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AN ANALYSIS OF CONSUMER BELIEFS AND ATTITUDES TOWARDS AGRICHEMICAL USE AND AGRICHEMICAL RESIDUES ON FRESH FRUIT AND VEGETABLES

A thesis presented in partial fulfillment of the requirements for the degree of Master of Agricultural Economics

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ABSTRACT

Agrichemicals have been extensively used to control pests on fresh fruit and vegetables since the Second World War and virtually since this time controversy has surrounded their use. Agrichemicals present an unknown hazard to consumers, one which consumers feel they have little control over.

Agrichemical use and residues are not confined to fresh fruit and vegetables, but this is one product where their use is prominent. Consumers are concerned about agrichemical use for many reasons. One such issue is the safety of the fresh fruit and vegetables they eat, in terms of their health. If a new product is introduced, which addresses this issue, and differs on only the characteristic of food safety, classical demand theory has little to say about the adoption of this new product. In classical demand theory a good is bought for itself.

Goods characteristics theory however considers the good as a bundle of characteristics. The price of a good represents the sum of the marginal values of the characteristics. Goods characteristics theory however, would consider that the consumer is perfectly informed about these characteristics. This study assumes this is not the case. The consumer has a subjective evaluation of the characteristics which is more or less close to the objective reality. This subjective evaluation can be ascertained by asking a consumer about their beliefs and attitudes (considered to be synonymous with the terms perception and concern) and using these variables as explanatory variables in a model of consumer choice.

Respondents to a mail survey in this study were asked if they would consider buying a new product, fresh fruit and vegetables which differed on only one characteristic from currently available fresh produce, the use of agrichemicals in their production. Respondents were asked about their attitude and beliefs about the use of agrichemicals and possible presence of agrichemical residues on fresh fruit and vegetables.

The attitude and belief variables were used as explanatory variables in a logistic regression, with the dependent variable indicating whether or not they would consider buying fresh fruit and vegetables grown using integrated pest management. Results from this study suggest that respondents can be divided into groups (three in this study) which have different probabilities of considering buying the new product at various levels of concern. These groups could be characterised reliably by demographic variables and variables which indicate the respondents level of knowledge or information.
Respondents were also asked if they would be willing to pay more for the new product. A logistic regression model was again used to estimate the probability that these respondents would be willing to pay at least 20% more for fresh produce grown using integrated pest management. The respondents can again be grouped on this basis and the groups characterised in terms of demographic variables and variables which indicate the respondents' level of knowledge or information.

The results indicate that respondents who were employed, non-Maori, could recall information about agrichemical use or residues in the previous six months and who used agrichemicals to control pests and diseases around the outside of the home were more likely to consider buying integrated pest management produce and to consider paying at least 20% more for such produce.

As it is the underlying attitude and beliefs of consumers that explain the probability of considering buying the new product and paying more for it, producers may be interested in changing the beliefs of respondents in the groups with a low probability of considering buying such produce and paying at least 20% more for it, to the beliefs of groups with a higher probability of considering buying such produce and paying at least 20% more for it. Research has shown that people's beliefs are easier to influence than their attitudes. Since it is proposed that beliefs are a function of a person's information as well as demographic variables and this is supported by the research findings, the groups are investigated with regard to the information sources they consider reliable and the channels they obtain information through. For the groups who are least likely to considering buying such produce and to pay at least 20% more for it, the Department of Health, public interest groups, government research agencies and university scientists are considered to be the most reliable sources of information. Respondents were generally most likely to obtain information from television, newspapers and magazines.
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td></td>
<td>ii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td></td>
<td>iv</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td></td>
<td>v</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td></td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td></td>
<td>ix</td>
</tr>
<tr>
<td><strong>CHAPTER 1.</strong></td>
<td><strong>INTRODUCTION</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>CHAPTER 2.</strong></td>
<td><strong>BACKGROUND</strong></td>
<td>3</td>
</tr>
<tr>
<td>2.1 Agrichemical use</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2.2 Residues as an externality</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2.3 Residues as a private good</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>2.4 The role of government</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>2.5 Agrichemical regulation in New Zealand</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>2.6 The agrichemical industry's response to consumer concerns</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>2.7 Producers' response to consumer concerns</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>2.8 Consumer concern about agrichemical residues in the food supply</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td><strong>CHAPTER 3.</strong></td>
<td><strong>LITERATURE REVIEW</strong></td>
<td>12</td>
</tr>
<tr>
<td>3.1 Perception, concern or attitude?</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>3.2 Empirical analyses of consumer concerns</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>3.3 The research question</td>
<td></td>
<td>23</td>
</tr>
<tr>
<td><strong>CHAPTER 4.</strong></td>
<td><strong>DATA MEASUREMENT</strong></td>
<td>26</td>
</tr>
<tr>
<td>4.1 Measurement</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>4.2 Reliability and validity</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>4.3 General issues in question design</td>
<td></td>
<td>34</td>
</tr>
</tbody>
</table>
CHAPTER 5  DATA COLLECTION
  5.1 Defining the population  36
  5.2 Sample size  37
  5.3 Selecting respondents  37
  5.4 Carrying out the mail survey  39

