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**The Role and Importance
of Branding in
Agricultural Marketing**

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Abstract

A branding strategy is often employed in the marketing of manufactured or processed food products but many other food products have comparatively lower levels of branding. At the same time there are frequent calls to utilise branding as a marketing strategy for New Zealand's export products. The branding literature to date does not seem to include any studies detailing the validity of branding for such products. In this study the theoretical relationship between the consumer's requirement for branded products and the benefits to producers from branding are explored. Using a simple model developed from a theoretical framework, three hypotheses are tested using data collected from Christchurch supermarkets. The results provide some support for the ability of the model to predict the level of labelling used. However, the results did not show that labelling attracted a price premium for agricultural or horticultural food products.

Paper presented at the New Zealand Marketing Educators' Conference, November 1995. C. Pay and M.R. White are Post-Graduate Students in the Department of Economics and Marketing, at Lincoln University. A.C. Zwart is Professor of Marketing & Director of Commerce Division at Lincoln University.

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1. Introduction

Branding strategies have become an accepted part of marketing activity and it is the norm for manufactured and processed food products to be offered to consumers as branded products. However, as any vigilant consumer would have noticed, there are still a wide range of food products that remain unbranded. Food products such as meat and horticultural products are often relatively unprocessed and do not have clear brands associated with producers or suppliers. It has become common to find generic brands associated with particular supply regions or varieties of products, but these are normally developed by groups of suppliers, or are merely used as labels to identify particular attributes of the products.

In attempting to explore such issues it is often assumed that the lack of such activity is a result of the small firms that exist in the industry, or simply because of the lack of marketing knowledge amongst producers. It appears that an omission from the branding literature is a basic analysis detailing the role of branding strategies in the marketing of these products. Although the lack of branding strategies for such products has been commented on by recent researchers (e.g. Png and Reitman,1995), work in this area is limited. In considering this problem it becomes necessary to analyse the most general conditions in which branded products might be used as a part of a successful marketing strategy. This involves understanding both the reasons why consumers might value brands, and the conditions under which producers would find it profitable to invest in brand development.

In this paper a simple model of consumer behaviour is adapted to the information environment associated with purchasing decisions, and a theoretical framework is developed to indicate the conditions under which brand development is likely to be successful. This model is used to test some basic hypotheses about the extent and nature of branding in the market for selected horticultural products.

2. The Branding Literature

The branding literature can be separated into normative and positive streams. The normative stream of literature concentrates on the processes involved with developing a successful brand. More specifically the normative approach develops definitions of brands, investigates the

elements or components of brands, suggests how to successfully name a brand, and categorises different types of brands. Examples of this type of literature are articles by Crimmins (1992), and Aaker (1990). The basic objective of this literature is to provide firms with the steps or directions for implementation of branding strategies. This literature has little relevance to gaining an understanding of the validity of branding agricultural and horticultural food products, and consequently it is not investigated any further because it does not help identify the conditions under which we might expect to see branding.

The positive stream of literature has two components, one of which provides descriptions of the purpose of branding products (e.g. Bowbrick, 1992), the second component creates a linkage between consumer behaviour and branding literature. The latter more explicitly examines the value of a brand in the consumers' decision making process (e.g. Riezebos, 1994).

There has been little consideration of agricultural and horticultural products in the branding literature. However, one author who has attempted to bridge the gap between agricultural products and main stream marketing theory is Bowbrick (1992). Within agricultural and horticultural products branding seems to include identifying a product with various types of labels (e.g. region of origin, variety) to differentiate products. Bowbrick (1992) acknowledges this characteristic and suggests that a brand is a *label* attached to products from a specific manufacturer, distributor, country of origin, or retailer with the aim being to "convey information on, or persuade the consumer about; the quality, reliability, social status, value for money or safety of a purchase" (page 29).

In this study the wider definition of branding is used to describe how products are differentiated. Some common examples of labels and brands found within the marketplace are: consumer brands, retailer brands, supplier labels, region of origin labelling, and varietal labelling. These types of labels and the situations in which producers or sellers use them will be discussed later. In the next section a framework will be developed to show the situations in which consumers require a label to assist their purchase decision.

3. The Role and Importance of Labelling in Decision Making

A product provides an array of cues that a consumer uses as the basis for making judgements about which product they will purchase (Cox, 1962). Consumers form a composite judgement about which product to purchase by going through a process in which the consumer identifies, evaluates, and integrates some or all of the various items of information (i.e. cues) associated with the product.

