DETERMINANTS OF WILLINGNESS-TO-PAY A PREMIUM PRICE FOR INTEGRATED PEST MANAGEMENT PRODUCED FRUITS AND VEGETABLES IN TRINIDAD

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ABSTRACT

Overuse of pesticide in crop production poses enormous challenges to the health of farm families, consumers, and the environment. Integrated Pest Management (IPM) is an ecosystem approach to crop production that combines different management strategies and practices to grow healthy crops and minimize the use of pesticides. As a result of increasing awareness, education and per capita income, there is an increasing concern for food safety and demand for safe products among consumers of high-income countries. Consequently, this study was conducted among 266 randomly surveyed consumers of an affluent Caribbean country, Trinidad to ascertain the factors influencing consumers’ Willingness-To-Pay (WTP) a premium price for IPM grown fruits and vegetables. The consumers’ responses for the dichotomous question, “Would you be Willing to Pay an additional cost of 10% for the IPM produces from the current market prices?” were analysed using Binary logit regression model. Results indicated that females ageing over 26 years and having children, those with higher annual income and higher level of education were all most likely to pay a premium to obtain IPM grown fruits and vegetables. Willingness-to-purchase IPM produce was found to increase with income, education and age. The findings of this study are promising to those developing marketing strategies, besides enabling the producers to understand that producing fruits and vegetables through IPM would fetch them premium.

Keywords: Fruits, Logit Regression, Organic Agriculture, Vegetables, Willingness To Pay

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INTRODUCTION

Development scholars and practitioners have been emphasizing sustainable agricultural practices over the last decades. Recent reflections of the decades of progress indicate that policy makers should no longer consider agricultural sector in terms of production maximization (Alston, 2018). Rather it is necessary to consider sustainability of agriculture along a more complex interlocking of issues such as, production, environment, equitable benefits for smallholders, and cooperation and collective actions of relevant stakeholders, and more recently sustainable consumption. We have started witnessing this reflection in policy-making.

Of several components of sustainable agriculture, Integrated Pest Management (IPM) is considered as widely adopted cum vital approach in agricultural production. It is a pest management strategy to keep the pest population below an economic threshold level with minimum use of pesticides. The approach emphasizes the successful application of different physical and biological methods without relying on a schedule use of chemical pesticides. The chemicals are allowed as a last resort only when other methods fail to control pests at an economically threshold level (Vijay et al., 2010; Hashemi & Damalas, 2011; Chowdhury et al., 2015). IPM systems may also deliver an array of ecosystem goods and services beyond pest control, increasing general resilience at farm and landscape scales (Pretty & Bharucha, 2015).

Overuse of pesticide in crop production poses enormous challenges to the health of farm families, consumers, and the environment (Akter et al., 2018; Bonner & Alavanja, 2017; Popp et al., 2013). Pesticide exposure is linked to various short-term and chronic health hazards including cancer (Kim et al., 2017). An early study indicates that despite several efforts to introduce IPM in Cabbage and Tomato production in Trinidad and Tobago, farmers used pesticide 40% and 100% respectively above the recommended rates. The current policy and IPM research (Wynn et al., 2014) focused on technology and extension approach for promoting IPM practices. The National Food Production Action Plan of Trinidad and Tobago also accentuates on safe food grown locally (MFPLMA, 2011).

There is an extensive literature on IPM and FFS which mainly focus on agronomic practices, behavioural changes, and later on decision making processes, and economics of pest control (e.g. Hashemi & Damalas, 2011; Mengistie et al., 2014; Jørs et al., 2017; Larochelle et al., 2017; Ganpat et al., 2018). A second
type literature focused on learning and institutional development of IPM. This literature argued that successful application of IPM and FFS is related to facilitation of learning among multiple actors who usually belong to different domains of knowledge and authority (e.g. Toleubayev et al., 2011; Harris et al., 2013; Chowdhury et al., 2015; Tuz, 2018). A third literature type has recommended that IPM approach should go beyond production and input supply domains and include variables from consumption domains. The key insights of this literature substantiate that farmer’s decision to use IPM and related practices are influenced by other off-farm factors such as negotiations with retailer, contractor, regulatory agencies and most importantly preference of consumer (Savary et al., 2012). This is in line with the suggestion that innovation traditions in IPM research should move beyond from development, transfer, adoption and diffusion of crop protection technologies to the holistic approach encouraging interaction among different stakeholders of the agricultural systems (Schut et al., 2014).