CHAPTER 6  DESCRIPTIVE RESULTS
  6.1 Introduction  42
  6.2 Treatment of missing values  42
  6.3 Summary of survey responses  43
    6.3.1 Sample Profile  43
    6.3.2 How do respondents rank food issues?  46
    6.3.3 Respondents’ level of concern about agrichemical use  47
    6.3.4 Respondents’ beliefs about agrichemical use  49
    6.3.5 Will respondents consider buying fresh produce grown using integrated pest management and how much will they pay?  50
    6.3.6 Responses to information questions  51
    6.3.7 Responses to other questions  53

CHAPTER 7  MODEL FORMULATION AND RESULTS  54
  7.1 Introduction  54
  7.2 A model of consumer choice  54
  7.3 Explaining consumer choice  68
  7.4 Are respondents willing to pay more for IPM produce?  79
  7.5 Explaining willingness to pay  83

CHAPTER 8  DISCUSSION  89
  8.1 Introduction  89
  8.2 Consumer ranking of food issues  89
  8.3 Consumers’ level of concern  91
  8.4 Other concerns  92
  8.5 Respondent beliefs about the benefits of agrichemicals  93
8.6 Reasons for not buying IPM fresh produce  
8.7 Will respondents consider buying IPM fresh produce?  
8.8 An alternative approach  
8.9 Will respondents pay more for IPM fresh produce?  
8.10 Will consumers change behaviour based on information?  
8.11 Conclusion

REFERENCES

APPENDIX 1 SURVEY INSTRUMENT
  COVER LETTER
  SURVEY
  REMINDER LETTER

APPENDIX 2 MODELS COMPARED IN SECTION 8.9
  MODEL A
  MODEL B
  MODEL C
### LIST OF FIGURES

| Figure 3.1 | A model of behavioural intention (Fishbein and Ajzen, 1975) | 12 |
| Figure 3.2 | Fishbein and Ajzen's attitude variable | 13 |
| Figure 3.3 | Consumer choice in goods' characteristics theory | 14 |
| Figure 3.4 | Consumers' subjective beliefs differ | 17 |
| Figure 3.5 | Differing consumer preferences | 18 |
| Figure 3.6 | The potential behavioural modes tested by Huang (1993) | 21 |
| Figure 3.7 | Relationships tested between variables | 22 |
| Figure 3.8 | Relationships tested between the dependent variables in Ott's analysis | 22 |
| Figure 3.9 | A possible model using variables in Ott's analysis | 23 |
| Figure 3.10 | Respondent values for IPM produce in relation to conventional produce | 24 |
| Figure 3.11 | The model to be tested | 25 |
| Figure 4.1 | Statements of concern used by Ott | 26 |
| Figure 4.2 | Attitude question (level of concern) | 28 |
| Figure 4.3 | Semantic differential question (level of concern) | 28 |
| Figure 4.4 | Information on integrated pest management used in the survey | 29 |
| Figure 4.5 | Semantic differential question (level of concern) | 30 |
| Figure 4.6 | Alternative measure of consumer concern about agrichemicals (rank) | 32 |
| Figure 4.7 | Alternative measure of consumer beliefs about agrichemicals (use) | 33 |
| Figure 4.8 | Some open-ended questions in the survey | 35 |
| Figure 6.1 | Information about GROWSAFE | 53 |
| Figure 7.1 | Numbers of respondents by $X_1$, $X_2$, $X_3$ categories | 59 |
| Figure 7.2 | Cell frequencies in the nine cell model | 60 |
| Figure 7.3 | Possible four cell models | 62 |
| Figure 7.4 | Cell frequencies in the four cell model | 62 |
| Figure 7.5 | Probability that respondents in each group will consider buying IPM produce, as a function of their level of concern (Model 4) | 63 |
| Figure 7.6 | Frequencies in the three cell model | 64 |
| Figure 7.7 | Probability that respondents in each group will consider buying IPM produce, as a function of their level of concern (Model 5) | 65 |
| Figure 7.8 | Models to be compared | 71 |
| Figure 7.9 | Plot of canonical function 1 by canonical function 2 by group | 76 |
| Figure 7. 10 | Cell frequencies in the four cell model | 81 |
| Figure 7. 11 | Probability that respondents in each group will pay at least 20% more for IPM fresh produce, as a function of their level of concern (Model 4) | 82 |
| Figure 7. 12 | Models to be compared | 83 |
| Figure 7. 13 | Plot of canonical function 1 by canonical function 2 by group | 86 |
| Figure 8. 1  | Probability that respondents in each group will consider buying IPM produce, as a function of their level of concern | 96 |
| Figure 8. 2  | Results of the model by Huang (1993) | 98 |
| Figure 8. 3  | Probability that respondents in each group will consider paying at least 20% more for IPM produce, as a function of their level of concern | 101 |
### LIST OF TABLES

