Online Journals
- Australasian Agribusiness Review
  - 2005 - Volume 13
  - 2004 - Volume 12
  - 2003 - Volume 11
  - 2002 - Volume 10
  - 2001 - Volume 9
  - 2000 - Volume 8
  - 1999 - Volume 7
  - 1998 - Volume 6
  - 1997 - Volume 5
  - 1996 - Volume 4
  - 1995 - Volume 3
- Australasian Agribusiness Perspectives
- Connections
- Call for Papers
- Contact Us

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Marketing Fresh Fruits And Vegetables: Exploration Of Individual Product Characteristics And Their Relationship To Buyer's Attention To Price

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Abstract

The unique and somewhat problematic challenges of marketing fresh fruits and vegetables have received attention from a variety of perspectives in recent years. The role that price plays for consumer purchases of them is complex, and will depend on the buyer, product and situation.

This article discusses the dimensions of individual product differences in terms of amount spent, whether purchased as a treat and whether the products are seasonal. These differences and their implications for buyer's attention to price are investigated.

The major implication arising from this research is that increased sales of fresh fruits and vegetables are likely to be achieved by keeping the price as low as possible for products for which buyer attention to price is high, that is, products that are treats and seasonal. Further, retailer profitability will be optimised if, in conjunction with the previous suggestion, higher gross margins are included for products where buyer attention to price is low, that is, staples and non-seasonal products.

Key words: Price, fruits and vegetables, consumer, marketing, Australia

Introduction

Improving our knowledge of buyer behaviour in relation to purchases of fresh fruits and vegetables is of obvious relevance to the fruit and vegetable industry. However, increasing consumption of fresh fruits and vegetables is also important to those involved with human nutrition and health.

A number of authors have contributed to our knowledge of fresh fruit and vegetable purchases yet a comprehensive understanding remains elusive. As Hughes (1996: 20) states 'Published consumer research on why fresh fruit purchasers...buy what they buy is...only available sporadically.' Specific contributions include buyer attitudes towards the fresh fruit and vegetable product category (Brug et al 1995, Pearson 2000, Yuen et al 1994), the human nutrition perspective (Clarke and Anne 1995), individual products in terms of branding (Batt and Sadler 1998, Yabsley and Wright 1994), buyer's ability to judge product quality at the time of purchase (Owen et al 2000), or sales of a specific product in a specific country (Miyauchi and Perry 1999). This article contributes to this literature by exploring the role that price plays in buyer's choice of fresh fruits and vegetables and the relevance of some dimensions of individual product differences in relation to buyer's attention to product prices.

The determination of what role price plays for buyers when they are purchasing fresh fruits and vegetables was based on a review of the literature and empirical research.

Literature review

The specific aspects of price reviewed include the reasons for fluctuating retail prices of fresh fruits and vegetables, and buyer's awareness and use of product prices. This is followed by review of individual fresh fruit and vegetable product differences in terms of amount spent, whether they are purchased as a treat and whether buyers see them as being seasonal.

Product prices

Price is a revealed attribute and hence buyers may choose to pay attention to it. It is an attribute for which buyers may easily make comparisons between products. Further, it has the potential to play significant and differing roles according to the individual buyer and the specific fresh fruit or vegetable product.

It is common for individual product prices to vary on subsequent shopping trips for food buyers. This variation is often larger than that which is commonly experienced by these buyers when the purchase other grocery items, such as toothpaste or soft drinks. The reasons for variations in fresh fruit and vegetable prices include changing product quality, fluctuations in supply and demand as well as the more common price fluctuations associated with retailer promotions. For price to play a significant role for buyers they must be aware of it. However, it is likely that in many fresh fruit and vegetable purchase situations the buyer is not aware of product prices.

These issues in relation to price, and the implications of them, are discussed in more detail in the following sections.

Variation in product prices

It has been reported that the price of fresh fruit and vegetable products vary frequently (ABS 1998, Owen 1996). Further, the manner in which price is presented to buyers may also vary. For example, the price of a particular product may be listed on a per kilogram basis on one shopping trip and on a per item basis the next (Owen et al 1998: 4). The reasons for these variations include changes in product quality, the fact that many retail outlets use cost plus pricing based on fluctuating prices from their suppliers (Borrell et al 1993: 30), and price changes initiated by these retail outlets.