The cues that consumers use when making purchase decisions have been classified as intrinsic or extrinsic cues (Jacoby, Olsen, and Haddock, 1971). Intrinsic cues are those cues which if changed would change the physical product itself (e.g. taste, nutrition content, size, shape, and colour of a product). Extrinsic cues refer not to the physical product itself, but to other cues provided (e.g. price, store image, label, advertising). The important distinction to note is that cues of an extrinsic nature can be supplied by either the producer or the seller, whilst the intrinsic cues are determined by the product itself.

In order to determine the importance of providing a label on an agricultural or horticultural product (i.e. providing an extrinsic cue), we need to focus upon those product cues of an intrinsic nature which are of more importance to consumers in their initial assessment of the desirability of a product. Intrinsic cues pose further problems for consumers as they can be classified as either hidden intrinsic cues or revealed intrinsic cues (Riezebos, 1994). Hidden intrinsic cues are those product attributes which cannot easily be physically identified by the consumer before purchase, (e.g. the flavour or taste of the product, or the durability and reliability of a product). Revealed intrinsic cues include those product attributes which the consumer can identify and assess visually or physically, (e.g. the shape, size and colour of a product).

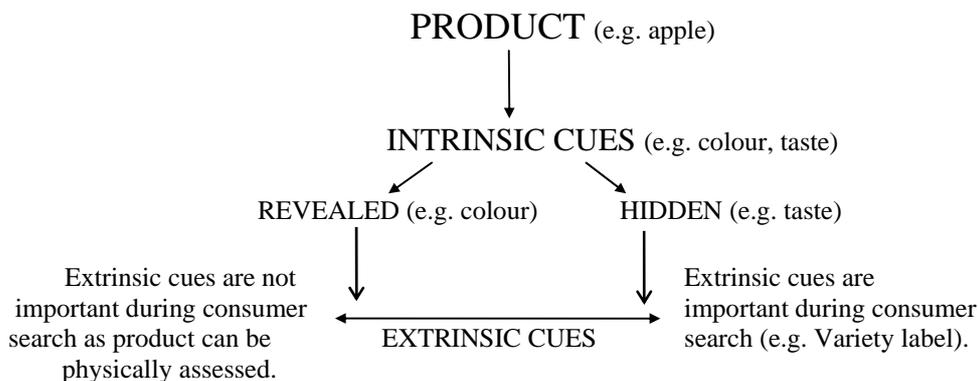
The discussion to this point has suggested that consumers form judgements about the desirability of products using a combination of extrinsic, revealed intrinsic and hidden intrinsic cues. The combination of cues used depends on which product attributes are important to a consumer in making a purchase decision. Howard and Sheth (1969) suggested that choice among product category alternatives can be viewed as a hierarchical process. Hierarchical processing describes how a consumer compares groups of alternatives and subsequently eliminates products in order to reduce the choice set (Hauser, 1986). Before choice among

product alternatives can take place, consumers search for potential products to include in their final choice set. During this search, a consumer is looking for specific attributes to use in forming a judgement about the desirability of a product.

Whether these important attributes (i.e. cues) are hidden or revealed becomes important to the consumer during this search. If the important cue to a consumer is revealed (e.g. a consumer wants a large red apple for display purposes and is not concerned with the taste of the apple) then they can physically select products for their final choice set. The consumer will subsequently eliminate those products which do not meet their final selection criteria by physical assessment. However if the important cue for a product was hidden (e.g. the sweetness of an apple), then the consumer will have difficulty assessing product attributes which are consistent with their final selection criteria, and therefore may experience difficulty finding suitable candidates to include within the choice set. To aid consumers in their search for the desired bundle of attributes, the seller can make an extrinsic cue available (e.g. a label) to act as a proxy for the important hidden cues. Consequently, consumers can make judgements about important hidden cues, and successfully eliminate those undesirable products from their choice sets. For example, as an indicator of the different taste characteristics different varieties of apples possess, retailers provide an extrinsic cue in the form of a variety label. Consumers subsequently use this cue to select the variety of apple that has the taste characteristics which correspond to their preference.

This discussion has suggested that a label (an extrinsic cue) becomes relevant during consumer search when the important attribute of the particular product is a hidden intrinsic cue, as the schematic below shows.

Figure 1
The Relevance of a Label to Consumers



When the important attribute a consumer is looking for is revealed the consumer can physically assess the product and therefore little emphasis is placed on extrinsic cues in making a purchase decision. It has been suggested that the value to consumers of attaching a label to a product is reduced when the product attribute of interest is revealed. However, the label does provide significant value to consumers when the important product attribute is a hidden intrinsic cue.

It is now appropriate to look at the ability of producers or sellers to label agricultural or horticultural products, and their ability to ensure that the label provides consistent cues.

4. Labelling of Agricultural and Horticultural Products

The existence of labelling within the market place can be described as an equilibrium between the consumer requiring it and the supplier being able to provide the appropriate product to be labelled and recoup any costs associated with the labelling.