<table>
<thead>
<tr>
<th>Table No.</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 5.1</td>
<td>Evaluation of techniques developed to improve response rates to mail surveys</td>
<td>41</td>
</tr>
<tr>
<td>Table 6.1</td>
<td>Location, sex, ethnicity and age</td>
<td>44</td>
</tr>
<tr>
<td>Table 6.2</td>
<td>Income</td>
<td>45</td>
</tr>
<tr>
<td>Table 6.3</td>
<td>Survey results for education</td>
<td>45</td>
</tr>
<tr>
<td>Table 6.4</td>
<td>Respondent ranking of food issues</td>
<td>46</td>
</tr>
<tr>
<td>Table 6.5</td>
<td>Respondents ranking of other health risks compared with eating fresh fruit and vegetables grown with agrichemicals</td>
<td>47</td>
</tr>
<tr>
<td>Table 6.6</td>
<td>Concerns other than food safety</td>
<td>48</td>
</tr>
<tr>
<td>Table 6.7</td>
<td>Concerns about specific fruit and vegetables</td>
<td>48</td>
</tr>
<tr>
<td>Table 6.8</td>
<td>Beliefs about the use of agrichemicals on fresh fruit and vegetables</td>
<td>49</td>
</tr>
<tr>
<td>Table 6.9</td>
<td>Responses to statements about the safety of conventional and IPM fresh produce</td>
<td>50</td>
</tr>
<tr>
<td>Table 6.10</td>
<td>Why respondents would not buy fresh produce grown using IPM</td>
<td>51</td>
</tr>
<tr>
<td>Table 6.11</td>
<td>Number of sources of information</td>
<td>52</td>
</tr>
<tr>
<td>Table 6.12</td>
<td>Who should be responsible for information and who is a reliable source of information</td>
<td>53</td>
</tr>
<tr>
<td>Table 7.1</td>
<td>Parameter results for four cell model</td>
<td>63</td>
</tr>
<tr>
<td>Table 7.2</td>
<td>Parameter results for Model 5</td>
<td>65</td>
</tr>
<tr>
<td>Table 7.3</td>
<td>Loglikelihood ratio between successive models</td>
<td>65</td>
</tr>
<tr>
<td>Table 7.4</td>
<td>Likelihood ratio statistic for all models</td>
<td>66</td>
</tr>
<tr>
<td>Table 7.5</td>
<td>Loglikelihood ratio for alternative models compared with Model 5</td>
<td>67</td>
</tr>
<tr>
<td>Table 7.6</td>
<td>Explanatory variables used in the analysis</td>
<td>69</td>
</tr>
<tr>
<td>Table 7.7</td>
<td>Variables in each analysis</td>
<td>70</td>
</tr>
<tr>
<td>Table 7.8</td>
<td>Univariate F statistics for explanatory variables included in the models</td>
<td>72</td>
</tr>
<tr>
<td>Table 7.9</td>
<td>Statistics for model comparison</td>
<td>72</td>
</tr>
<tr>
<td>Table 7.10</td>
<td>Pooled within canonical structure</td>
<td>74</td>
</tr>
<tr>
<td>Table 7.11</td>
<td>Total sample correlation coefficients</td>
<td>74</td>
</tr>
<tr>
<td>Table 7.12</td>
<td>Pooled within-group standardized canonical coefficients</td>
<td>74</td>
</tr>
<tr>
<td>Table 7.13</td>
<td>Group means</td>
<td>75</td>
</tr>
<tr>
<td>Table 7.14</td>
<td>Ranking of group means</td>
<td>77</td>
</tr>
<tr>