Fresh fruit and vegetable retail outlets determine the final retail price based initially on a cost plus approach but with frequent deviations from this to reflect actions of competitors (Borrell et al 1993: 27). The determination of appropriate gross margin levels is likely to be specific to individual retail outlets. It has been suggested that fruit and vegetable retail outlets:

> have customary levels of margin. For example, they may decide that 33% is the correct mark up for vegetables, ... the expensive ones, the ones with high waste and the ones that require a lot of handling as well as those that are pre priced and pre packaged. (Bowbrick 1992: 176).

This method may be contrasted to a more detailed approach as suggested by How (1990: 308). He suggests that gross margins on individual products tend to vary. Further, he states that products with lower gross margins tend to be those that are generally perceived as being treats, like strawberries or mushrooms. Staples, such as potatoes and apples, tend to have higher gross margins. This higher average gross margin for staples is often achieved by having a 100% mark-up on the wholesale price and then periodic price promotions.

Related to, or as a consequence of, these large price variations, food buyers may respond to them differently. For example, does a low price signal a genuine price promotion of quality product, or is it an indicator of a low quality product? The individual buyer's judgement in relation to the alternatives posed by this question may determine whether they purchase the product or not. Thus, in situations such as this, price alone does not provide sufficient information for the buyer to make a decision. They will need to include additional information in areas such as past experience of the retail outlet, perhaps the season of the year, and perhaps other visual clues such as freshness of the product.

What does a high, or low, price mean to buyers?

In circumstances where buyers are aware of the price for a product, it has been suggested that it may be valued positively, as an indicator of quality; or it may be valued negatively, as a cost (Bowbrick 1992: 314).

Price may be seen as an indicator of quality, that is, a higher priced product is perceived by the buyer to be of higher quality (Bowbrick 1992: 169). However, it has been suggested that this price quality relationship is weak and it differs between individual products (Riezbos 1994: 78).

Further, due to the fact that many fruit and vegetables are seasonal there may be an inverse price quality relationship for some products. For example, at the early and late stages of its season, product supply will be low, quality will also be low, but prices tend to be relatively high (Kohls and Uhl 1990: 485). Whilst this view is reasonable, it is important to note that the price quality relationship still tends to hold at a particular point in time. Thus, the relationship of higher price indicating higher quality would tend to exist for products available on any one particular shopping trip, but tends not to apply over a whole season.

The cost, or sacrifice, perspective on price suggests that buyers will purchase more of a product when its price is decreased, and less of the product when its price is increased. The use of 'specials', or price promotions, where the price of a product is reduced by a significant amount for a short period of time to increase the amount of a particular product purchased, supports this relationship. As fresh fruits and vegetables are perishable products, retail outlets often use price promotions to sell products that otherwise would perish and be wasted. It is important to note that these retail outlets may also use price promotions as a drawcard to attract buyers.

The price-amount purchased relationship probably holds true for most products at an aggregate level, and over a significant period of time. However, the impact of small price movements between purchase occasions is unlikely to change the amount purchased.

Are buyers aware of fresh fruit and vegetable product prices?

The authors of numerous publications have suggested that fresh fruit and vegetable buyer's knowledge of the price paid for individual products tends to be low (Dickson and Sawyer 1990: 42, Lewis 1994: 82, Yuen et al 1994: 455). Previous research suggests that for repeat, low value purchases, such as fresh fruits and vegetables, buyers are not aware of price when they make purchase choices. For example in a publication titled 'The price knowledge and search of Supermarket shoppers', it was reported that grocery shoppers:

> tended to spend only a short time making their selection and many did not check the price of the item they selected. Perhaps as a consequence, more than half could not correctly name the price of the item just placed in the shopping cart and more than half of the shoppers who purchased an item that was on special were unaware that the price was reduced. (Dickson and Sawyer 1990: 42).