A label has the ability to act as a proxy for quality (Rao and Monroe, 1989) which can be interpreted to mean that any product labelled should be of a consistent quality. The product attributes which a label represents must be consistent within a particular product line, so consumers can link a label with a product's desirability. This 'consistency' factor poses some problems for labellers of agricultural and horticultural products. Agricultural and horticultural products are the result of a biological growing process and consequently usually exhibit an element of variability between product attributes within a product line. This is due to the climatic, environmental and management differences which each product may be subjected to throughout the growing process. Contrasting these products with the consistently standardised form of manufactured or processed products, it would seem appropriate to examine the ability of producers or sellers to create consistency of attributes desired by consumers within agricultural or horticultural products.

As can be seen from the above, agricultural and horticultural products are characterised by relatively high levels of biological variability within product attributes. Thus any attempt to label a product must involve consideration of how much control can be exerted over various product attributes either during production or post production to generate the consistency within certain product attributes. This is essential if consumers are to generate positive

connotations for the attached label. Some attempts at gaining this product consistency have become standard for many agricultural and horticultural industries. For example, selecting or grading methods are common. Examples within industry are grading apples by size, grading meat by weight and fat content, and wool by average diameter of wool fibres.

However the level of consistency gained through this type of selection must also be traded off with economic considerations of market returns for different types of product. Typically there are some more financially attractive grades than others. However just strictly grading product to fit the attractive market specifications often results in lower overall average prices, as the balance of the product only falls into the lowest value grades. Therefore, due to the economic viability of such grading, the distribution of variability is not minimised in many instances.

The other way in which consistency of product attributes has been maintained within various product categories is by controlling genetic material so that biological attributes can be controlled through genetic selection, or by increasing control of the production process. The poultry and pork industry are examples of industries within which producers have reduced biological variability in the associated products by being able to closely control the feeding, living environment and genetic material of their animals. Such control by a producer is valuable when the producer can physically differentiate the product from others with respect to the key attributes consumers look for in that particular product.

Where the consistency of an important attribute can be controlled we would expect the product to be labelled accordingly. For example, when differences in genetic make up of products consistently affects the products attributes (e.g. taste) we would expect to see variety labelling present, or when the country of origin consistently affects the nature of a product's attributes, we would expect to see a country of origin label on the product. Where particular product attributes are consistently provided by the supplier, retailer or seller, one could expect to see supplier label or retail and consumer brands. At the other extreme where sellers or producers cannot economically control the variability of important attributes within products, it is expected that these products will be unlabelled.

Therefore, it can be suggested that labelling a product can be related to the amount of control a producer or seller has over the consistency of particular product attributes. There would seem to be a range of levels of control over biological variability. A high level of control

exists where sellers or producers have control over the important attributes so the product can be differentiated from similar products consistently and economically, either through controlling the biological production process, or through product management practices such as washing or selection (i.e. variation between product attributes is low). A low level of control exists where producers or sellers cannot economically control the variability of important attributes within products (i.e. large variations between product attributes).

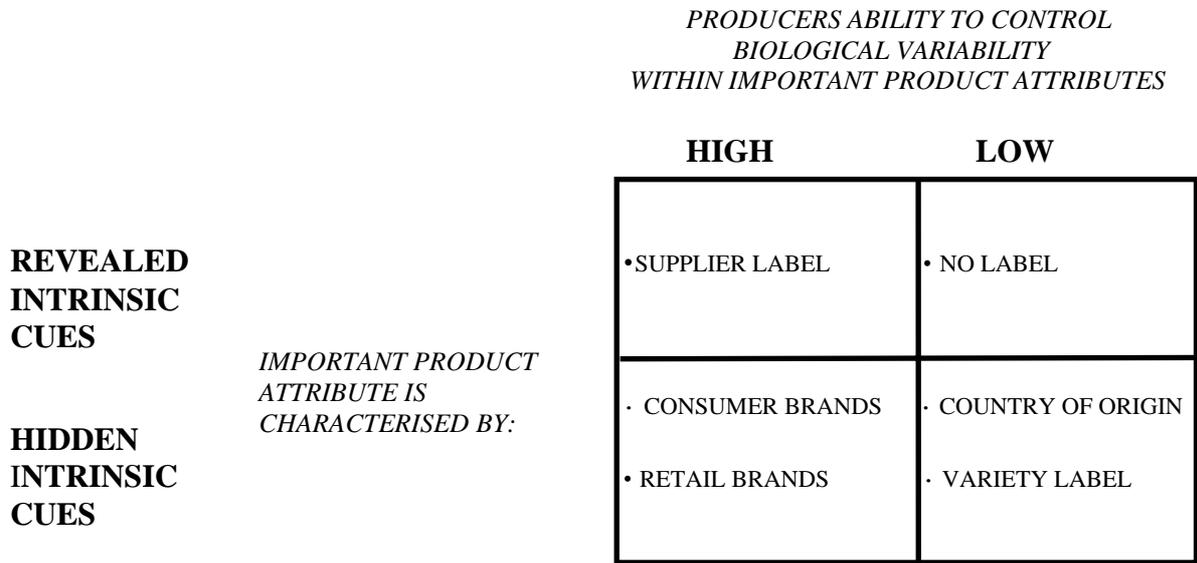
Furthermore, we would expect the labelled products within a product class to fetch higher returns to recoup the associated costs of standardising product attributes as well as the cost of physically labelling the product. It has been suggested that consumers would be prepared to pay a price premium for those products which are difficult to inspect and too expensive to sample (Png and Reitman, 1995). Although many agricultural and horticultural products cannot be considered too expensive to sample, many are difficult to inspect. Where inspection is difficult consumer search costs are high. Labelling can reduce these search costs. Where producers have extra costs of labelling to retrieve, and consumers have high search costs, it would seem likely that labelled products would attract price premiums. This framework can be illustrated with a simple model.

