Low-peat blends for button mushroom casing layers in La Rioja

Alternative Materials

Local and circular resources can partly replace peat in casing layer blends.

- Spent Mushroom Substrate (SMS)
- Sheep wool
- Wood fibre
- Grass fibre
- Sphagnum moss
- Composted bark
- Vermicompost

From screening to crop validation

A simple pathway to identify the most promising low-peat blends.

1 Formulate and test

(CTICH facilities)

More than 40 raw materials were analysed and 20 alternative blends were tested in three lab-scale trials.

20 candidate blends tested in lab-scale trials

2 Select the best blends

(CTICH facilities)

Mycelium development, fructification, yield and disease incidence were evaluated.

5 blends selected for research-facility trials

3 Validate at larger scale

(CTICH facilities)

The 5 most promising blends are now being validated at CTICH facilities. The three best-performing blends will be selected for commercial demonstration in La Rioja.

Ongoing selection for commercial demonstration

The 5 selected blends for validation

- Peat + wood fibre + vermicompost
- Peat + SMS + wood fibre
- Peat + sphagnum moss + grass
- Sphagnum moss + grass + sugar beet lime
- Sphagnum moss + grass + sugar beet lime + bentonite

100% Peat

Key takeaway for growers

Peat content can be reduced to 30% in casing soil, with some alternatives reaching 0% peat.

- Good mycelium development
- Reliable fructification
- Low disease incidence
- Competitive yield

Current status and next steps

Lab-scale trials are finished and research-facility trials are ongoing. Next, the three best-performing blends will be selected for commercial demonstration in La Rioja.

*This project has received funding from the European Union's Horizon Europe research and innovation programme under **Grant Agreement No 101216569** and by the Swiss State Secretariat for Education, Research and Innovation (SERI). Views and opinions expressed are however those of the PEATLESS project only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them."*

Project funded by

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs, Education and Research EAER
State Secretariat for Education, Research and Innovation SERI

Funded by the European Union