



The Nursery Papers

ESSENTIAL INFORMATION FOR AUSTRALIAN PROFESSIONAL NURSERY OPERATORS

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Savings in nursery despatch

The following information summarises the *first stage* of the QDPI/HRDC project on nursery despatch operations, which is being conducted by Voytek Radajewski¹, Don Gaydon¹ and Keith Bodman¹ with assistance from the nursery industry product levy and HRDC.

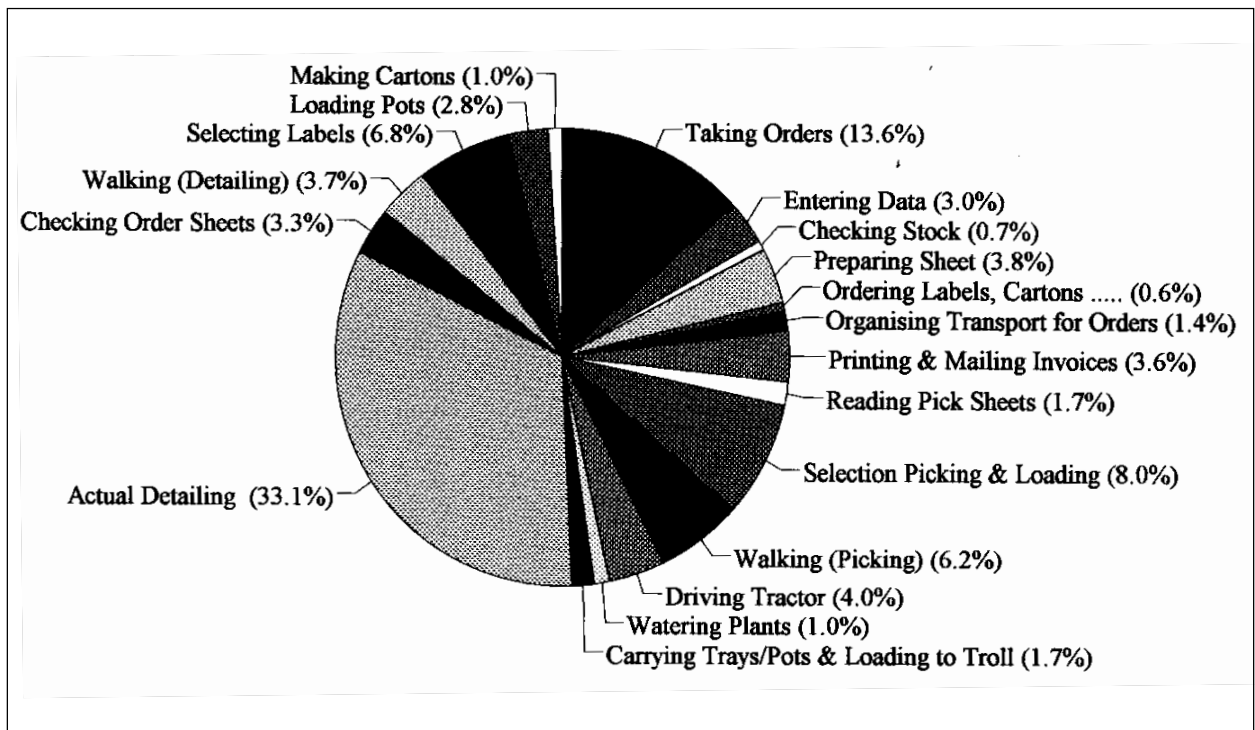


FIGURE 1 Breakup of Despatch Costs

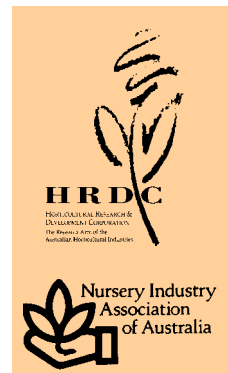
What was examined?

It is generally accepted in the Australian nursery industry that the despatch of plants from production nurseries is the most costly and labour intensive operation in the business. An opportunity exists through improvements in work practices, layouts and logistics to considerably reduce the cost of production by increasing the productivity of labour.

The despatch process is defined as all the tasks which are performed between the time an order is received to the time the plants are awaiting loading

to external transport vehicles. These tasks include receiving orders (office), processing orders (office), picking plants, transporting plants from growing area to despatch shed, watering plants, detailing and preparing plants for sale, (ie staking, labelling, sleeving, tying etc.), and packaging plants.

In most of the nurseries the



sequence in which these operations are performed is similar, but methods by which the various tasks associated with these operations are performed often vary considerably. Consequently, labour efficiencies also vary widely.

Benchmarking

Before despatch problems can be addressed, it is necessary to identify the nature and magnitude of current problem areas through a breakup of costs and efficiencies in all components of the despatch process, that is, to produce benchmarks. The time required to perform any of the tasks associated with these operations was established by the following on-site time and motion methods:

- Direct measurement of the time involved for specific tasks.
- Measurement of the time involved from video records.
- Use of the data provided by nurseries in a format requested by the project investigators

Our findings to date

Figure 1 represents the average break-up of costs over all nurseries investigated. Differences in figures were noted between small and large nurseries, however the trends were the same. The nursery's despatch performance was found to increase with its size, with average despatch time for a 140mm pot ranging from 102 seconds (small nurseries) to 86 seconds (large nurseries). The 33% difference was due to both operational differences and to some extent economies of scale.

The overall average cost of labour for despatching a 140mm pot was found to be 36 cents.

The process of picking plants from the field was found to be the most inefficient operation with potential savings in picking time of up to 75% possible.

The actual detailing operations (labelling, staking, trimming etc.) hold little scope for time improvements in themselves, however improvements in

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organisation of detailing tasks may offer savings of up to 20% in detailing time.

Where to now?

The future work in this project will involve testing various modifications to existing nursery despatch practices and measuring the resultant benefits in terms of time and money saved. Procedures which are effective will then be implemented in nurseries Australia-wide by workshops run in conjunction with nursery associations, and supported by very comprehensive industry publications.

Some of the methods we plan to test in the next stage of the project are:

- **Processing incoming orders differently**
The emphasis for picking and detailing thus falls on *species* and/or types of plants that need similar detailing and other despatch treatment, rather than *orders*. Operational methods for avoiding chaos in the despatch shed will be evaluated.
- **Strategies for picking**
When a growing-bay is full of plants, the earlier picking visits will be the most efficient because the proportion of quality plants to inferior plants will be at its highest. As the bay is selected-over during subsequent picking visits, this ratio decreases and picking becomes more inefficient as more inferior plants must be picked over to find one of the diminishing number of quality plants. Several picking strategies to avoid this decrease in efficiency will be tested.
- **Various devices**
These include pot-dispensers for despatch shed work benches, watering tunnels etc.

Future contact

For more information, Don Gaydon or Keith Bodman can be contacted at Redlands Centre for Amenity Horticulture, phone (07) 3286 1488, or fax (07) 3286 3094.

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