In this context, the current study was carried out in high income Caribbean island, Trinidad and Tobago (i) to understand the consumers’ potential motivation to purchase IPM grown fruits and vegetables (ii) to evaluate their Willingness To Pay (WTP) a premium price for IPM grown fruits and vegetables.

Further, it is envisioned that the study will provide important insights into potentials of expanding IPM based agricultural production and consumption in the country. Ultimately, findings of the paper could serve as a policy suggestion for including consumption domain in a holistic approach, aimed at supporting sustainable agricultural development in the Caribbean region.

**METHODS**

**Survey**

The questionnaire was developed primarily to determine the willingness to pay for IPM grown fruits and vegetables compared to conventional method of production. The pre-tested and perfected questionnaire consisted of the socio-demographic attributes such as age, gender, income, education level, size of household and number of children under 14 years old. During pre-testing, the consumers were asked, 'how much percentage they would be willing to pay over market prices for the IPM grown fruits and vegetables' and thus an average WTP of 10% was included in the final survey. The survey questionnaire was also designed to assess perception and attitudinal variables of participants. The study was conducted during January-
February 2019. Survey was done with a questionnaire in Trinidad. An attempt was undertaken to approach every third shopper from randomly chosen four grocery stores in eastern part of Trinidad with goal to have a random representation of respondents. In total, 266 individuals were surveyed.

**Data analysis**

The data collected were subjected to conventional descriptive and binary logit regression analyses. Lancaster’s theory of consumer’s choice was used to analyse the determinants of demand for IPM produces, as traditional theories of consumer behaviour do not take into account the dynamic adjustment of the market (Kiruthika & Selvaraj, 2013). Lancaster’s attribute theory of consumer behaviour assumes that consumer obtains utility not from the IPM produces but from the attributes of the IPM produces. Consumer gets utility from the attributes of the IPM grown fruits and vegetables although they consume directly them. Thus, all consumers plan to allocate their income among various IPM produces so as to attain highest possible attribute combination. IPM produces have some distinct characteristics that make them different from the fruits and vegetables produced traditionally. More specifically, the credence characters of IPM food products distinguish them from the conventional ones. Consequently, those consumers who apparently recognised these characteristics of IPM products would be willing to pay more with the purpose of securing them. Therefore, the Lancaster consumer theory, which assumes product characteristics in-lieu of product itself as a determinant of consumer’s utility, is more appropriate to examine the demand for IPM produce (Caroline, 2012). In order to analyse the consumers’ WTP for IPM produces, random utility discrete choice models are appropriate (Kiruthika & Selvaraj, 2013; Obayelu et al., 2014)). Further, binary logit model that has the asymptotic characteristic constrains on the predicted probabilities, was chosen to analyse the factors predisposing the consumers’ WTP of an additional cost of 10% for the IPM produces from the current market prices. The Logit technique vis-à-vis Probit is a better technique for its capturing the magnitude of the effects of independent qualitative variables (Puduri et al., 2011; Priyadharsini et al., 2017).

The empirical model assumes that the probability \( P_i \) of Willingness To Pay a premium price for IPM produces depends on the vector of independent variables \( X_{ij} \) related to the \( i^{th} \) consumer and the \( j^{th} \) variable and an unknown parameter vector, \( \beta \). The likelihood of
observing the dependent variable is tested as a function of set of independent variables. In other words, That is, $P_i = F(Z_i) = F(\alpha + \beta X_i) = 1/ [1 + \exp (-Z_i)]$. $F(Z_i)$ represents the value of the standard normal density function associated with each possible value of the underlying index $Z_i$ and $P_i$ is the probability of observing a specific outcome of the dependent variable for a set of independent variables, $X_i$. $Z_i$ is the underlying index number and $\beta X_i$ is the linear combination of independent variables, given by:

$$Z_i = \log \left[ \frac{P_i}{(1-P_i)} \right] = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_n X_{ni} + \varepsilon$$

Where $i$ is $1, 2, \ldots, n$ are observations, $Z_i$ is the log odds of choice for the $i^{th}$ observation, $\beta$ is the parameters to be estimated, $\varepsilon$ is the error term. The regressand, $Z_i$ in the above equation is the logarithm of the probability that consumers are willing to pay or not premium prices for IPM produces. The probability change that $Y_i = 1 (P_i)$ due to a change in $X_{ni}$ is,

$$\left( \frac{\partial P_i}{\partial X_{ni}} \right) = P_i(Y_{i}, X_{ni} = 1) - P_i(Y_{i}, X_{ni} = 0)$$