5. A Model of Brand Development

The model is a combination of the ability of consumers to assess these important product attributes given that the attributes can either be hidden or revealed and the producer's ability to manage biological variability within important product attributes. Depending whether the important cue is revealed or hidden, and to what extent producers can control variability within product attributes, the model can be used to predict the type of labelling observed on a particular product as shown in Figure 2.

In cases where the important intrinsic cues are revealed and a single producer has little or no ability to control biological variability of the important product attributes, we would expect to see no labelling. For those products which have important hidden intrinsic cues and where producers have little ability to control biological variability, country of origin or variety labels may be used. Country of origin labels may be used for those products where the region of production consistently affects product attributes, or variety labels may be used for those products which consistently differ due to the genetic make up of the product.

Figure 2
A Model of Brand Development



In those cases where the important attributes are revealed and the important product characteristics are controllable by the producer, a label will not be offered to consumers. However, as the producer is able to control the biological variability of important product attributes, or can use management practices to consistently differentiate products, a supplier label may be provided which is important to buyers within trade channels. Given that remote trading through auctions is a characteristic of the exchange mechanism which many biological products initially pass through, a label identifying the products producer becomes important to remote buyers. The remote buyers involved with the trade will be able to link a supplier label with product quality judgements.

Finally, where the important attribute is a hidden intrinsic cue and producers have a high level of ability to control the biological variability within important product attributes or use management practices to consistently differentiate their product from others, it is expected that these products will be labelled with consumer brands. In the case where the important intrinsic cue is hidden, and the seller is providing the management practice to consistently differentiate a product, it is expected that these products will be labelled as retailer brands. We now have a basis for formulating three testable hypotheses.

6. Hypotheses

Using the model of brand development and from the previous discussions we can now state three simple testable hypotheses:

1. When a product has some hidden intrinsic cues which are of importance in consumer decision making, labelling will be provided by producers or sellers.
2. When low control over the biological variability of important attributes exists, and the intrinsic cues are revealed, it is expected that no labelling will be provided by producers or sellers.
3. To recoup economic costs from the processes involved with labelling a product, we expect to see a premium price charged for those products labelled within their product category.

7. Methodology and Results

To test the model of brand development and the three related hypotheses, data were collected from Christchurch supermarkets. Twenty one commonly purchased fruit and vegetable products were chosen. For each of these products, the presence of various intrinsic and extrinsic cues were recorded (see Appendix A). To determine what product attributes are important to consumers for each product, supermarket produce managers were consulted.

Using these data, the important product attributes were classified as either hidden or revealed intrinsic cues. The ability of producers or sellers to consistently control biological variability within the important product attributes for each product was determined by an agricultural product specialist. The predominant type of labelling used for each product was also recorded. The results are shown in Table 1.

