrates into edible biomass. Indeed, insects don't waste energy on regulating body temperature and therefore they convert biomass much more efficiently. Besides, the edible fraction of insects is 80% compared to less than 60% of vertebrate livestock.

Therefore, insect rearing plants appear as a more sustainable alternative to feed the global human population than conventional livestock farming, which poses major sustainability issues in terms of GHG emissions, land, water and energy consumption.

Contact

Andrea Antonelli, professor at UNIMORE

andrea.antonelli@unimore.it

www.unimore.it

Giovanni Andrea Ferrari, CEO of Kour Energy

giovanniandrea.ferrari@kourenergy.com

www.kourenergy.com

Want to learn more about insect rearing?

Read our video on insect rearing plants [here](#)

Discover our **SCALIBUR project**

SCALIBUR



UNIMORE
UNIVERSITÀ DEGLI STUDI DI
MODENA E REGGIO EMILIA

KOUR ENERGY S.r.l.
SVILUPPIAMO ENERGIA

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 817788

