

Lavender Aromatico™ Blue propagation performance in OASIS® RhizoPlug™ Tray vs. loose fill peat-based media

Summary

Research conducted at the Oasis Grower Solutions Research, Innovation & Development greenhouse facility evaluated propagation of Lavender Aromatico™ Blue (*Lavandula angustifolia* 'Lablusa'), comparing performance in OASIS® RhizoPlug™ Tray to a loose fill peat-based blend.

Key Findings

Evaluated 18 days after sticking:

- Root growth in OASIS® RhizoPlug™ averaged more than 1.20 times higher than loose fill.
- Shoot growth in OASIS® RhizoPlug™ averaged 2.15 times higher than in loose fill.
- Plug extractability in OASIS® RhizoPlug™ averaged nearly 1.22 times higher than loose fill.
- Lavender propagated in OASIS® RhizoPlug™ showed less variability and greater uniformity than those propagated in loose fill.
- Time to transplant was **reduced more than 20%** for lavender propagated in OASIS® RhizoPlug™ Tray compared to those propagated in loose fill peat.

Introduction

Lavender is a high-value ornamental, culinary and medicinal crop that continues to grow in popularity. However, lavender propagation can be challenging due to slow cutting establishment, nonuniform growth and disease pressure. The type of substrate used to propagate lavender can play a crucial role in the time to root, ease of extractability, and overall plant health.

Objective

Evaluate the propagation performance of Lavender Aromatico™ Blue in OASIS® RhizoPlug™ Tray compared to loose fill peat blend.

Materials & Methods

Research was conducted during August and September 2024 at the Oasis Grower Solutions RI&D facility in Kent, Ohio USA. This trial used 105-count trays for both the loose fill peat and OASIS® RhizoPlug™ Tray engineered foam propagation substrate. The loose fill blend consisted of 80-90% Canadian sphagnum peat moss, 10-20% coarse perlite, calcitic limestone, dolomitic limestone, wetting agent and a nutrient starter charge.

Once filled, loose fill trays were watered overhead until fully saturated. OASIS® RhizoPlug™ trays were watered according to standard OASIS® recommendations for initial saturation. All trays received the same nutrient solution of 15-5-15 @150 ppm N at every watering, including initial saturation. Root, shoot and plug extractability scores were collected at day 18 based on a visual rating scale of 0 to 5, with 0 indicating no roots, no shoots or not extractable, and 5 meaning fully rooted, excellent shoot growth and fully extractable.

Results

Visual evaluations at day 18 indicated superior root growth, shoot growth and plug extractability for young lavender plants propagated in OASIS® RhizoPlug™ Tray compared to loose fill peat. These observations are substantiated by the data reflected in Figures 1A-B and Figures 2A-C below.

Root Ratings: Cuttings stuck in loose fill peat averaged 2.8 compared to ratings of 3.4 in OASIS® RhizoPlug™ Tray, a statistically significant improvement ($p = 0.0012$). Loose fill peat displayed greater variability compared to root ratings in OASIS® RhizoPlug™ Tray.

Shoot Ratings: Young plants in loose fill peat averaged 2.0, while those in OASIS® RhizoPlug™ Tray averaged 4.3, again indicating a statistically significant difference ($p = 0.0249$). Shoot ratings in loose fill peat displayed greater variability compared to shoot ratings in OASIS® RhizoPlug™ Tray.

Plug Extractability: Average extractability ratings rose from 4.1 in loose fill peat to 5.0 in OASIS® RhizoPlug™ Tray, a highly significant difference ($p = 0.0002$). Extractability of cuttings stuck in loose fill peat exhibited greater variability and less uniformity compared to OASIS® RhizoPlug™ Tray.

Fig. 1 A–B

1A. Visual presentation of Lavender Aromatico™ Blue trays, showing shoot growth 18 days after sticking in loose fill peat (left) and OASIS® RhizoPlug™ Tray (right). 1B. Visual presentation of an average Lavender Aromatico™ Blue plug 18 days after sticking, showing root growth and extractability in loose fill peat (left) and OASIS® RhizoPlug™ Tray (right).