A binary logit regression model of the following form was fitted to evaluate the determinants of consumers’ WTP of an additional cost of 10% for the IPM produces from the current market prices, using the variables as described in Table 1.

$$Y = \beta_0 + \beta_1 \text{Male} + \beta_2 \text{Age}_{26-50} + \beta_3 \text{Age}_{>50} + \beta_4 \text{Ethn}_\text{Indo-Trini} + \beta_5 \text{Ethn}_\text{mixed} + \beta_6 \text{Ethnic}_\text{others} + \beta_7 \text{Fam}_\text{children} + \beta_8 \text{Hsize} \geq 4 + \beta_9 \text{Inc}_\text{low} + \beta_{10} \text{Inc}_\text{lmid} + \beta_{11} \text{Inc}_\text{umid} + \beta_{12} \text{Edn}_\text{pri} + \beta_{13} \text{Edn}_\text{sec} + \beta_{14} \text{Edn}_\text{UG} + \beta_{15} \text{Buy}_\text{org} + \beta_{16} \text{Buy}_\text{local} + \beta_{17} \text{P}_\text{shopper} + \beta_{18} \text{Watch}_\text{adv} + \beta_{19} \text{Heard}_\text{IPM} + \beta_{20} \text{Age}_\text{Edn} + \beta_{21} \text{Inc}_\text{Edn}$$

The binary logit regression model was fitted to evaluate the determinants of consumers’ WTP of an additional cost of 10% for the IPM produces from the current market prices, using the variables as described in Table 1.

**RESULTS AND DISCUSSION**

Fruits and vegetables are major agricultural products in Trinidad. Simultaneously, the occurrence of pests and diseases are serious concerns in fruits and vegetable production which warrants IPM strategy for successful production of safe food (Pollard 1991; Saravanakumar et al. 2016). A recent study indicates that farmers in Trinidad considered economic viability of the IPM production system (Wynn et al. 2014). To assess the economic viability of IPM, consumer preference will play important roles in determining economics of crop produced by IPM. Therefore, the study current study was conducted to understand the consumer preferences about fruits and vegetable produced by IPM techniques.

The results of the descriptive statistics on survey questions
believed that traditionally grown produce was safer to consumer. Most of them (89%) agreed that synthetic/chemical pesticides had adverse effect on the environment. Almost two-third (61%) of the consumer agreed that determining consumer preference of IPM are summarized in Table 2. The findings indicate that more than two-third (62%) consumers were aware about pesticide related health hazards. About two-third of the consumers

### Table 1: Explanatory variables used in the binary logit regression

| Variables                        | Levels                                                                 | Measurement Scale                              | Variable ID |
|----------------------------------|------------------------------------------------------------------------|------------------------------------------------|-------------|
| Gendera                          | Male, Female                                                           | 1 - if male; 0 - otherwise                     | X1          |
| Ageb                             | ≤ 25 years, 26–50 years, >50 years                                    | 1 - if 26–50 years; 0 - otherwise              | X2          |
| Ethnicity: Indo-Trini             | Afro-Trini, Indo-Trini, Mixed, Others                                  | 1 - if Indo-Trini; 0 - otherwise                | X3          |
| Family having children           | Yes, No                                                                | 1 - if Yes; 0 - otherwise                       | X4          |
| Household with 4 or more members | Yes, No                                                                | 1 - if Yes; 0 - otherwise                       | X5          |
| Monthly incomed                  | TT$ 9999 or less, TT$ 10000 to17999, TT$ 18000 to 23999, TT$ 24000 and more | 1 - if TT$ 9999 or less; 0 - otherwise          | X6          |
| Educatione                       | Primary, Secondary, UG Degree                                           | 1 - if Primary level; 0 - otherwise             | X7          |
| Usually buy organic fruits and vegetables | Yes, No                                                              | 1 - if Yes; 0 - otherwise                       | X8          |
| Buy from local fruits and vegetable markets too | Yes, No                                                              | 1 - if Yes; 0 - otherwise                       | X9          |
| Primary household shopper        | Yes, No                                                                | 1 - if Yes; 0 - otherwise                       | X10         |
| Usually watch food advertisements | Yes, No                                                                | 1 - if Yes; 0 - otherwise                       | X11         |
| Heard of IPM                     | Yes, No                                                                | 1 - if Yes; 0 - otherwise                       | X12         |
| Age x Education                  | 1 - if the individual was old aged had PG degree; 0 - otherwise        | 1 - if the individual was old aged had PG degree; 0 - otherwise | X13         |
| Income x Education               | 1 - if the individual had high income and PG degree; 0 - otherwise     | 1 - if the individual had high income and PG degree; 0 - otherwise | X14         |