This lack of awareness of price appears to be common for fresh fruit and vegetable buyers. For example, only a small number (10%) of fresh fruit and vegetable buyers appeared to be concerned with price (Yuen et al 1994: 455), and almost half (45%) of buyers had no idea of the price paid for fresh potatoes (Lewis 1994: 82). In such situations price is an irrelevant attribute. However, there are different levels of awareness of price. To suggest that most buyers are not aware of price is misleading. No doubt some buyers are not aware of price at all, but most buyers use price ranges (Riezbos 1994: 78). Thus, their decision is not influenced by small price changes, such as the difference between $1.95 and $1.99 per kilogram. However, they may consider the difference between $1.95 and $3.95 per kilogram.

To simplify the purchase choice task buyers may use price ranges, rather than pay constant attention to small price changes. These price ranges are called reference prices (Riezbos 1994: 78). This concept suggests that buyers develop a range of acceptable prices, such as $1.50 to $2.00 per kilogram. When the buyer is confronted with a price that is above or below this range their attention is gained and they question the reason for such a price. For example, at a price greater than $2.00 per kilogram the buyer may decide that the product is too expensive, whilst at a price lower than $1.50 per kilogram the buyer may decide that the product must be of low quality and again choose not to purchase.

Relevance of price in selection of a particular retail outlet

Product prices have been identified as being important in buyer's choice of fresh fruit and vegetable retail outlet (HRDC 1990: 60, Levy and Weitz 1998: 131). Reasonable prices and the implication that this reflects reasonable quality and hence appropriate value for money, rather than the lowest prices, has been identified as being important to fresh fruit and vegetable buyers (HRDC 1990: 60).

Further, in terms of selection of a retail outlet, in most cases the buyer is concerned about the total price paid for the basket of purchases, rather than the price of individual products (Bowbrick 1992: 314).

Individual fresh fruit and vegetable products differ

The fresh fruit and vegetable product category is made up of a large number of individual products. Many of these individual products differ significantly from each other. It was decided to focus on aspects that would illuminate the scope of individual product differences in relation to the differing roles that price plays. The three specific aspects selected were: the amount spent on individual products, whether they are bought as a treat, and finally, whether they are seen as being seasonal.

Range of fresh fruit and vegetable products and amount spent

It is common for buyers to purchase a range of individual fresh fruit and vegetable products in any one particular shopping trip (Bowbrick 1992: 207, MacAulay et al 1990: 283, Meiselman 1996: 241, Piggott and Wright 1992: 237). Further, the majority of these buyers make weekly shopping trips (HRDC 1990: 53). The average weekly expenditure on individual fresh fruit and vegetable products is shown in Tables I and II. These list a total of 44 individual products, 20 fruits and 24 vegetables, and indicate that the total amount spent per person per week is just less than $5.00. This is relatively modest when compared to other food related expenditures, such as average individual weekly expenditure on alcoholic beverages ($6.50) (ABS 1994).

Table I:Expenditure on fresh fruits

Fruits:	Expenditure $/person/week
- Banana	0.47
- Orange	0.30
- Apple	0.27
- Pear	0.18
- Rock and honeydew melons	0.15
- Grape	0.13
- Peach	0.11
- Mandarin	0.08
- Pineapple	0.07
- Water melon	0.06
- Mango	0.05
- Apricot	0.05
- Pawpaw	0.05
- Lemon and lime	0.04
- Strawberry	0.04
- Nectarine	0.03
- Plum	0.03
- Cherry	0.03
- Grapefruit	0.02
- Kiwi fruit	0.02
Total	$2.18

Pearson (2000: 307)

Table II: Expenditure on fresh vegetables

Vegetables	Expenditure $/person/week
- Potato	0.42
- Tomato	0.42
- Mushroom	0.25

- Zucchini and squash	0.23
- Onion	0.19
- Carrot	0.19
- Capsicum	0.11
- Lettuce	0.10
- Bean	0.09
- Avocado	0.09
- Cabbage	0.08
- Cauliflower	0.08
- Broccoli	0.08
- Celery	0.07
- Pumpkin	0.05
- Pea	0.05
- Sweet Potato	0.04
- Parsnip	0.04
- Cucumber	0.03
- Sweet corn	0.03
- Asparagus	0.03
- Egg plant	0.02
- Brussels sprout	0.02
- Silver beet spinach	0.01
Total	$2.72

Pearson (2000: 307)

Treat purchases of individual products and their seasonal availability

The authors of previous research have identified that individual fresh fruit and vegetable products may be seen differently by food buyers in terms of whether they are purchased as a staple or a treat (How 1990, HRDC 1990, Owen et al 1998). A staple is a product that is purchased regularly and a treat would only be purchased occasionally, such as for a special occasion.

