peatless

Managing Fertilisation and Irrigation When Using Alternative Growing Substrates

PEATLESS Project
Practice Abstract No. 20

Author:
Francesco Votino
info@vivaistiitaliani.it

Country/region:
Italy

Keywords:
#ResourceEfficiency
#NutrientMonitoring
#IrrigationPractices

Contact Information:
CTICH (Spain - coordinator)
direccion@ctich.com

The problem

When using an alternative substrate for ornamental potted plants, the cultivation strategy may need to be **adapted compared with a conventional substrate**. The objective is to provide suitable conditions for plant growth and achieve the quality required by the market, while avoiding **unnecessary inputs and nutrient losses**.

The solution

Laboratory analysis of the substrate should be an **important preliminary step before starting cultivation**. Characterising parameters such as pH, EC, nutrient content, water-holding capacity and porosity provides the information needed to formulate and adjust an appropriate **irrigation and fertilisation strategy**.

Benefits

Knowing the **initial nutrient status and potential nutrient availability** can therefore help avoid unnecessary fertiliser applications, reduce production costs and improve resource efficiency.

Funded by the European Union

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

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).

Managing Fertilisation and Irrigation When Using Alternative Growing Substrates

Practical Recommendations

- This is particularly important when compost or other nutrient-rich alternative materials are used.
- However, laboratory analysis represents a starting point: nutrient availability can change during cultivation due to plant uptake, irrigation, leaching, decomposition and other biological processes.
- Field experiments comparing conventional and alternative substrates, combining initial substrate characterization with regular monitoring of pH and EC, irrigation and fertilisation practices and plant performance, are essential for understanding how different growing media perform under real cultivation conditions.
- This approach helps identify the most appropriate irrigation and fertilisation practices for each substrate, supporting the development of cultivation protocols that maintain plant quality while reducing unnecessary inputs and improving resource efficiency.

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.

Funded by the European Union

Project funded by

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).