

Growing Bench Design and Installation



Constructing production nursery growing benches to the standard recognised and encouraged under the Nursery Industry Accreditation Scheme Australia (NIASA), the nursery industry best management practice (BMP) program, provides a range of significant benefits not always easily identified.

Well designed and constructed growing benches can provide:

- an efficient, safer and healthier work environment,
- reduced on-farm pest and disease biosecurity risk when supported by sound nursery management processes and procedures,
- less chemical usage,
- lower labour input requirements,
- a longer life,
- reduced maintenance,
- environmental benefits,
- good air movement around the crop,
- excellent container drainage,
- separation from the ground or soil.

A suitable surface for handling, propagating and growing is one that isolates the plants from sources of contamination. Growing benches constructed to BMP standards provide complete separation from the ground (a potential pest and disease source) and quickly drain away irrigation wastewater. The pathogens of most concern are those that are soil and water borne, and contaminated surfaces and water splash are the most likely way of spreading these and many other diseases. Well designed and constructed growing benches help to minimise the problems from these two common sources of contamination.

There are a number of contributing factors to the risk of contamination in different situations, and it is therefore difficult to be exact about bench specifications. However, for the purposes of disease prevention, the following recommendations have proven useful.

The height of benches is dependent on the type of

surface underneath. Benches spanning or adjacent to properly sealed or aggregate surfaced floors and paths, and grown in polyhouses/ glasshouses with low precipitation rate irrigation, need not be higher than 30 cm. However, where raised benches are used for propagation and production, including capillary beds, flood irrigation systems, roller and rocker benches, as well as those constructed with mesh or solid tops, the bench height should ideally be a minimum of 75 cm above the ground or soil surface. This minimum height requirement also applies to situations where splash and other methods of contamination are likely to occur.

Raised benches are sometimes used for crop production in outside full sun areas, but this is usually restricted to smaller sized container production, due to the issues of stability, weight, access, construction costs and cropping densities.

The bench surface should preferably be free draining, e.g. galvanised mesh, and easily disinfested. Solid surfaces on benches may be used, but only where all other hygiene practices are exceptionally good, and plants grown on them routinely test free from pathogens.

To improve space utilisation, hanging baskets and double benches can also be used in growing areas providing good hygiene practices are maintained.

Benches can be purchased or built from locally available materials and there are many serviceable benches that have been built in-house throughout the nursery industry.

For more information on growing bench construction refer to "NIASA Best Management Practice Guidelines for Nursery Production, Growing Media Supply and Greenlife Market".

Lex McMullin
Farm Management Systems Officer
Nursery & Garden Industry Queensland