

# Peat-Free Propagation in Perennials

*A propagator's journey to success in peat-free*

Trial Partner:  
**Barrett's Bridge Nursery**

Wisbech St Mary, Wisbech, PE13 5JR

Based in Cambridgeshire, Barrett's Bridge Nursery specialises in plug plant production and produce over 1000 varieties. For over 40 years, Barrett's Bridge has supplied high-quality young plants throughout the UK, Ireland and Europe.

## Outline

Despite the success of many growers in the transition to peat free, propagators and plug producers continue to face some challenges.

These include:

- A lack of plug integrity during sowing
- Drying out faster than traditional peat plugs, meaning adaptation needed to irrigation
- Germination issues due to the coarse texture and higher air-filled porosity
- Problems flowing through seeding machines and propagation equipment
- EC and pH balancing
- The softness and sponginess of the mix – requires good contact with root for water uptake.

**At Fargro, we have been working closely with our growers and growing media producers to develop peat-free mixes that overcome these challenges to help ease the transition to peat-free.**

We worked with Barrett's Bridge Nursery to find solutions to these problems by trialling different peat-free mixes and fertilisation rates.

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**Crop:**  
 Different varieties of  
 Lavender and Perennials

## PART 1 Choosing a Mix

We trialled two Jiffy Peat Free Propagation mixes to see which would work best for the grower:

1. Jiffy Peat Free Propagation Super Fine with Sphagnum Moss
2. Jiffy Peat Free Propagation Super Fine

### Jiffy Peat Free Propagation Super Fine with Sphagnum Moss

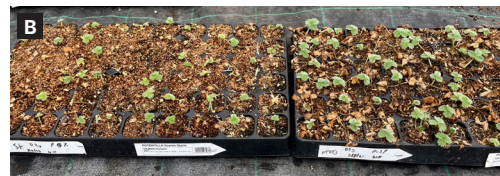
Jiffy have developed a peat-free mix specifically developed to be used in propagation. Ideal for a variety of tray sizes, this fine-textured mix contains sphagnum moss, ensuring excellent conditions for successful germination and smooth operation through propagation equipment.

### Jiffy Peat Free Propagation Super Fine

An alternative propagation mix, this Super Fine media is well suited to a variety of tray sizes. With its smooth texture, the Super Fine mix has excellent uniformity and ensures good germination in smaller plugs.



A: Lavender 'Seal' in both mixes



B: Potentilla 'Scarlet Starlit' in both mixes



C: Lavender 'Seal' rooting in both mixes.

### FIGURE 1

In all pictures, the Super Fine mix is on the left, and the Sphagnum moss on the right.

## PART 1: Results

After propagating cuttings in both mixes, we found that the Sphagnum mix worked better for the grower and produced better germination rates. The Sphagnum mix is softer and spongy, which suited the grower's trays better in the way it held moisture. (Figure 1).

**It was decided after this trial to proceed with the sphagnum moss mix for the subsequent trials.**

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## Spray Programme

It is worth noting that the crop was given preventative sprays of Romeo combined with SB Plant Invigorator. Romeo is a biofungicide containing cerevisiae that enhances plant defence responses and primes the plant to respond quickly to an infection.

Amistar was also used when necessary to provide a knockdown of any building disease.

## PART 2 Fertilisation Rates

Having chosen the Super Fine Sphagnum Moss mix, we now needed to decide the best way to fertilise the crops to achieve the best germination rates and nutrition. We paired the mix with DCM organic fertilisers.

DCM organic fertilisers have many benefits:

- **Sustainable:** Made from natural raw materials, by-products of the food industry
- **Boosts soil life:** Organic fertilisers require microbial breakdown before plant uptake which encourages soil microbe diversity
- **Efficient uptake:** Nutrient release is synchronised with plant activity, meaning reduced leaching and more efficient uptake
- **Boost plant health:** By only feeding the plant what it needs when it needs it, we increase the plant's resilience to abiotic stress, pest and disease.

## DCM Ecor 6

In this trial, we paired the Sphagnum moss propagation mix with DCM Ecor 6, an organic fertiliser made from natural raw materials.