Further, many fresh fruits and vegetables have seasonal production and demand patterns (Kohls and Uhl 1990: 487) and food buyers have expectations regarding those products that have only seasonal availability and those that are available throughout the year. It has been reported that buyers expect year round availability of tomatoes, apples, and lettuces but not of strawberries, melons, peaches, and grapes (Wilkins 1995: 161). Seasonal issues also have an influence on buyer's perceptions. For example, buyers perceive the taste of fruit to be better in summer. They also perceive that more product is available in summer and that the price is lower (Brug et al 1995: 104).

The individual products and the percentage of buyers who purchase them as a treat as well as the percentage of buyers who view the product as being seasonal are shown in Tables III and IV.

Table III: Treat and seasonal for fruits

Fruits:	Buyers purchasing for treat (%)	Buyers who view product as seasonal (%)
- Strawberry	36	54
- Kiwi fruit	24	22
- Cherry	14	73
- Mango	14	55
- Grape	10	56

- Rockmelon	10	31
- Pineapple	9	19
- Peach	7	63
- Banana	7	9
- Watermelon	6	49
- Orange	6	10
- Apple	6	9
- Pawpaw	5	36
- Honeydew	5	32
- Apricot	4	61
- Plum	3	59
- Nectarine	3	58
- Mandarin	2	50
- Pear	2	28

(HRDC 1990: 87-204)

Table IV: Treat and seasonal for vegetables

Vegetables:	Buyers purchasing for a treat (%)	Buyers who view product as seasonal (%)
- Avocado	22	46
- Asparagus	14	49
- Mushroom	13	14
- Eggplant	6	23
- Button squash	6	20
- Zucchini	6	14
- Broccoli	5	22
- Sweet corn	4	33
- Tomato	4	12
- Cauliflower	3	24
- Lettuce	3	13
- Cucumber	3	12
- Celery	3	10
- Capsicum	3	9
- Green bean	2	15
- Pea	2	12
- Cabbage	2	10
- Pumpkin	2	5
- Carrot	2	4
- Potato	2	3
- Onion	1	3

(HRDC 1990: 87-204)

The information in Tables III and IV suggests that individual products differ according to whether they are purchased as a treat. They also differ in terms of the number of buyers who see them as being seasonal.

In general, more buyers see fruits as a treat than see vegetables as a treat. For example, if an arbitrary division is made in Tables III and IV at 10% of buyers who purchase the product as a treat, then six out of 19 fruits, namely; strawberries, kiwi fruits, mangoes, cherries, grapes, and rockmelons and three out of 21 vegetables, namely; avocadoes, asparagus and mushrooms would be classified as

treats. All other fruits (13 out of 18) and vegetables (18 out of 21) would be classified as staples.

The information in Tables III and IV also suggests that vegetables are generally not viewed by buyers as being seasonal whereas many fruit products are seen as being seasonal. If an arbitrary division is made in these Tables at 50% of buyers who view the product as seasonal, then nine out of 19 fruits and no vegetables would be classified as seasonal.

It is feasible that for some products the fact that they are purchased as a treat is related to them being seasonal. This relationship would appear to exist to a greater degree for vegetables than for fruits. For example, the percentage of buyers purchasing as a treat tends to decline for vegetables (Table IV) as the percentage of buyers who view the product as being seasonal also declines. This relationship is not as clear for fruits (Table III).