Reference categories: a - Male; b - Less than 26 years; c - Afro-Trini; d - TT$ 24000 and more; e - Masters and Doctoral degree.
vegetables and fruits produced through IPM would cost more to farmer. Majority of the consumer (66%) mentioned that they would buy fruits and vegetables in the supermarket if these were labelled for IPM.

The findings about respondents’ demographic variable are presented in Table 3. About half of the consumers were middle-aged (48%) female (62%) having a child (56%) living in the households. Furthermore, majority of the respondents (62%) indicate that they are the primary household grocery shopper (Table 2). This is an important segment of consumer who usually has an influence decision about food consumption of a typical Trinidadian family. Most consumers (53%) had a small family size (less than 4 members) while about 47% had medium or large size family (4 or more members). More than half of the consumers (61%) had household income less than 20000 TTD while one-fourth (26%) of the respondents had more than 25000 TTD. This indicates that a variability of respondent’s purchasing ability. More than two-third respondents had a university degree. Although one-fourth of the respondents indicated about purchasing of organic produce almost all of them (92%) visited local fruits and vegetable markets. About two-third of the respondents (59%) did not consider advertisement while purchasing the

| Questions                                                                 | Response types | Frequency | Per cent |
|----------------------------------------------------------------------------|----------------|-----------|----------|
| How hazardous do you believe chemical pesticide residues are to human health? | A serious hazard | 210       | 78.95    |
|                                                                            | Somewhat hazardous | 50        | 18.80    |
|                                                                            | Not hazardous     | 6         | 2.26     |
| Do you believe that traditionally grown produce is generally safer to consumer? | Agreed           | 166       | 62.41    |
|                                                                            | Disagreed         | 40        | 15.04    |
|                                                                            | Not Sure          | 60        | 22.56    |
| There is a significant difference in the safety between IPM and non-IPM produces. Do you agree? | Agreed           | 178       | 66.92    |
|                                                                            | Disagreed         | 16        | 6.02     |
|                                                                            | Not Sure          | 72        | 27.07    |
| Synthetic/ Chemical pesticides are damaging to the environment. Do you agree? | Agreed           | 236       | 88.72    |
|                                                                            | Disagreed         | 8         | 3.01     |
|                                                                            | Not Sure          | 22        | 8.27     |
| Do you agree that production of fruits and vegetables following IPM practices would cost more to farmers? | Yes              | 162       | 60.90    |
|                                                                            | No               | 52        | 19.55    |
|                                                                            | Not Sure          | 72        | 27.07    |
| If IPM produce was labelled as such in your supermarket, do you think that you... | Would buy        | 176       | 66.17    |
|                                                                            | Would not buy     | 8         | 3.01     |
|                                                                            | Are not sure to buy | 82       | 30.83    |
### Table 3: Descriptives of explanatory variables