It is made up of:

- 5% nitrogen
- 1.5% phosphate
- 4% potassium
- 2% magnesium oxide
- 64% organic matter

Using DCM's Minigran<sup>®</sup> Technology, Ecor 6 consists of small, uniform granules that ensure even distribution of nutrients throughout the pot. These granules provide long-lasting continuous nutrient release (75-100 days) due to the diverse organic materials they contain.

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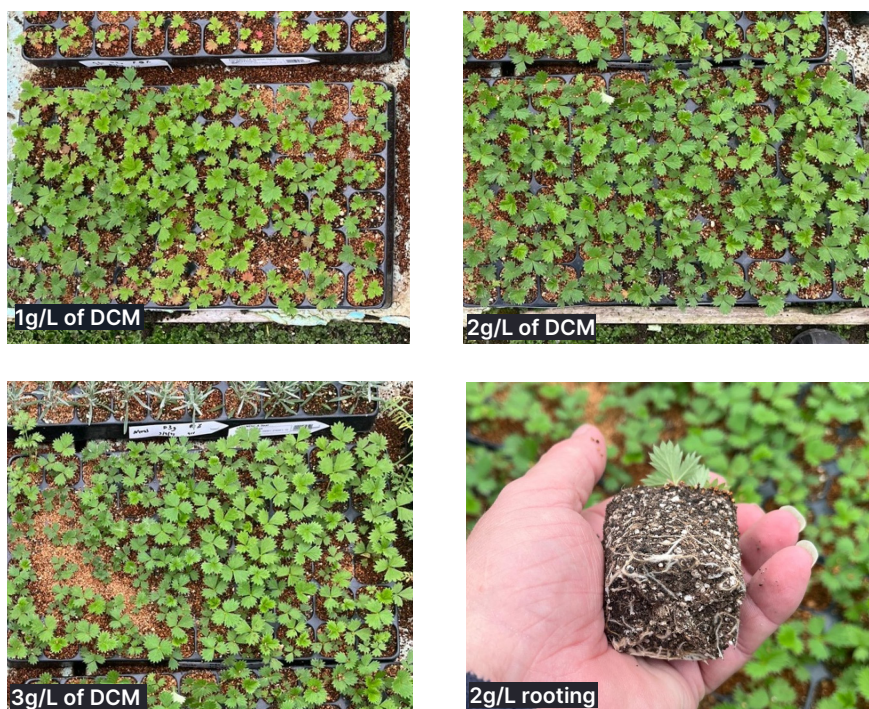
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## Fertiliser rate

We trialled different rates of DCM Ecor 6 in the Jiffy mix to determine the correct level of nutrition required:

- 1g/L
- 2g/L
- 3g/L

FIGURE 2



From left to right shows increasing levels of DCM in each treatment. Bottom right shows the rooting in 2g/l DCM treatment.

As seen from Figure 2, Ecor 6 at a rate of 2g/L was determined to be most successful with good top growth and a well-developed root system. The plugs were an even, deep green colour, showing that this rate gave the plants the right amount of nutrition to develop into healthy seedlings. It is likely that the lower rate didn't provide enough nutrition, whereas the highest rate seemed to affect germination (in combination with low light levels).

**As a result, the 2g/L DCM rate was selected to plant on a larger scale for wider production.**

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## Plants ready for sale

Lavender varieties propagated include 'Little Lady', 'Munstead', 'Hidcote', 'Hidcote Giant', 'Folgate' and 'Grey Hedge'. All lavender cuttings were planted into this mix and showed development of very healthy root systems with even, vigorous top growth with a good colour and less than 1% crop loss (see Figure 3 (below), representative of all varieties).

FIGURE 3



Figure 3: Lavender (variety 'Seal') propagation in the Jiffy propagation mix with 2 g/L DCM Ecor 6. Cuttings propagated in April 2024, photos taken at 6 weeks old.

Some of the lavender plugs were weaned off in July and given a liquid calcium feed. After being top-dressed with DCM Ecor 5 (NPK 8-5-6, giving 120-150 days of nutrition), they were ready to go out to the customer in September (Figure 4).