Buyers attention to price for individual fresh fruit and vegetable products

Previous research (Anon. 1997, Brownlee 1993: 35, Brumfield and Adelaja 1991: 118, Duggin 1995: 14, Godfrey 1996: viii, HRDC 1990, Lewis 1994: 23, McKinnon 1994: 22, Milgate 1994: 8, Pay et al 1996, Terry and Tabor 1991, van Gaasbeek and Bouwman 1991: 122, von Alvensleben and Meier 1991: 156, Yuen et al 1994: 457) has identified price as being an important attribute for most fruits, particularly those that are seasonal. The only vegetable for which price was mentioned as an important attribute was mushrooms. They are seen as a treat by many buyers (Table IV) and hence price may be more important. In addition, the reason that price was mentioned for mushrooms may be that their price, at around $5.00 to $8.00 per kilogram, is significantly more than the price of most other fruits and vegetables which typically sell for less than $3.00 per kilogram.

It has been suggested that the buyer's attention to price will vary according to which product is being purchased. The importance of price tends to be higher for fruits than vegetables. Further, attention to price tends to be high for products that are treats and for products that are seasonal (Owen et al 1998: 6, 13). The empirical research was designed to explore these suggestions.

Method

As previously mentioned the aim of the empirical research was to identify the variation in buyer's attention to price for individual products and to see if this has any relationship to whether the products are treats, seasonal and the amount spent on them.

The empirical research commenced with an exploratory study using interviews that was followed by a descriptive study using a questionnaire.

The exploratory study comprised in-depth interviews using open-ended questions with a representative sample of 20 food buyers. These were a judgement sample of buyers who represented the main stages in the household life cycle, such as parents with infant or primary or secondary age children, parents where children have left home, single parent households, and households of non-related adults (Bagozzi 1986: 103).

The information gathered during the exploratory study was then used to determine the appropriate content for the questionnaire used in the descriptive study. The purpose of the descriptive study was to provide statistically significant quantitative data.

The descriptive study was conducted in Armidale, a University town in northern NSW with a population of 20,000. From a demographic perspective, Armidale is generally representative of Australia. However there is one area of difference, this being the existence of the University. The impact of the University is shown in two areas. First, the relatively lower median age (27 as compared to 34 years) is caused by the higher proportion of the population being tertiary students. These students also contribute to the lower level of employment (37% compared to 43%). Second, the staff of the University make a major contribution to the higher proportion (9% compared to 3%) of the population being employed in the education industry (ABS 1996).

The questionnaire was mailed to every fifth household (1,000 households). The questionnaire required the main food buyer in the household to respond to a number of multiple choice questions in relation to buying food. The final wording of the questions, and the alternative answers provided, was based on information gather from the interviews and pilot testing of the questionnaire. The response rate was 33% out of which a total of 300 useable questionnaires.

The results were analysed using descriptive statistics.

The demographic profile of the questionnaire respondents indicates that they were fairly representative of the Armidale population and perhaps closer to that of Australia, particularly in relation to age. As the distribution of the questionnaire deliberately excluded students who live in

University colleges, it would be expected that the median age for the questionnaire respondents (31 years) would be closer to that of Australia (34 years) than that of Armidale (27 years). However, as is common with research using questionnaires, the fact that only three out of every ten questionnaires distributed were able to used in the data analysis leaves the possibility of some self-selection in terms of the respondents and hence the results may be biased.

Due to limitations in the amount of time questionnaire and interview respondents could be reasonably expected to provide the number of individual fresh fruit and vegetable products had to be reduced.

Pilot testing of the interview showed that including in excess of 40 individual products resulted in considerable fatigue for these respondents. Also, it was evident that at a certain point in the progress of the interview the ability of the respondent to provide new information declined rapidly. For example, the respondent would answer subsequent questions with identical responses to previous questions. So it was decided to reduce the list from over 40 to around 10 to 15 products.

In general the products included were those that were purchased by the highest percentage of buyers. This resulted in a total of 13 individual products that is seven fruits; namely apples, bananas, oranges, strawberries, rockmelons, grapes, peaches, and six vegetables; namely potatoes, tomatoes, onions, lettuces, cauliflowers, and mushrooms.

Results

The empirical results indicate that buyer's attention to price varies for individual products. Further, there is a strong relationship between buyer's attention to price and whether the product is seen to be seasonal, and also a strong relationship to it being purchased as a treat, however, only a weak relationship to the average weekly expenditure.

