

Round Plants In Square Holes

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Round tubes have been a defacto standard in the nursery industry for many years. It is timely that we learn from the mass of evidence available worldwide, that pot shapes other than round have so many more advantages in growing better root systems. It has been accepted for too long, that while manufacturers originally found it easier to make round tubes, new moulding and injection techniques no longer make it necessary for them to continue to produce that shape. The business of container manufacturing is very competitive, so as users we have an opportunity and an obligation.

Our OPPORTUNITY is to be able to shop around to get the best value for money.

Our OBLIGATION is to analyse our potting operations, look to future trends and directions, and tell the manufacturers what industry standards and shapes we need, to be better propagators.

WHY CHANGE?

Watch a propagator try to place 99 tubes in a 12 inch × 10 inch [310 mm × 255 mm] sloping sided “standard” propagation tray, and see the difficulties encountered by the user. It is the “round peg in the square hole” syndrome all over again, every time we pot:

- *Those sloping tray sides never could support the tubes upright.* [Strike 1]
- *What chance have the individual plants got to equal watering?* [Strike 2]
- *Try moving or placing the trays on a table, bench or trailer, without tilting or tipping the outside tubes.* [Strike 3]
- *Do you enjoy counting in multiples of 99 or has the metric era got to you.* [Strike 4]
- *Have you calculated how much water is wasted between the gaps? The unused area is more than 20%.* [Strike 5]
- *Add fertiliser and potting media losses to this, and the losses get serious.* [Strike 6]

How many strikes do we have to suffer before we take action? And we have not yet looked at the **root** of the problem. How about the plant? Before we assess that curly one, what are the alternatives?

There are pot and tube makers who have responded to producing better shaped designs, and the business is competitive, so why is there a problem? As propagators, we are failing to control our own agenda by settling on a range of sizes and containers that will meet ever-increasing standards towards growing better plants. We do need a standardised approach to durable tube frames. The essential advantages for square tubes in square frames are:

- The combination is stable for movement between potting and placement.
- We can develop aeration under the tube bottom to produce automatic root pruning.
- Pathogen build-up is avoided by creating an antagonistic environment under the tube.
- Square tubes will produce a better structured root development.
- Square tubes with ridges inside protruding down each side will prevent root circling, particularly if you develop advanced plants.
- Square tubes stay firm together in a tray because they touch on flat sides.
- Square tubes lend themselves to improved automatic tray filling, seeding, and fertigation techniques.

AIR FILLED POROSITY AND WATERING CONSIDERATIONS

One essential assessment of whether you have an acceptable potting media environment, for the right container, is to know your air filled porosity. As a general guideline, a range between 20% to 25% is satisfactory for fast growing plants, but if you need more information, get a copy of Kevin Handreck's *Growing Media for Ornamental Plants and Turf*.

Understanding the basic facts in best watering practices as your most important task can not be overemphasised. Start with the right containers, fill them with the right media, place them in the right environment, and concentrate on the most important job in the plant production process.

LITERATURE CITED

Handreck, K and N. Black. 1984. *Growing media for ornamental plants and turf*. NSW University Press. Randwick.