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**Evaluation and measurement of consumer preferences  
for outdoor ornamental plants**

A thesis presented in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Marketing at Massey University, Palmerston North, New Zealand

**Wilmien Brascamp**

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## ABSTRACT

For the New Zealand nursery industry to survive in an increasingly competitive environment, it is vital to cater effectively for its customers. One of the major factors complicating the required shift towards a consumer oriented industry, is a lack of information on consumer attitudes towards, and perceptions of nursery products. The current study was aimed at contributing to the future of the industry by enhancing knowledge and understanding of the consumer market for nursery products.

Data on perceptions of outdoor ornamental plants were obtained through personal interviews with garden centre customers in three major areas within New Zealand. Compared to the New Zealand population in general, the sample of garden centre customers interviewed, included higher percentages of females, home owners, of families living without dependent children at home, and of people between the ages of 45 and 65 years of age.

Interviews were structured according to a fractional factorial design that allowed for uncorrelated estimation of eight plant factors and selected interactions.

Of the plant characteristics included in the study, health was the main consideration to respondents when selecting a plant for purchase. The suitability of a plant for the growing conditions in the respondent's garden ranked second in importance, and was followed by plant shape and bushiness. Price and final height were the fifth and sixth most important factors respectively in determining the attractiveness of plants to respondents. Leaf and flower colours had a statistically significant effect on consumer evaluations, but contributed little to the ability to predict the responses from treatment variables.

The effects of price on the perceived attractiveness of a plant depended upon its health status, suitability for the respondent's garden, and on its final height and shape. The effect of the interaction between shape and bushiness was also found to be of statistical significance.

Healthy, cheap plants were preferred over highly or averagely priced plants with an average or poor health status. The nature of the interaction between price and health indicated that respondents were more likely to pay the difference between a medium and a high price level for healthy plants than they were for a plant with an average or poor health status.

Where cheap plants were concerned, respondents paid more attention to the suitability of such plants for the growing conditions in their garden than they did for more expensive plants. For averagely priced plants, garden centre customers interviewed expressed a preference for plants reaching a final height of 1-2m. At lower or higher price levels they preferred plants growing up to 1m. Plants with an expected height of over 2m were the least attractive to respondents. A well-balanced shape was particularly important for cheap and expensive plants and for bushy plants.

Based on the findings, recommendations were formulated to facilitate an alignment between the quality of plants offered for sale at garden centres and desires of the customers.

Plant evaluations depended upon several respondent characteristics. Judgements of different health levels varied with the age of the respondent's house, and his or her marital status. Attractiveness ratings for plants differing in their suitability for intended growing conditions depended on the respondent's income level. Emphasis placed on the mature height and the shape of plants varied with the size of the respondent's section. Keen gardeners attached greater importance to a symmetrical shape than did others.

Regional differences were observed between respondent opinions about price, health, suitability, and shape. Whilst garden centre customers interviewed in Wellington appeared to be mainly concerned with the two most important factors, namely 'plant health', and 'suitability', respondents in Palmerston North and Auckland paid relatively more attention to the remaining factors.

Interactions between respondent characteristics and plant factors not only had implications for current production and retail practices, but also gave an insight into potential effects on plant perceptions of a change in consumer market composition.

From the synthesis of results and observations, several methodology related issues emerged. Limitations and caveats were addressed for the benefit of future research into consumer perceptions of horticultural products and/or services.

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