



# The Nursery Papers

ESSENTIAL INFORMATION FOR AUSTRALIAN PROFESSIONAL NURSERY OPERATORS

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## Let's *Do Our Own Research* – and make the most sense of it

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**M**ore effective 'in-house' research is needed to off-set the declining capacity of the public sector, to provide information that will otherwise not be generated and to enhance productivity and efficiency in an increasingly deregulated international market. The extreme diversity of the nursery industry and diversity of problems and opportunities further accentuates this need.

### Nursery research environment

Most operator driven research relies on subjective assessment, minimum record keeping, intuition and re-iteration. Ninety four percent of nursery operators (of a total of 70) believed that 'in-house' research was important, with 68% actually doing their own research. Only 10% of operators hired consultants to do their research work. The availability of well controlled environments, the use of many small moveable units (pots) and short duration crops greatly enhance the industry's scientific research capacity.

### The project

A group of professionals (extension, research, statistics, economics, industry) were supported by the Queensland Department of Primary Industries, University of Queensland ( St Lucia), the Horticulture Research and Development Corporation and the Queensland Nursery Industry Association in conducting a project to assess the feasibility and practicality of substituting the industry's existing research approach with a statistically sound scientifically based one. The project commenced on July 1 1994.

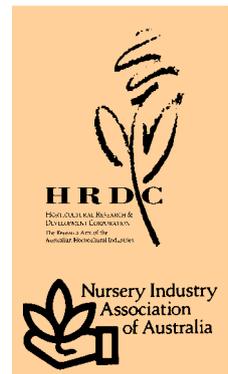
### The process

Members of QNIA were canvassed for their interest in being involved in the project. We employed the action learning and participative action management

principles with 14 nursery operators selected from respondents, outlining for them the basic requirements of scientifically sound 'in-house' research. These operators attended two highly interactive workshops that exposed them to the range of activities involved in statistical research, with hands on involvement in a demonstration experiment. With professional support, they devised their own experiments, carrying them out on their own properties with a minimum of subsequent consultancy input. Operators collected and recorded data which were then analysed by their consultant for sources of variation (replicates, treatments, treatment interactions, background) and significance of treatment effects on plant performance. These results were used by the operator and consultant to formulate recommendations. The process we adopted encouraged *active* participation by operators as equal partners in the project, the *empowerment* of operators in a cooperative *interdependent* mode with their consultants, resulting in a high level of personal *ownership* and *understanding* of the principles of DOOR

### The output

- One experiment did not get planted, while the stock in a second was sold before any data had been collected. Research information generated by the remaining 12 projects related to the areas of media, nutrition, disease, insulation, water quality and management, propagation, water enhancing additives and container design. Half of the operators indicated that the results of their particular experiment would be of considerable value to their operation.



- Operator awareness and confidence in utilising the scientific approach was enhanced.
- Development of an Operators Manual based on the components of the DOOR Implementation Cycle (Figure 1). This cycle links in a chronological way the various activities that are undertaken in the course of scientific research.
- Provision of a 15 page summary of the Manual.
- Provision of an Accredited DOOR Operators' Course and an Accredited DOOR Consultants' Course.
- Promulgation of a National DOOR Awareness Program by way of visits and presentations to most states.

### Expected outcomes

- Greatly enhanced adoption by operators of scientifically sound research methodology
- Marked improvement in quality and precision of information used in decision making
- Improvement in efficiency, profitability and sustainability
- Interest in and adoption of the DOOR approach by other industries

### Conclusion

The scientific and statistically sound way of doing research can be conducted successfully by nursery industry operators following some basic training in scientific methodology and the development of an ongoing interdependent relationship with a DOOR accredited consultant.

### Future development

We expect to have consultants accredited within the next month or so and accredited operators in Queensland by mid 1996. Subsequent courses will be provided on demand. Other states and industries are showing considerable interest in the relevance of this approach to their circumstance.

### Future contact

Mal Hunter or Garth Hayes can be contacted for more information at Redlands Centre for Amenity Horticulture, phone (07) 3286 1488, or fax (07) 3286 3094.

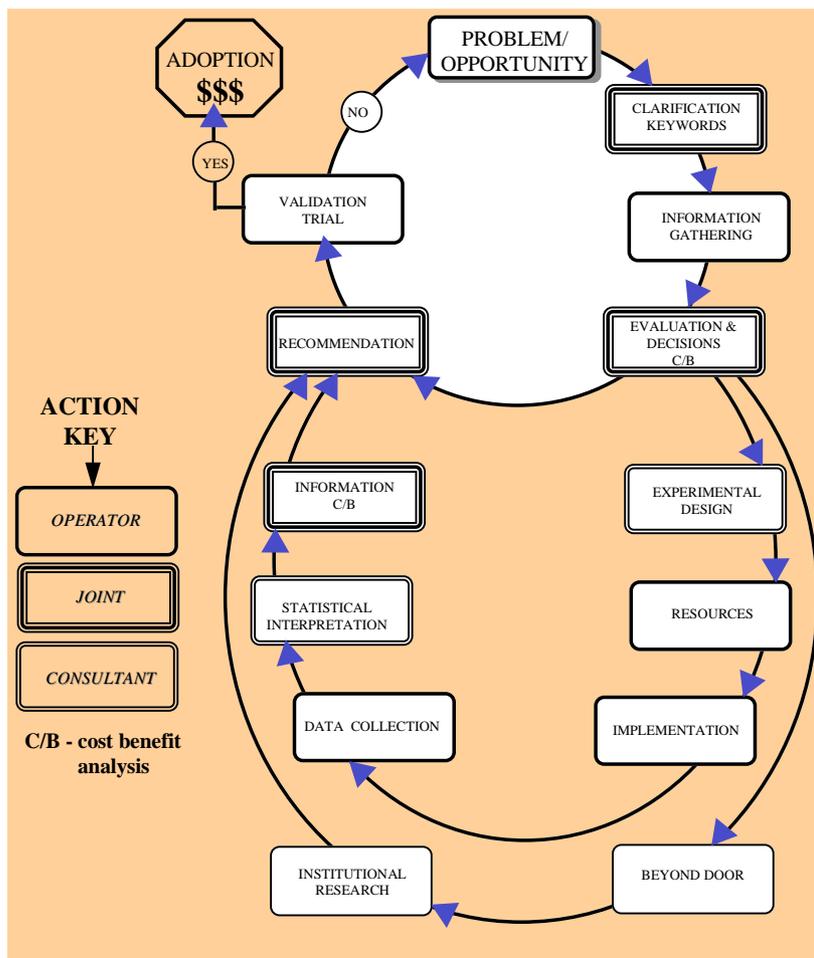


FIGURE 1 The DOOR Implementation Cycle. The type of line around each box indicates who is responsible for the activity within.

### Acknowledgements

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