

Green pesticide from spent mushroom compost



Crop

Mushroom

Agaricus bisporus

Application area

Fine chemicals

Status

Research stage

Relevant plant compounds

chitin

Description

NIAB has led the green pesticide trials as part of the BioBoost project in the UK. In order to ensure economic outcomes and continuity of the initiative beyond the scope and lifetime of the project, NIAB has worked very closely with several SME's in their EAIH(Eastern Agritech Innovation Hub) incubator north of Cambridge to deliver positive data with great potential for commercial use. NIAB has also identified and collaborated with the commercial growers to carry out field-based trial work on behalf of BioBoost including the following commercial sites: Sunclose Farm, Simpsons Nurseries, Peter Beales Roses and Matthews Plants. Organic by-products from crop and insect production were used to enhance the performance of biocontrol agents and commercially produced arbuscular mycorrhizal fungi(AMF). This inoculum was sourced from PlantWorks Ltd Kent UK. The following headline results were obtained:

- Incorporation of 10% v/v spent mushroom compost sustained an inoculum of entomopathogenic fungus in growing media resulting in improved control of vine weevil larvae
- Frass, when used as a potting material amendment repelled vine weevil and reduced egg laying in Heuchera plants.
- Fermented fruit waste liquor used as an attractant bait for spotted wing drosophila improved the control efficacy of low doses of insecticides.
- Amendment of peat-based growing medium with spent mushroom compost improved root colonisation with AMF and growth of Fatsia plants. Ongoing current trials are investigating the effects of organic amendments and AMfungi on the growth and flowering of roses.

Pros and cons

-  Upgrading of residual flows
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Resources

<https://www.bioboosteuropa.com/en/publications> Initiative website

[Interim Report Green Pesticides Final](#) Article