BioBoost
Accelerating biobased horticulture

Novel biorefinery concept for mushroom compost



Crop	Mushroom *Agaricus bisporus*
Application area	Fine chemicals Pharma
Status	Research stage
Relevant plant compounds	chitin

Description

The BIOrescue project aims to provide a solution by **creating a novel biorefinery concept** for mushroom compost, transforming it into valuable bio-based products such as bio-pesticides, biodegradable nano-carriers for drug or fertiliser encapsulation, and bio-based horticultural fertilisers.

The concept will be developed for a conventional mushroom farm in Ireland that will be retrofitted to become a **sustainable and efficient** biorefinery. To strengthen the competitiveness of the novel biorefinery concept, project partners will conduct economic and environmental impact assessments of the newly developed processes and bio-based products.

Examples of end products

Biopesticides

Biodegradable nano-carriers for drug encapsulation

New enzymes

Pros and cons

- Circular economy
- Creating sustainable chemicals
- Upgrading the value of a very important residual stream in Europe

- New product on a very competing market

Used conversion methods

Mechanical-Physical processes

Separation

Extraction

Thermochemical processes

Hydrothermal upgrading

Resources

https://biorescue.eu/project/ Initiative website