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NEWSLETTER

Use of Selectively Collected Bio-waste Derived Compost as an Alternative to Peat in Growing Media

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Introduction

Within the European Union regulatory framework, the role of peat is undergoing a clear reassessment. The legal framework governing renewable energy, in particular Directive (EU) 2018/2001 (RED II), as amended by Directive (EU) 2023/2413 (RED III), does not consider peat to be a renewable energy source, nor does peat meet the definition of biomass.

In parallel, EU climate and nature protection policies increasingly recognise peatlands as significant carbon sinks, and the regulatory direction appears to be shifting towards restricting extraction and promoting the restoration of degraded areas. This may lead to a reduction in exploitable resources and an increase in compliance-related costs, while policy and market mechanisms encouraging the use of alternative materials—particularly in horticultural applications—are being strengthened.

In light of these developments, compost is increasingly emerging as a potentially suitable substitute material. While peat is characterised by a high organic matter content (90–98%), it is nutrient-poor, acidic, and exhibits relatively low biological activity. By contrast, compost typically has a lower organic matter content (30–70%), but is richer in nutrients, has a more favourable pH (in the range of 6–8), and demonstrates significant microbiological activity, thereby also functioning as an active soil improver. Despite these differences, compost may be considered suitable for the partial or substantial replacement of peat in growing media, particularly when used in blended formulations.

This approach is well illustrated by the case of Croatia, where a selectively collected bio-waste management system has been operating effectively for approximately a decade. As a result, composting facilities have access to input materials of consistent quality and purity, enabling the production of standardised compost products. Several composting plants in Croatia have obtained certification under Regulation (EU) 2019/1009, which establishes strict limit values for contaminants as well as for hygienisation and physical impurities.

The composts produced under this framework comply with the applicable safety and quality requirements and are placed on the market under controlled conditions with documented quality assurance. In practice, such products have demonstrated their suitability to partially or, where appropriate, substantially replace peat—particularly as components in growing media blends—while contributing to circular economy and climate objectives.

It may also be noted that the increasing availability of certified compost products, combined with improving processing technologies, could further enhance the consistency and performance of compost in growing media applications. As quality assurance systems continue to develop, the variability traditionally associated with compost may be reduced, thereby supporting its wider acceptance in professional horticulture.

Overall, the EU regulatory and market environment appears to be moving towards a gradual reduction in peat use. In this context, compost-based solutions may represent not only an environmental alternative, but also a technically viable option for future substrate formulations in a wide range of applications.