| Variables                                | Response types                  | Frequency | %    | Mean | SE  |
|------------------------------------------|----------------------------------|-----------|------|------|-----|
| **Gender**                               | Male                             | 102       | 38.35| 0.38 | 0.03|
|                                          | Female                           | 164       | 61.65| 0.62 | 0.03|
| **Age**                                  | Less than 25 years of age        | 74        | 27.82| 0.28 | 0.028|
|                                          | 26–50 years of age               | 128       | 48.12| 0.48 | 0.031|
|                                          | Over 50 years of age             | 64        | 24.06| 0.24 | 0.026|
| **Ethnicity**                            | Afro-Trini                       | 84        | 31.58| 0.32 | 0.029|
|                                          | Indo-Trini                       | 114       | 42.86| 0.43 | 0.030|
|                                          | Mixed                            | 62        | 23.31| 0.23 | 0.026|
|                                          | Others                           | 6         | 2.26 | 0.02 | 0.009|
| **Are there children residing in the household? (Kids)** | Yes                             | 150       | 56.39| 0.56 | 0.030|
|                                          | No                               | 116       | 43.61| 0.44 | 0.030|
| **Household size**                       | Four or more individuals         | 124       | 46.62| 0.47 | 0.031|
|                                          | Less than four individuals       | 142       | 53.38| 0.53 | 0.031|
| **Monthly household (family) income in TT$** | 9,999 or less                   | 68        | 25.56| 0.26 | 0.027|
|                                          | 10,000 to 17,999                | 94        | 35.34| 0.35 | 0.029|
|                                          | 18,000 to 23,999                | 36        | 13.53| 0.14 | 0.021|
|                                          | 24,000 or more                  | 68        | 25.56| 0.25 | 0.022|
| **State your highest education level**   | Primary level                   | 6         | 2.26 | 0.02 | 0.009|
|                                          | Secondary level                 | 42        | 15.79| 0.16 | 0.022|
|                                          | UG Degree                       | 116       | 43.61| 0.44 | 0.030|
|                                          | PG Degree                       | 102       | 38.35| 0.38 | 0.030|
| **Do you usually purchase organic fruits and vegetables?** | Yes                             | 70        | 26.32| 0.26 | 0.027|
|                                          | No                              | 196       | 73.68| 0.74 | 0.027|
| **Have you ever visited local fruits and vegetable markets?** | Yes                             | 244       | 91.73| 0.92 | 0.017|
|                                          | No                              | 22        | 8.27 | 0.08 | 0.017|
| **Are you the primary household grocery shopper?** | Yes                             | 166       | 62.41| 0.62 | 0.030|
|                                          | No                              | 100       | 37.59| 0.38 | 0.030|
| **Do you usually make use of food advertisements?** | Yes                             | 110       | 41.35| 0.41 | 0.030|
|                                          | No                              | 156       | 58.65| 0.59 | 0.030|
| **Do you believe that pests pose a very serious problem in crop production?** | Yes                             | 228       | 85.71| 0.86 | 0.021|
|                                          | No                              | 38        | 14.29| 0.14 | 0.021|
| **Have you ever heard of IPM?**          | Yes                             | 156       | 58.65| 0.59 | 0.030|
|                                          | No                              | 110       | 41.35| 0.41 | 0.030|
| **Do you agree that production of fruits and vegetables following IPM practices would cost more to farmers?** | Yes                             | 162       | 60.90| 0.61 | 0.030|
|                                          | No/ Not sure                    | 104       | 39.10| 0.39 | 0.026|
| **Would you be Willing To Pay an additional cost of 10% for the IPM produces from the current market prices?** | Yes                             | 153       | 57.50| 0.58 | 0.030|
|                                          | No                              | 113       | 42.50| 0.42 | 0.030|
The findings indicate that more than half of the respondents (59%) heard about fruits and vegetables produced by IPM and were willing to pay an extra 10% premium while purchasing the produce.

**Determinants of WTP**

Factors influencing the consumers’ WTP of an additional cost of 10% for the IPM produce from the current market prices were evaluated through a binary logit regression model. The results of logit regression analysis showed that 88.5% of ‘no’ and 92.50% of ‘yes’ responses were correctly classified with an overall rate of 90.60% per cent. The good fit of the model could be understood from the high Cox & Snell and Nagelkerke $R^2$ values. The analysis also exhibited that, of the 21 explanatory variables included in the model fitted, 14 were found to be significantly influencing the consumers’ decision of WTP a premium price for IPM produce (Table 4).

In contrary to the findings of Kiruthika and Selvaraj (2013) in India, the results of this study indicated that the males, compared to females, are significantly less likely to pay more for IPM grown fruits and vegetables. Literacy rate and consumers’ awareness could be reasons for the differences elicited among nations. Consumers’ age is identified to be the major determinant of WTP a premium price for IPM produces. Although both middle and old aged consumers were likely to exhibit WTP, the older aged consumers had relatively high tendency, as compared to middle aged consumer, to exhibit WTP. Although Trinidadian ethnicity of population of (afro-trini, indo-trini and mixed) do not significantly influence the WTP, the other ethnicity living in Trinidad is willing to pay more for IPM produces. Consumers with children in their family were willing to pay significantly more than counterparts, while the consumers with large families didn’t exhibit any significance. Considering the average household size of 3.3 in Trinidad, the results implied that the household size of four or less with one or two children has been health conscious and supporting for a premium price. In addition, the families with more children may not be willing to pay a premium price due to their pressing household expenditure. The analysis showed the income was to be one of the significant factors in the consumers’ decision for WTP a premium price for IPM produces. The lower income groups, as compared to higher income group were less likely to pay more for IPM produces. Similarly, the educational level of the consumers was one of significant factors determining the WTP for IPM produce. Compared to
those who are with higher qualifications with post-graduate degrees, others were less inclined to pay more for IPM produces. More specifically, post-graduates with high income were more inclined to pay for IPM grown fruits and vegetables. Notably, those who had prior knowledge of IPM were willing to pay a premium price for IPM produces.