Table 1
Productions, Important Characteristics and Predominant Type of Labelling Used

Product	Important Characteristics	Hidden/ Revealed	Control of Biological Variability	Predominant Type of Labelling
Apple	Taste	Hidden	Low	Variety
Avocado	Ripeness, Colour, Size	Revealed	High	None
Banana	Ripeness	Revealed	High	Consumer Brand
Cabbage	Size, Freshness	Revealed	Low	None
Carrots	Colour, Size, Freshness	Revealed	Low	None
Cauliflower	Colour, Size, Freshness	Revealed	Low	None
Celery	Colour, Size, Freshness	Revealed	Low	None
Grapefruit	Taste	Hidden	Low	Place of Origin
Grapes	Taste	Hidden	Low	None
Kiwifruit	Ripeness	Revealed	Low	Place of Origin
Kumara	Size, Colour	Revealed	Low	None
Lettuce	Freshness, Size	Revealed	High	Variety/ Brand
Mandarins	Taste	Hidden	Low	None
Melons	Juiciness, Taste	Hidden	Low	Variety
Onions	Size, Freshness	Revealed	Low	None
Oranges	Taste	Hidden	Low	Place of Origin
Potatoes	Size, Greenness, Dirtiness	Revealed	High	Variety
Pumpkin	Ripeness, Size	Revealed	Low	None
Silverbeet	Freshness	Revealed	Low	None
Sprouts	Taste	Hidden	High	Consumer Brand
Tomatoes	Taste	Hidden	Low	Place of Origin

8. Discussion

Comparison of the predominant type of labelling observed for each product with the type of labelling predicted by the model is shown in Table 2.

Table 2
Predominant Versus Predicted Type of Labelling

Product	Predominant Type Of Labelling	Predicted Type Of Labelling	Prediction Success Yes/No
Apple	Variety	Variety/ Place Of Origin	Y
Avocado	None	Supplier Label	N
Banana	Brand Name	Supplier Label	N
Cabbage	None	None	Y
Carrots	None	None	Y
Cauliflower	None	None	Y
Celery	None	None	Y
Grapefruit	Place of Origin	Variety/ Place of Origin	Y
Grapes	None	Variety/ Place of Origin	N
Kiwifruit	Place of Origin	None	N
Kumara	None	None	Y
Lettuce	Variety/ Brand	None	N
Mandarins	None	Variety/ Place of Origin	N
Melons	Variety	Variety/ Place of Origin	Y
Onions	None	None	Y
Oranges	Place of Origin	Variety/ Place of Origin	Y
Potatoes	Variety	Supplier Label	N
Pumpkin	None	None	Y
Silverbeet	None	None	Y
Sprouts	Consumer Brand	Consumer Brand	Y
Tomatoes	Place of Origin	Variety/ Place of Origin	Y

From Table 2 it can be seen that the model correctly predicted the type of labelling used for 14 of the 21 products (66%).

9. Relationship Between Cues Present and Labelling

Table 3 shows the position in the model where each product is placed according to the observed combination of revealed/hidden intrinsic cues and the level of control producers have over the biological variability of the product. For those products which are in capital print the model correctly predicted the type of labelling used.

It can be seen that the model was most successful for predicting the level of labelling for products with low levels of producer control over biological variability. Where control is low it is difficult to ensure product consistency. In this situation no label will be used, or where some attribute of a product can be consistently differentiated from others on the basis of the product's genetic make up or region of origin, a variety or region of origin label will be used.

Table 3
Product Predictions from the Model of Brand Development

PRODUCERS ABILITY TO CONTROL BIOLOGICAL VARIABILITY WITHIN IMPORTANT PRODUCT ATTRIBUTES		
HIGH	LOW	
Avocado Banana Lettuce Potatoes	CABBAGE CARROTS CAULIFLOWER CELERY Kiwifruit KUMARA ONIONS PUMPKIN SILVERBEET	REVEALED INTRINSIC CUES
SPROUTS	APPLES GRAPEFRUIT Grapes Mandarins MELONS ORANGES TOMATOES	IMPORTANT PRODUCT ATTRIBUTE IS CHARACTERISED BY: HIDDEN INTRINSIC CUES

As suggested in development of the theoretical framework, where a producer has a low level of control over biological variability and the intrinsic cue is revealed, no label will be used. Table 3 shows this was the case for eight of the nine products falling in this category. Also of note is that all of these eight correctly predicted products are vegetables. Given that consumers can inspect these products for themselves to search for freshness, colour and size attributes of the products, then it is unlikely that a label will provide the consumer with any extra information which will be of value to them in their search activities.

Kiwifruit were predicted to have no label based on low control over the revealed intrinsic cue of ripeness. The predominant type of labelling used was actually the “New Zealand Kiwifruit” place of origin label. This is a reflection of the marketing activities of the NZKMB and was observed only because the majority of kiwifruit observed were fruit prepared for export that didn't make it to overseas markets. Our model would suggest that this labelling is an unnecessary addition to costs for produce sold on the domestic market. As consumers are only interested in the level of ripeness they are able to assess the product characteristics for themselves. In overseas markets the competition from kiwifruit from other countries may contribute to the desire to label the product with New Zealand origin. However, in the domestic market where there is no competition from overseas products the label would appear to be a waste of resources.

