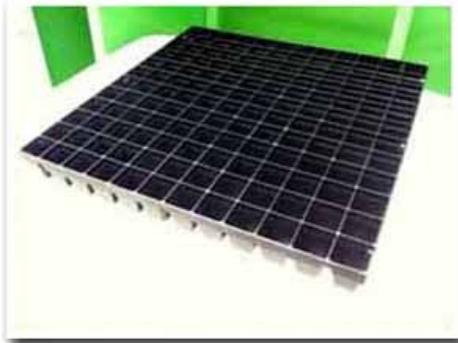




# TRANSPLANT SYSTEMS

## Phase 1 - The seedling growing tray

Currently, commercial vegetable growers are offered a range of styles of seedling growing trays with conflicting evidence as to which is best. Many have evolved from the observations of individual growers reflecting what is believed to be required. Others come from the views of plastics companies. Few have come from long range research.



The economic considerations in determining the most suitable growing container will depend on the economics of the chosen transplanting system as the container tray alone may not prove to maximise the available savings that a fully integrated system will provide. Long term considerations thus indicate that the most widely adaptable container, which can be used in the greatest variety of transplant production systems, will be the one which will become most popular. The Transplant Systems TS 144 cell square seedling growing tray is currently showing to become the strongest contender. This

tray is the outcome of long ranging research in Europe. The inherent cell form and volume has proven to be ideal for growing most leaf vegetable seedlings.

In addition, its square form facilitates automatic movement through all stages of plant nursery and field planting mechanisation. The square tray is always in the correct configuration for mechanical movement. The practicality of this tray is now recognised by most leading professional vegetable seedling growing nurseries in Australia.

This is all good for the horticulture industry as it develops the required form of standardisation that can encourage investment in creating affordable field planting automation. There are other automatic planting solutions around but the most reliable and the most easiest to use will be the one that succeeds. A second critical aspect in preparing for planting automation has been to encourage growers to accept the rotating cup form of semi automatic planting machines and to use seedlings that have been raised in the square Transplant Systems cell trays.



During earlier years, we found growers who adopted semi automatic planting machines would quickly realise the importance of well formed growing beds when using container raised seedlings as opposed to planting bare root seedlings. This was a necessary learning process in preparation for the eventual arrival of fully automatic planting methods. Unfortunately there are still growers who have not passed this point in their planting programmes.

The reason why we encourage the use of seedlings raised in TS seedling growing cell trays is explained as follows:

The TS 144 square tray is comprised of 12 cells length ways and 12 cells width ways. The TS 256 square tray has 16 rows of 16 cells. Each cell is square in its form with tapered wall surfaces. The top of the cell is wider than the bottom which has a large square drainage hole to encourage improved air porosity and also allowing for air root pruning. The rootball taken from this tray gives a square flat bottom to encourage an upright arrival in the opened furrow. The rootball of seedlings from other types of cellular trays may have a V shape with resulting tendency to lean forward or backward if not immediately pinned by the loose soil returning to the furrow from the trailing edge of the the furrow opening share. Correct row planting is in the timing of the plant arrival in the furrow and the pinning of the plant by the displaced soil returning to the opened furrow. If timing is slightly out, the squat based rootball will be more forgiving and will be slow to tumble or to get buried.

