

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
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Used conversion methods

Mechanical-Physical processes

Separation

Extraction

Thermochemical processes

Hydrothermal upgrading

Resources

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