**CONCLUSION AND SUGGESTION**

This study, since it documented the significant linkages between many socio demographic variables and consumers’ WTP for IPM grown produces, would provide a better insight into the consumers’ buying behaviour that are relevant to IPM adopters and marketing agents. Gender, age, ethnicity, having children at home, monthly income, education, and prior knowledge of IPM are significant factors influencing consumers’ WTP for IPM produces.

**Table 4: Results of Binary Logit Regression**

| Variable ID | Variable Name                                      | B       | S.E.   | Sig.  | Exp(B) |
|------------|---------------------------------------------------|---------|--------|-------|--------|
| X₁         | Gender (male)                                      | -3.653*** | 0.806 | .000  | 0.026  |
| X₂         | Age: 26–50 years                                  | 1.673**  | 0.592  | .005  | 5.329  |
| X₃         | Age: Over 50 years                                | 5.468*** | 1.178 | .000  | 237.018|
| X₄         | Ethnicity: Indo-Trini                             | 0.750    | 0.606  | .215  | 2.117  |
| X₅         | Ethnicity: Mixed                                 | 0.078    | 0.718  | .914  | 1.081  |
| X₆         | Ethnicity: Others                                | 4.052*   | 1.801  | .024  | 57.528 |
| X₇         | Family having children                            | 4.603*** | 0.844  | .000  | 99.750 |
| X₈         | Household with 4 or more members                  | 0.038    | 0.580  | .947  | 1.039  |
| X₉         | Monthly income: TT$ 9999 or less                  | -5.181*** | 1.109 | .000  | 0.006  |
| X₁₀        | Monthly income: TT$ 10000 to 17999                 | -5.692*** | 1.171 | .000  | 0.003  |
| X₁₁        | Monthly income: TT$ 18000 to 23999                 | -4.681*** | 1.171 | .000  | 0.009  |
| X₁₂        | Education: Primary level                          | -10.548*** | 2.160 | .000  | 0.000  |
| X₁₃        | Education: Secondary level                        | -6.597*** | 1.302 | .000  | 0.001  |
| X₁₄        | Education: UG Degree                              | -4.426*** | 0.970 | .000  | 0.012  |
| X₁₅        | Usually buy organic fruits and vegetables         | -0.948   | 0.653  | .147  | 0.388  |
| X₁₆        | Buy from local fruits and vegetable markets too    | -2.013   | 1.098  | .067  | 0.134  |
| X₁₇        | Primary household grocery shopper                 | -1.154   | 0.615  | .061  | 0.315  |
| X₁₈        | Usually watch food advertisements                 | -0.258   | 0.606  | .671  | 0.773  |
| X₁₉        | Heard of IPM                                      | 1.041*   | 0.517  | .050  | 2.831  |
| X₂₀        | Age x Education                                  | 1.206    | 1.646  | .464  | 0.299  |
| X₂₁        | Income x Education                               | 3.672**  | 1.297  | .005  | 0.025  |
| Constant   |                                                   | 7.246    | 2.105  | .001  | 1402.698|
| -2 Log likelihood |                               | 123.684  | .593  | .797  | 266    |

Reference categories: a - Male; b - Less than 26 years; c - Afro-Trini; d - TT$ 24000 and more; e - PG degree.
income, education and knowledge on IPM were the major factors deciding the consumers’ WTP a premium price for IPM produces. Well educated mothers ageing more than 25 years with monthly household income of TT$ 24000 or more and knowledge on IPM are the potential buyers. The findings of this study are promising to those developing marketing strategies, besides enabling the producers to understand that producing fruits and vegetables through IPM would fetch them premium.

This study reflects an initial exploration of IPM agricultural production as well as potential perspectives for its introduction and development in the Caribbean region. Increasing public awareness of IPM produces together with sound public policy would allow the farmers of this region to specialize and revive traditional, IPM based agricultural production. Alternatively, the consumers of this region will be greatly benefited as they will be offered healthier and tastier products having the reduced level or even no negative influence on environment.

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