It is important to remember that buyer's attention to price is an appropriately general way of exploring price for repeat low value purchases such as fresh fruits and vegetables. In general buyer's do not have a clear recollection of the exact amount paid for these products. This was evident during the interview phase it was discovered that very few of the respondents had an accurate idea of the price for individual products. Typical responses from buyers included 'I don't know…, I don't care…, I couldn't say…, I am not price conscious., I don't buy a lot so price is not a huge issue.'

The empirical results for the importance of price for the 13 individual products are shown in Table V. This table also shows treat, seasonal and expenditure that was identified in the literature review (Tables I-IV) for these products

Table V: Empirical rating of importance of price compared with treat, seasonal and expenditure

	Importance of price[a]	Treat[b]	Seasonal[c]	Expenditure[d]
	(%)	(%)	(%)	$/person/week
Fruits:				
- Peach	85	7	63	0.11
- Strawberry	84	36	54	0.04
- Rockmelon	84	10	31	0.15
- Grape	78	10	56	0.13
- Orange	77	6	10	0.30
- Banana	74	7	9	0.47
- Apple	70	6	9	0.27
Average	79	12	33	0.21
Vegetables:				
- Cauliflower	79	3	24	0.08
- Tomato	77	4	12	0.42
- Lettuce	76	3	13	0.10
- Mushroom	75	13	14	0.24
- Potato	68	2	3	0.42
- Onion	63	1	3	0.19
Average	73	4	12	0.24

[a]The question required respondents to indicate the importance of price on a 5 point scale, ranging from not important (rated 0) through to very important (rated 4). The rating method selected for the presentation of summary results was calculated by summing number of respondents who indicated that this issue was 'fairly to very important' or 'very important', that is 3 or 4 on the questionnaire, and dividing this by the total number of respondents.

[b]From Tables III and IV.

[c]From Tables III and IV.

[d]From Tables I and II.

As shown by the averages in Table V, buyer's attention to price is slightly higher for fruits than for vegetables (average 79% versus 73%). However, a significantly larger percentage of buyers purchase fruits as a treat and see then as being seasonal than for vegetables (averages for fruits as a treat 12% compared with vegetables 4% and for seasonal 33% compared with 12%). Whilst the average weekly expenditure on fruits and vegetables is approximately equal ($0.21 versus $0.24).

Figure 1: Importance of price versus treat (From Table V)

The results in Figure 1 indicate that buyer's attention to price increases as the percentage of buyers purchase the individual product as treat increases. Strawberry, with 36% of buyers purchasing them as a treat, is an outlier in this figure.

The results in Figure 2 indicate that buyer's attention to price increases as the percentage of buyers who see the individual product as being seasonal increases.

Figure 2: Importance of price versus seasonal (From Table V)

Thus, in summary, buyer's attention to price is higher for products that are more often purchased as treats and seen as being seasonal. These results are consistent with the suggestions made by Owen et al (1998: 6, 13). Further, they provide a plausible explanation for the statement from How (1990: 308) that retail outlets accept lower gross margins for treats than for staples. That is, retail outlets will achieve higher overall sales if they keep the price as low as possible (i.e. low gross margin) for products for which buyer's attention to price is high, that is treats, whilst simultaneously having higher prices for the remaining products, that is staples.

Figure 3: Importance of price versus expenditure (in cents) (From Table V)

The results in Figure 3 suggest that buyer's attention to price is not closely related to amount spent. However, although these results are inconclusive, there is evidence that there maybe a trend towards buyer's attention to price being higher the less that is spent on each individual product. Further research would be required to confirm or refute this.

Conclusion

The role that price plays for consumer purchases of fresh fruits and vegetables is complex. Price is important to buyers but not in any simplistic manner. It would appear that the exact role that the price of a product plays will depend on the buyer, the individual product being purchased and the specific buying situation. However, there are some generalisations that may be made.