Where there is low control over the biological variability of a product, and the important intrinsic cues are hidden, the model correctly predicted the level of labelling for five of the seven products in that category. Products in this category are mostly fruits. For these products taste was the most important product attribute. Given that taste is most easily controlled between rather than within varieties, it appears logical to use a variety label so as to reduce consumer search costs.

For grapes and mandarins a variety or place of origin label was predicted, but in our observations these products predominantly had no label. This seems unusual as the attribute of importance to consumers is taste. It appears that the use of variety or place of origin labels would be logical for these products, as this would indicate taste differences between products. This may be a missed opportunity on the part of retailers to reduce consumer search costs. Alternatively, it may be the case that consumers don't recognise differences in the taste

attributes of different varieties and sources of grapes and mandarins, and therefore producers or sellers cannot benefit.

Where the products had revealed intrinsic cues and there was high control over the biological variability of the product, the model did not correctly predict the level of branding for any of the products. For this category of products the use of a supplier label was predicted. However, avocado had no label, bananas were labelled with consumer brands, and lettuce and potatoes had predominantly variety labels. This suggests that avocado suppliers are potentially missing an opportunity to label their product, given that they have the ability to control the variability in the ripeness of the product, and hence have the ability to deliver a consistent product. With this being the case, the potential for selling a supplier labelled product in an effort to gain greater market share exists. Bananas are labelled with brand names (e.g. Dole, Bonita). These multinational brands could also be considered as supplier labels. There is a weakness in the model here, given that there is some ambiguity in distinguishing between supplier labels and brand names. Another problem is that the data was collected at the retail level, so there was little chance of observing supplier labels used at the trade level.

Lettuce and potatoes had variety labels, rather than the supplier labels predicted by the model. It should be noted that for potatoes there was some supplier labelling used, but variety labels predominated. This is most likely a result of the differences in product characteristics between varieties that consumers are aware of (e.g. cooking properties). Hence, the variety label is of most value in reducing search costs, so as to get the desired product attributes, and the supplier label is of secondary importance in providing a cue with regard to the consistency of the product attributes. Lettuce had equal proportions of variety labels and brand names. This appears to be a reflection of the greater range of lettuce varieties which have become available recently, as well as the sale of convenience oriented consumer packs of lettuce which present opportunities to label the product with a consumer brand.

Where there are hidden intrinsic cues and the producer has high control over biological variability, the model predicts that a brand name will be used. The only observation to fall into this category was sprouts. For this product consumer branding was the predominant form of labelling used. This reflects the producer's ability to deliver a consistent tasting product by controlling the growing conditions, and the fact that the majority of sprouts are sold in

packages. This seems to be consistent with our theory as an extrinsic cue (i.e. consumer label) has been provided where the important attribute (i.e. taste) is hidden.

In summary, the model is most capable of correctly predicting the level of labelling used when there is low producer control over biological variability of the product. The observations indicate that for most vegetables where freshness, colour and size are the important attributes for consumers, and which the consumer can physically assess, no label will be used. For most fruits where taste is the important attribute and it can't be assessed pre-purchase, a variety label is used. Prediction by the model for products where control over biological variability is high has proven more difficult.

10. Price Effects of Labelling

Other data were collected on the presence of various cues (see Appendix A) and price. These data were used to test hypothesis three, that a premium price would be charged for those products labelled within their product category.

To test this, a regression was carried out with price as the dependent variable. The price variable was calculated as the percentage deviation from the mean price for each product. The independent variables used were those variables for which data were collected from the supermarkets. The variables used in the regression were dummy variables, representing the presence of the particular variable being considered. The independent variables included, and their regression coefficients are shown in Table 4. A description of the variables and their expected signs is included in Appendix B.

The regression results for all products indicate that there is a significant correlation between the store and the price of the product. This would seem logical, given that stores differentiate themselves on the basis of price and quality. The only other significant results for all products were for the display methods. All of the types of labels were found to have highly insignificant influences on the price of products. This does not support hypothesis three.

Better results were found by categorising the products into fruit and vegetables. The regression results for these categories are shown in Table 4. For fruit, variety and place of origin labels were found to have statistically significant influences on the product price. This is

intuitively appealing given the earlier discussion in relation to important attributes to consumers. Where taste is the important attribute for fruit products (e.g. oranges, grapefruit) the variety or place of origin provides a means to classify products which taste different. For example, it is commonly believed that Australian oranges are juicier and have better flavour because they get more sunshine than New Zealand oranges. For this reason, identification of the variety or region of origin of the product assists the consumer in their search and so they are possibly willing to pay more for a product that more closely satisfies their desires.