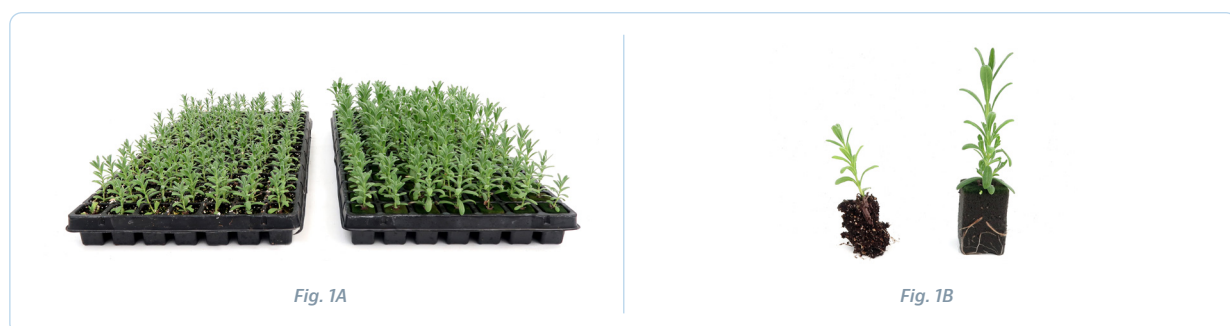
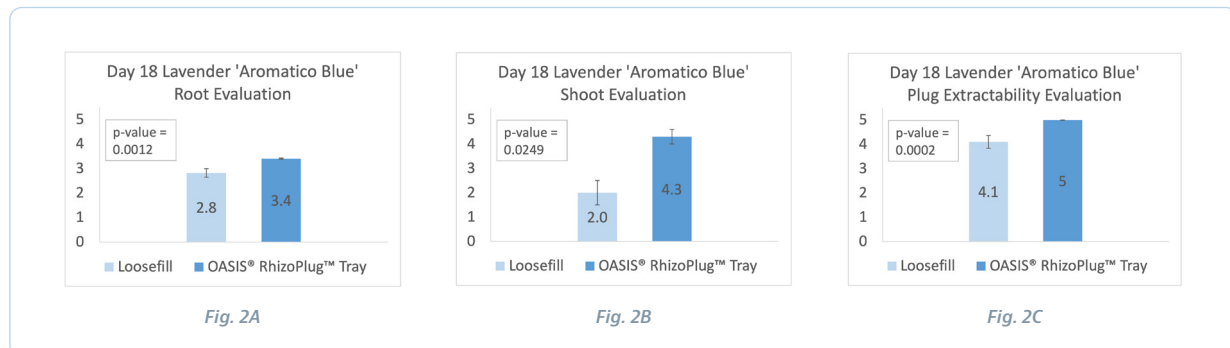


Fig. 2 A–C

Graphical representation of ratings for root, shoot and extractability evaluation, showing that Lavender Aromatico™ Blue cuttings stuck in OASIS® RhizoPlug™ Trays rated significantly higher on all three counts compared to loose fill.



Conclusions

Lavender Aromatico™ Blue propagated in OASIS® RhizoPlug™ Tray had statistically significant improved root growth, shoot growth and plug extractability compared to loose fill peat. By day 18 after sticking, cuttings propagated in OASIS® RhizoPlug™ Tray were fully established and ready for transplant, while cuttings propagated in loose fill peat would have not been ready for an additional 5 to 7 days (approximately day 23 to day 25).

Cuttings stuck in OASIS® RhizoPlug™ Tray showed less variation in ratings between replications, demonstrating the consistency in crop growth that can be achieved with OASIS® RhizoPlug™ Tray. In addition to faster cutting establishment and more uniform shoot growth, cuttings in OASIS® RhizoPlug™ Tray also presented less concern for disease compared to those in loose fill peat.

The findings here support that OASIS® RhizoPlug™ Tray offers significant benefits over loose fill peat in the propagation of lavender and may be a solution for similar challenging crops.