BioBoost
Accelerating biobased horticulture

Upgrading residual streams into worm biomass

Crop	Miscellaneous - Potato *Solanum tuberosum* Wheat *Triticum aestivum*
Croppart	Roots / Tubers Seed
Application area	Food & feed
Status	Development stage
Relevant plant compounds	Starch fibres proteins

Description

Organic waste sludges from the food industry are a source of bio-molecules which can be upgraded to fish feed when used to rear aquatic worms. Bob Laarhoven proposed in his thesis that for valorisation of waste streams by aquatic worms these streams preferably are free from contaminants such as organic micro pollutants, heavy metals and pathogens. Therefore, sewage (municipal) sludge can not be used as a substrate for the worms. However, these contaminated sludges might still be used for non-food applications. Ultimately, the quality of the applied waste stream determines the application potential of the worm biomass as well as the options for downstream processing and refinery.

Pros and cons

- Residuals utilised to make a new product
- Show how waste in general can be used in a positive way
- Challenges in upscaling the product

Used conversion methods

Biochemical processes

Enzymatic conversion

Resources

https://library.wur.nl/WebQuery/wurpubs/530452 Initiative website

Aquatic Worms Article