For vegetables, the store has a significant influence on the price. The only other significant variable is the visibility of the product within packaging. This would seem reasonable, given that the majority of vegetables have important attributes that are revealed intrinsic cues. Where the product is packaged, the consumer is likely to buy those products which they have been able to inspect for themselves. For example, where potatoes are packaged in sealed paper bags the consumer is unable to assess the greenness and dirtiness of the potatoes. However, where they are in plastic bags the consumer is able to assess these attributes for themselves. Because of this they may be willing to pay more for a product that meets their personal quality standards than for a product which they cannot assess. For vegetables the types of labels all have insignificant influences on price. This is likely to be due to that fact that the important attributes of vegetable products are revealed intrinsic cues. As such, a brand provides no extra information to the consumer, and consequently they are unwilling to pay more for a branded product than for one that is the same but unbranded.

Table 4
Regression Results

	Variable	All Products		Fruit		Vegetables	
		Coefficient	Significance	Coefficient	Significance	Coefficient	Significance
Store	Store A	-0.1942	0.0182*	-0.0194	0.8102	-0.3269	0.0179*
	Store B	-0.0857	0.2568	0.0556	0.4881	-0.1205	0.3093
	Store C	-0.0713	0.3631	0.1367	0.1075	-0.2181	0.0774
	Store D	-0.3077	0.0008*	-0.1044	0.3951	-0.4665	0.0007*
	Store E	-0.3042	0.0004*	-0.2126	0.0147*	-0.4155	0.0038*
Labelling	Supplier Brand	-0.0693	0.5570	0.2344	0.0751	0.0378	0.8407
	Retail Brand	0.0022	0.9825	0.1159	0.3890	0.0794	0.6073
	Brand Name	0.0969	0.2203	0.0422	0.5796	0.2185	0.1408
	Variety Label	0.0547	0.2891	0.1320	0.0408*	0.0232	0.7750
	Place of Origin	0.0829	0.2150	0.1623	0.0201*	0.0541	0.6635
Other Extrinsic	Value for Money	-0.0728	0.5790	-0.0817	0.5631	-0.0387	0.8542
	Product Differentiation	0.0769	0.3195	0.1706	0.0669	-0.0284	0.8128
	Other	0.0118	0.9249	0.4681	0.0417*	-0.1725	0.3199
Revealed Intrinsic	Cut in Half	0.1978	0.3503	-0.1599	0.2253	0.0565	0.8327
	Physically Examine	0.1196	0.5454	Not in Equation		-0.0930	0.7054
	See but can't Examine	0.2073	0.3293	0.0059	0.9675	-0.0629	0.8195
Label Location	On Package	0.0527	0.5306	0.1055	0.3904	-0.0212	0.8670
	On Product	0.0230	0.7881	0.0334	0.6290	0.0170	0.9450
Packaging	Plastic Bag	-0.1660	0.0923	0.0208	0.8672	-0.2543	0.1043
	Paper Bag	-0.3156	0.0915			-0.2710	0.2766
	Plastic Container	0.1671	0.1853	0.2292	0.1560	0.1570	0.4080
	Other	-0.1965	0.1185	0.0963	0.5051	-0.2277	0.2648
Visibility of Product	Small	0.0399	0.8149	0.1819	0.4338	0.2210	0.3218
	Large	0.0978	0.2618	-0.1613	0.1105	0.2886	0.0288*
Display Method	Exclusive	-0.3013	0.0080*	-0.3630	0.0027*	-0.2768	0.1594
	Fridge	0.2000	0.0451*	0.2617	0.1177	0.2001	0.1415
	Stacked In Segment	-0.4246	0.5238	-0.1642	0.0719	0.0295	0.7811
	Constant	-0.0454	0.9306	-0.0537	0.5012	0.1898	0.4901
	F	3.698	0.0000*	3.1236	0.0000*	2.5506	0.0001*
	Adjusted R2	0.1748		0.2641		0.2835	

Overall, the regression results provide little support for hypothesis 3. Labelling does not appear to result in a premium price for fruit and vegetable products. While it was expected that the additional costs involved in labelling products (especially for brand names), would necessitate the charging of a price premium to cover the extra expense, the data collected does

not provide support. Producers and suppliers may use brands to gain market share, rather than simply a price premium. The value of the brand to the consumer may be in the reduced search costs arising from the ability to identify a known label and purchase a consistent product each time they go to the supermarket. As such, the seller does not gain higher revenue through a price premium, but possibly gains an increase in market share resulting in greater revenue in the long run.

11. Conclusions

The aim of this study was to assess the validity of branding and labelling from the perspective's of producers and consumers. From the consumer's perspective, in their search activities a label is not required for attributes which have revealed intrinsic cues. Where the important attribute is a hidden intrinsic cue, a label provides the consumer with information to reduce their search costs. From the perspective of producers, the value of labelling is in reducing the search costs of consumers, so as to increase market share and in some situations to obtain a price premium. For products where labelling does not assist consumer search, then the producer will only increase costs, without a corresponding increase in revenue, by labelling such products.

