Crucial agronomic parameters for evaluating peat-free casing in mushroom cultivation

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The problem

Suitable lab properties do not necessarily guarantee good performance in white button mushroom *(Agaricus bisporus)* production. Casing materials must be **validated under cultivation conditions** to determine their effect on **crop development, productivity, and quality**.

The solution

Agronomic assessment should monitor **casing colonisation, time to pinning, fruiting-body development, yield per flush, total yield, mushroom size, and commercial quality**. Irrigation requirements, casing moisture, and incidence of diseases or competitors must also be recorded.

Benefits

These indicators demonstrate whether a peat-free casing can **maintain crop performance comparable to conventional peat-based casing**. Combining **productivity and quality measurements** provides a more robust assessment of its commercial potential.

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Practical Recommendations

Validating Peat-Free Casing Performance

- Conduct trials over a **complete production cycle under standardised conditions**.
- Record parameters for e**ach flush and relate agronomic performance** to casing moisture and irrigation demand.
- Use a **proven peat-based casing** as the reference for performance evaluation.

About PEATLESS and this Practice Abstract

This practice abstract was elaborated in the framework of the PEATLESS project, based on the EIP AGRI practice abstract format. © 2023
Project dates: from May 2025 to April 2028.
Goal: To characterise sectorial needs at selected systems towards tailoring PEATLESS alternative substrate blends to overcome identified barriers for peat reduction in horticulture.

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