Although buyers have a limited knowledge of the exact price paid for frequent, low value purchases such as fresh fruits and vegetables, price is still important to them but only within the context of reference prices. That is, buyers are only likely to change their buying behaviour when the price is outside their reference price range for that individual product. This leads to a suggestion for further research. Gaining an understanding of reference price ranges for individual products would be of significant benefit to the fresh fruit and vegetable industry.

Further, the importance of price tends to be higher for products that are seasonal and for those that are purchased as treats. As more fruits than vegetables are seasonal and purchased as a treat, the importance of price tends to be higher for fruits than vegetables.

This suggests that retailers should place particular attention on the price of products that are seasonal and purchased as treats. For example, price promotions that are aimed at attracting buyers to the retail outlet, or selling more of the product, are likely to be more successful if they are on products for which price is important. Further research is required to identify whether attention to price is related to the amount spent on purchases of individual products.

The implication of these conclusions is that the fresh fruit and vegetable product category may be separated into those products for which buyer attention to price is high, that is, products that are treats and seasonal and those for which it is low, that is, staples and non-seasonal products. With this categorisation, increased sales of fresh fruits and vegetables are likely to be achieved by emphasising the price in advertising and keeping the price as low as possible for products where buyer attention to price is high, that is, treats and seasonal products. Further, retailer profitability will be optimised if, in conjunction with the previous suggestion, higher gross margins are included for products where buyer attention to price is low, that is, staples and non-seasonal products.

References

ABS 1994, Apparent consumption of foodstuffs and nutrients in Australia, Australian Bureau of Statistics, Canberra, Australia.

ABS 1996, Basic community profile using 1996 Australian Census data, Australian Bureau of Statistics, Canberra, Australia.

ABS 1998, Average retail prices of selected items, Australian Bureau of Statistics, Canberra, Australia.

Alexander, G. 1989, Marketing of fresh fruit and vegetables in Queensland, Queensland Department of Primary Industries, Brisbane, Australia.

Anon. 1997, Fruit and Vegetables, Department of Agriculture, NSW, Australia.

Bagozzi, R. 1986, Principles of marketing management, Science Research Associates, Sydney.

Batt, P. and Sadler, C. 1998, 'The importance of labels on apples: Who really benefits?', Australian Agribusiness Review (Online), vol. 6, no. 15, pp 1-9. http://www.agribusiness.asn.au/review/

Borrell, B., Ruby, M. and Vincent, D. 1993, Inquiry into the banana marketing system in Australia, Horticultural Research and Development Corportation, Sydney.

Bowbrick, P. 1992, The economics of quality, grades and brands, Routledge, London.

Brownlee, M. 1993, Fresh mushrooms study 1993, Horticultural Research and Development Corporation, Sydney.

Brug, J., Debie, S., van Assema, P. and Weijts, W. 1995, 'Psychosocial determinants of fruit and vegetable consumption among adults: results of focus group interviews', Food Quality and Preference, vol. 6, pp. 99-107.

Brumfield, R. and Adelaja, A. 1991, 'An analysis of consumers' purchasing patterns, perceptions, and

expenditures on fresh tomatoes in New Jersey', Acta Horticulturae, May, pp. 113-20.

Clarke, J. and Anne, M. 1995, 'An investigation into the current market for fruit in the UK and the measures taken to promote an increase in consumer consumption', Nutrition and Food Science, November/December, pp. 5-10.

Coombs, B. 1995, Horticulture Australia, Morescope Publishing, Melbourne.

Dickson, P. and Sawyer, A. 1990, 'The price knowledge and search of supermarket shoppers', Journal of Marketing, vol. 54, pp. 42-53.

Duggin, A. 1995, Mango consumer research, Horticultural Research and Development Corporation, Sydney.

Godfrey, L. 1996, A survey of consumer purchase behaviour and attitudes toward strawberries, Horticultural Research and Development Corporation, Sydney.

Heilbron, S. and Roberts, F. 1995, Agribusiness structures: Vertical co-ordination in Australia and internationally, Rural Industries Research and Development Corporation, Canberra, Australia.

How, B. 1990, Marketing fresh fruits and vegetables, Van Nostrand Reinhold, New York.

HRDC 1990, Consumer study of the fruit and vegetable market, Horticultural Research and Development Corporation, Sydney.