<td>Table 7.15</td>
<td>Sample statistics for the predictors</td>
<td>77</td>
</tr>
<tr>
<td>Table 7. 16</td>
<td>Respondents' willingness to pay to buy IPM produce</td>
<td></td>
</tr>
<tr>
<td>Table 7. 17</td>
<td>Loglikelihood ratio between successive models</td>
<td></td>
</tr>
<tr>
<td>Table 7. 18</td>
<td>Likelihood ratio statistic between all models</td>
<td></td>
</tr>
<tr>
<td>Table 7. 19</td>
<td>Parameters for the four cell model</td>
<td></td>
</tr>
<tr>
<td>Table 7. 20</td>
<td>Variables in each analysis</td>
<td></td>
</tr>
<tr>
<td>Table 7. 21</td>
<td>Univariate F-statistics of variables included in the models</td>
<td></td>
</tr>
<tr>
<td>Table 7. 22</td>
<td>Percent of between groups variability explained by function 1</td>
<td></td>
</tr>
<tr>
<td>Table 7. 23</td>
<td>Pooled within canonical structure</td>
<td></td>
</tr>
<tr>
<td>Table 7. 24</td>
<td>Total sample canonical coefficients</td>
<td></td>
</tr>
<tr>
<td>Table 7. 25</td>
<td>Pooled within-group standardized canonical coefficients</td>
<td></td>
</tr>
<tr>
<td>Table 7. 26</td>
<td>Group centroids</td>
<td></td>
</tr>
<tr>
<td>Table 7. 27</td>
<td>Ranking of group means</td>
<td></td>
</tr>
<tr>
<td>Table 7. 28</td>
<td>Sample statistics for the predictors</td>
<td></td>
</tr>
<tr>
<td>Table 8. 1</td>
<td>Comparison between food concern rankings for different questions in the study</td>
<td></td>
</tr>
<tr>
<td>Table 8. 2</td>
<td>Respondent level of concern</td>
<td></td>
</tr>
<tr>
<td>Table 8. 3</td>
<td>Respondent concerns about the use of agrichemicals</td>
<td></td>
</tr>
<tr>
<td>Table 8. 4</td>
<td>Respondent beliefs about the benefits of agrichemicals</td>
<td></td>
</tr>
<tr>
<td>Table 8. 5</td>
<td>Reasons for not buying certified pesticide residue free produce (Weaver et al. 1992)</td>
<td></td>
</tr>
<tr>
<td>Table 8. 6</td>
<td>Why respondents would not buy fresh produce grown using IPM</td>
<td></td>
</tr>
<tr>
<td>Table 8. 7</td>
<td>Sources of information considered reliable</td>
<td></td>
</tr>
<tr>
<td>Table 8. 8</td>
<td>Media channels recalled</td>
<td></td>
</tr>
<tr>
<td>Table 8. 9</td>
<td>Belief and attitude parameter results</td>
<td></td>
</tr>
<tr>
<td>Table 8. 10</td>
<td>$-2 \log L$ statistic for models</td>
<td></td>
</tr>
<tr>
<td>Table 8. 11</td>
<td>Likelihood ratio statistic between models</td>
<td></td>
</tr>
<tr>
<td>Table 8. 12</td>
<td>Sources of information considered reliable</td>
<td></td>
</tr>
<tr>
<td>Table 8. 13</td>
<td>Media channels recalled</td>
<td></td>
</tr>
<tr>
<td>Table 8. 14</td>
<td>Changes in purchase habits for fresh fruit and vegetables, as a result of information seen or heard in previous six months</td>
<td></td>
</tr>
</tbody>
</table>