



Flexi Frame 77



Products & Solutions for forest nurseries

The Flexi Frame- 77 growing system, high & low model is a flexible and modern growing system from BCC. It allows the nursery to grow a variety of species within the same growing frame and maximise expensive growing space.





Citrus, New Zealand



Japanese Cedar (ready for despatch)



Japanese Cedar (cuttings in greenhouse)

TECHNICAL DESCRIPTION

To grow a variety of species with different propagation requirements in the same nursery creates difficulties for the nurseryman and grower. Even within the same species it is sometimes required to grow plants with different dimensions due to infield planting conditions.

This generally requires different cell volumes and growing densities in the frame. The problem which growers face is that a variety of trays are required in the nursery, which normally does not have the same outer dimensions. This results in difficulties when mechanising critical operations, for example washing, filling, sowing and setting. Furthermore, it is difficult to standardise the handling system (transfer of trays and tables to support/raise the trays off the ground) within the nursery.

BCC has developed a system, the **Flexi Frame-77 growing system**, which allows the nursery man to grow a variety of species with different propagation requirements and plant sizes within the same growing frame. This is done by using a skirt along the bottom of the tray which increase the height of the tray with 50mm. This allows for the use of the larger 150 SideSlit and SolidCell inserts, to grow larger sized plants and seedlings which require a longer growing period in the nursery, e.g. Pines and early season Eucalyptus. The frame can be manufactured without the skirt, which reduces its height to 120mm. This lower frame will accommodate AirCell105 for growing smaller sized plants and seedlings that require a shorter rotation in the nursery, e.g. late season Eucalyptus.

Using one frame with the same outer dimensions (567mm 375mm) allows the nursery man to decide on one handling system within the nursery, and also allows for easier mechanisation of operations. Each insert is supported in the frame by eight stubs which allow for proper ventilation through the frame and canopy of the seedlings. This ensures effective air pruning in sideslit cells and drying of the canopy after irrigation applications.



Albizia, Sabah (East Malaysia)

OPERATIONAL BENEFITS & KEY FEATURES

Single cell systems allow for more flexibility in the nursery

- Maximise expensive growing space (e.g. green houses)
- Remove non-rooted/non-germinated plants after the rooting phase
- Sort plants according to size for different water and fertiliser applications
- Cull and remove infected, diseased and poor quality plants
- Space plants when leaf cover becomes too dense and competition among plants affect development
- Select for despatch of plants to the field.



Citrus root development, New Zealand

The following model inserts fit into the Flexi Frame-77 high & low model

- AirCell105 (lower version) – AirCell concept with volume of 105cc and 8 sideslits along ploughed sidewalls for active root guiding and air pruning of roots;
- SideSlit Cell 150 (higher version) – SideSlit Cell insert with volume of 150cc with 8 si-deslits for air pruning of roots;
- SolidCell150 (higher version) – SolidCell insert with volume of 150cc with root guiding ribs and large bottom hole for effective drainage.

AirCell grown seedlings and cuttings of different have shown the following results in trials and commercial production nurseries around the world:

- Eliminate caging or spiralling of root systems within the cell;
- Minimises root deformation;
- Produces a “natural” root system with lateral root development and active growing root tips;
- Better aeration and drainage improving rooting success of cuttings;
- Potentially shorter growing cycles within the nursery;
- Quicker establishment of plants infield due to better lateral root development and active root tips;
- Requires more precise water management within the nursery and important to allow for proper air flow under the tray for air pruning of roots.

TECHNICAL DATA

The Frames and cells are stackable for more efficient transport. The frame and cells are manufactured from high quality virgin PP (polypropylene) plastic for a maximum life expectancy.

| Cell Type | Volume (cc) | Depth (mm) | Side Slits | Active root guiding | Fits in frame |
|-------------------|-------------|------------|------------|---------------------|-------------------|
| AirCell 105 | 105 | 100 | Yes | Yes | FlexiFrame -77 LM |
| Solid Cell 150 | 150 | 150 | No | No | FlexiFrame -77 HM |
| SideSlit Cell 150 | 150 | 150 | Yes | No | FlexiFrame -77 HM |



| Frame Model | Dimensions LxWxH (mm) | Cells/m2 | Suitable holder for |
|---------------|-----------------------|----------|-------------------------------------|
| FlexiFrame LM | 567x375x120 | 362 | AirCell 105 |
| FlexiFrame HM | 567x375x170 | 362 | Solid Cell 150 SideSlit Cell 150 |