Therefore the low observed level of labelling and branding of agricultural and horticultural products appears to be justifiable where the important product attributes have revealed intrinsic cues and where producers have a low degree of control over biological variability. This was the case for most vegetables, where freshness, size and colour were the important attributes. For products where the important attributes are hidden intrinsic cues, use of variety and place of origin labels enables consumers to find the product with the attributes they prefer. For a number of fruits, where taste is the most important attribute, country of origin and variety labelling is predominantly used. For producers this is an easy, low cost means to reduce consumer search costs and was found to have a significant positive price effect for fruit.

Where high control of biological variability and hidden intrinsic cues are present the use of a consumer brand is expected. This was observed for sprouts, but for most products producers do not have high control over the biological variability of hidden intrinsic cues. As such, the relatively low level of use of brands in agricultural and horticultural marketing is explained by the biologically variable nature of production, and the consequent inability of producers to

deliver a product which is consistent with respect to the attributes of importance to consumers.

Future research in this area would be improved through the development of a measure of biological variability based on objective measurements of product characteristics. Also, greater insight into the role and importance of branding in agricultural marketing may be gained by including observations on a wider range of products, such as meat, eggs and dairy products.

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PRODUCTS TO TEST:								
cabbage	apples	carrots	avocado	cauliflower	bananas	lettuce	grapes	onions
kiwifruit	celery	mandarins	potatoes	melons	pumpkin	oranges	kumara	grapefruit
tomatoes	eggs	sprouts	silverbeet					
STORE:								
WW=Woolworths	C=Countdown	BF=Big Fresh	P/S= PacknSave	NW=New World	S.V.=Supervalu	Other____		
LABELLING USED:								
0=none	1=grower/suppliers brand	2=variety label	3=brand name	4=place of origin	5=retail brand	6=other____		
OTHER EXTRINSIC CUES								
0=none	1=value for money	2= product differentiation	3=freshness	6=other____				
REVEALED INTRINSIC CUES AVAILABLE:								
0=none	1=product cut in half	2=can physically examine each individual product	3=can't examine the product but can see it	6=other____				
LABEL LOCATION:								
0=none	1=on package	2=on product	3=on retailer price tag	6=other____				
PACKAGING OF THE PRODUCT:								
0=none	1=plastic bag	2=paper bag	3=plastic container	4=cardboard packaging	5=netting bag	6=other____		
VISIBILITY OF THE PRODUCT IN THE PACKAGE:								
0=none	1=small amount	2=large amount						
PRODUCT DISPLAY METHOD:								
1=loosely in segmented area	2=exclusively in a bin/stand	3=stacked exclusively	4=stacked in fridge	5=stacked in segmented area	6=other____			

Appendix B: Regression Variables

Variable	Description	Expected Sign
Store	Six supermarkets were used to collect data from. We expect differences in price between stores given that store differentiation on price and quality is a major promotional tool.	Depends on individual store's positioning
Supplier Label	The name of the supplier is attached to the product	Positive
Retail Brand	The name of the store is attached to the product	Positive
Variety Label	The product variety is included	Positive
Place of Origin	The country or region where the product was grown	Positive
Value for Money	Labelling to indicate that the product is on special or of lower price based on buying a larger volume than normal	Negative
Product Differentiation	labelling which describes the product characteristics in such a way as to differentiate it from other similar products, eg. seedless, fresh, washed in mineral water	Positive
Other	Other extrinsic cues	Positive
Cut in Half	The product is cut in half so that the customer is able to assess the revealed intrinsic cues, eg. the colour of the flesh of a melon	Positive
Physically Examine	The consumer is able too physically assess the product	Positive
See but can't Examine	The consumer cannot physically examine the product because it is in packaging, but they can see it through the package	Positive
On Package	The label is located on the packaging	Positive
On Product	The label is located on the product	Positive
Plastic Bag	The product is packaged in a plastic bag	Positive
Paper Bag	The product is packaged in a paper bag	Positive
Plastic Container	The product is packaged in a plastic container	Positive
Other	Other packaging, such as netting bags, cardboard, polystyrene	Positive
Small	Only a small part is the product is visible within the packaging	Positive
Large	A large part of the product is visible within the package	Positive
Exclusive	The product is displayed exclusively in an individual stand in the centre of the aisle. These products are usually on special	Negative
Fridge	The products are displayed in a fridge	Positive
Stacked in Segment	The product is stacked alongside other products	Positive