Hughes, D. 1996, 'Reversing market trends: the challenge for the UK fresh fruit sector', British Food Journal, vol. 98, pp. 19-25.

Kohls, R. and Uhl, J. 1990, Marketing of Agricultural Products, Prentice Hall, Englewood Cliffs, New Jersey, USA.

Levy, M. and Weitz, B. 1998, Retailing management, McGraw-Hill, New York.

Lewis, I. 1994, Fresh potato marketing research, SA Department of Primary Industries, Adelaide, Australia.

MacAulay, T., Niksic, K. and Wright, V. 1990, 'Food and fibre consumption', in Williams, D. (Ed), Agriculture in the Australian economy , Sydney University Press, Sydney, pp. 266-86.

McKinnon, S. 1994, Stone fruit market research report, The Adelaide Produce Markets Limited, Adelaide, Australia.

Meiselman, H. 1996, 'The contextual basis for food acceptance, food choice and food intake: the food, the situation and the individual', in Meiselman, H. and MacFie, H. (Eds.), Food Choice, Acceptance and Consumption, Blackie academic & professional, Melbourne, pp. 239-63.

Milgate, M. 1994, Fresh pineapple consumer research, Queensland Fruit and Vegetable Growers, Brisbane, Australia.

Miyauchi, Y. and Perry, C. 1999, 'Marketing fresh fruit to Japanese consumers: exploring issues for Australian exporters', European Journal of Marketing, vol. 33, pp. 196-205.

Owen, K. 1996, Price in the choice of fresh fruits and vegetables, Doctoral Thesis, Department of Marketing and Management, University of New England, Armidale, NSW, Australia.

Owen, K., Wright, V. and Griffith, G. 1998, Price in the choice of fresh fruit and vegetables 42nd Annual agricultural and resource economics society conference, University of New England, Armidale, NSW, Australia.

Owen, K., Wright, V. and Griffith, G. 2000, 'Quality, uncertainty and consumer valuation of fruits and vegetables', Australian Agribusiness Review, vol. 8.

Pay, C., White, M. and Zwart, A. 1996, The role and importance of branding in agricultural marketing,

Department of Economics and Marketing, Lincoln University, New Zealand.

Pearson, D. 2000, 'Fresh fruits and vegetables: What we buy and why?' Food Australia, vol. 52, pp. 306-8.

Piggott, N. and Wright, V. 1992, 'From consumer choice process to aggregate analysis: marketing insights for models of meat demand', Australian Journal of Agricultural Economics, vol. 36, pp. 233-48.

Riezbos, H. J. 1994, Brand added value: theory and empirical research about the value of brands to consumers, Eburon Publishers, Delft, The Netherlands.

Terry, D. and Tabor, R. 1991, 'Consumers' perceptions and willingness to pay for food irradiation' in Mayer, R. (Ed.), Enhancing consumer choice: Proceedings of the second international conference of research in the consumer interest, Americal Council of Consumer Interests, Columbia, Missouri, USA, pp. 117-28.

van Gaasbeek, A. and Bouwman, V. 1991, 'Conjoint analysis in market research for horticultural products', Acta Horticulturae, May, pp. 121-25.

von Alvensleben, R. and Meier, T. 1991, 'The influence of origin and variety on consumer perception', Acta Horticulturae, July 1990, pp. 151-61.

Wilkins, J. 1995, 'Seasonal and local diets: consumers' role in achieving a sustainable food system', in Schwarzweller, H. and Syson, T. (Eds.), Sustaining agriculture and rural communities, Research in rural sociology and development, JAI Press, Greenwich, Connecticut, pp. 149-66.

Yabsley, D. and Wright, V. 1994, Sticky labels on fresh fruit: marketing sense or nonsense? 38th annual conference of the Australian agricultural economics society, University of New England, Armidale, NSW, Australia.

Yuen, C., Caffin, N., Hunter, K., Newton, W. and Haynes, Y. 1994, 'Consumer consumption patterns, purchasing habits and attitudes to fruit and vegetables', Food Australia, vol. 46, pp. 455-58.

top of page