FIGURE 4



Figure 4: Lavender 'Folgate' ready to go out to the customer at the end of the trial in DCM Ecor 6 and Jiffy Peat Free Sphagnum Mix.

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*'Barrett's Bridge have made their move to peat-free and have demonstrated the success to be had in peat-free propagation through flexibility and perseverance and have learned a lot about the behaviour of the mixes and how to work with them to get the best results.'*

**Sean Whitworth, Fargro's Senior Growing Media & Fertiliser Specialist**

Some of the 'Hidcote' plugs were potted up to peat-free 9cm pots at the beginning of August and showed very good rooting and excellent uniformity to go out to the customer, with less than 1% crop loss (Figure 5).

FIGURE 5



Figure 5: Lavender 'Hidcote' 9cm plants at 5 weeks after potting up, ready to go out to the customer.

## Conclusion

**This trial has proved that propagation in peat free growing media is very achievable and can be highly successful.** The DCM incorporated into the growing media and top-dressing meant that only calcium nitrate feed was required, meaning the crop was not overfed and was therefore more **efficient with nutrition** and more **cost-effective** for the grower.

Throughout the trial, the grower learned various watering techniques to maintain the plugs and altered their production accordingly to make the crop successful.

**At the end of the trial the grower was very pleased with the quality of plants produced and proved that propagation in peat free with the right nutrition can produce a high quality crop.**

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**Crop:**  
 Clematis, Hydrangea, and  
 Fuchsia

## PART 3

### Jiffy Preforma Peat-Free Plugs

The Jiffy Preforma plugs pre-formed plugs, suitable for all cuttings, seeds and tissue cultures with various benefits:

- **Promote healthy root development:** Retain 35% air-filled porosity – ensuring minimal compaction and aerobic conditions around the root.
- **Reliable and efficient:** No pre-blending, fertilising or watering
- **Ease of use:** Compatible with existing grading and transplanting equipment

In this trial, Clematis cuttings (varieties 'Ernest Markham', 'Princess Diane', 'Vyvyan Pennell' and 'Multi Blue') were stuck into the Jiffy Preforma plugs. They were propagated in April and have developed very well, with a good early root system and healthy top growth. The same was true for Fuchsia ('Brutus') and Hydrangea ('Pink Diamond') which were both stuck into the Preforma plugs at a similar time, with good rooting from both. (Figure 6)

FIGURE 6



From left to right: Clematis ('Princess Diana'), Hydrangea ('Pink Diamond'), Fuchsia ('Brutus') all with healthy root development. Cuttings were propagated in April, photos taken at 4-5 weeks old.

These cuttings continued to develop throughout the season and in September, were ready to be overwintered for sale in the spring. As seen in Figure 7 (next page), the cuttings have developed dense root systems, making them more robust to endure the winter and will have stronger growth when temperatures begin to rise next year.

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*'We are really pleased with our peat-free crop this year. We were able to cut down on watering as we became more familiar with the mixes and adapted our techniques throughout the trial. We were also really impressed with the DCM fertiliser - we have reduced our liquid feed which has saved us money and we're looking forward to improving even further next year.'*

**Chris and Anthony,**  
 Barrett's Bridge Nursery

FIGURE 7



Clematis pictured at the end of September ready to be overwintered for spring sales. Top row: 'Princess Diana'; bottom row: 'Ernest Markham'.

## Jiffy Preforma Plugs: Conclusion

The peat free Preforma plugs have been highly successful and offer an **efficient alternative to peat free propagation**. They are able to hold their air filled porosity, ensuring **quick, strong rooting** and are able to offer enough nutrition to the cutting to allow for **strong, healthy growth**. The Preforma plugs are suitable for a range of crops, as trialled, and produce a high proportion of 1st quality plugs.

### Take-home points

- Peat-free propagation can produce a **high-quality crop** with very few losses with the **right mix and nutrition**.
- There are various options for peat-free propagation – and the **right solution for you will depend on your setup and preferences**.
- Takes on the **holistic growing approach**: focus on **plant resilience and health** with **preventative biofungicide sprays** and **correct nutrition**, creating a robust crop.