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Clare Gilsenan Dr.
DIT, clare.gilsenan@dit.ie

Roisin M. Burke Dr.
DIT, roisin.burke@dit.ie

Catherine Barry Ryan Dr
DIT, Catherine.Barryryan@dit.ie

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CONSUMER TASTE PREFERENCE AND ATTITUDES TOWARDS IRISH GROWN ORGANIC AND CONVENTIONAL TOMATOES

C.Gilsenan[1], R.M. Burke[1], and C Barry-Ryan[2]
[1] School of Culinary Arts and Food Technology, Faculty of Tourism and Food, DIT, Cathal Brugha Street, Dublin 1, [2] School of Food Science and Environmental Health , Faculty of Tourism and Food, DIT, Cathal Brugha Street, Dublin 1

ABSTRACT

Consumers often believe that organically farmed fruit and vegetables taste different and are preferred to conventional produce. The purpose of this study was to determine if sensory panellists could distinguish, by tasting, between organic and conventional Irish grown tomatoes (*cv Amoroso*) and to identify if panellists have a preference for organically farmed or conventionally produced tomatoes. Forced-choice triangle tests and paired preference tests were completed by 72 consumer panellists, who had responded positively to liking and frequently consuming tomatoes. On completion of the two sensory tests, panellists were presented with a questionnaire assessing attitudes towards the consumption of organic produce. The results of the triangle test showed that a total of 38 panellists correctly identified the different sample. The results indicated that 38 correct responses was sufficient to conclude that the two tomatoes were perceptibly different. The paired preference test results showed a preference for the conventional tomatoes. The results of the questionnaire indicated that the majority of panellists tended to hold a positive view of organic produce. The price of organic produce was considered to be the main deterrent to the purchasing of organic produce. The results of the paired preference test showed that the majority of organic buyers (81%) preferred the conventional tomato.The taste of conventional tomatoes was considered preferable to the taste of organic tomatoes due to sweetness.

INTRODUCTION

. The preference for organic fruit and vegetables has been associated with an increased interest towards personal health and environmental protection[1]. This perception is due to the principles associated with organic farming. Organic farming is based on a system of agriculture that avoids or largely excludes the use of synthetic fertilisers, pesticides, growth additives and other chemicals[2]. The objective of this study was to determine if sensory panellists could distinguish, by tasting, between organic and conventional Irish grown tomatoes and to identify if panellists have a preference for organically farmed or conventionally produced tomatoes.

MATERIALS AND METHODS

Irish grown organic and conventional tomatoes *(cv. Amoroso)* harvested at the red ripe stage were selected for sensory analysis. Forced-choice triangle tests[3] and paired preference tests[4] were completed by 72 consumer panellists, who had responded positively to liking and frequently consuming tomatoes. Panellists were not trained, but prior to sensory testing, panellists received instruction regarding the testing procedure in written and verbal format. Testing was conducted in individual booths, under red filtered lighting to avoid colour bias. The tomatoes were cut into quarters and were presented to the panellists in polystyrene cups. Each sample was assigned a

three digit random number. Panellists were provided with water for palate cleansing. On completion of the two sensory tests, panellists were presented with a questionnaire assessing attitudes towards the consumption of organic produce[5].

RESULTS AND DISCUSSION

Results of the triangle test indicated that there was a detectable difference ($p<0.05$) between the organic and conventional tomatoes. Fifty-three percent of the panellists correctly identified the odd sample. The paired preference test results showed a significant preference for the conventional tomatoes. Fifty-eight panellists favoured the conventional tomatoes compared to 14 panellists who preferred the organic tomatoes. The results of the questionnaire indicated that the panellists had a positive view of organic produce. Analysis of the 72 completed questionnaires showed that 42% of the panelists claimed to purchase organic produce. Thirty-one percent of this group indicated that they thought organic produce tasted better. Fifty-three percent of the organic buyers indicated that they purchase organic produce at least once a week. Fruit and vegetables (87%) were noted as the most popular type of organic food purchased by the organic buyers. The results of the questionnaire showed that the majority of panellists (73%) do their organic shopping in their local supermarkets. Twenty-seven percent of the panellists indicated that they buy organic produce directly from producers. Among the non organic buyers, the relative expense was most commonly cited as the reason for not purchasing organic produce. The results of the paired preference test showed that the majority of organic buyers (81%) preferred the conventional tomato. Similarly, the majority of non organic buyers preferred the conventional tomato.

CONCLUSIONS

The consumer sensory analysis tests showed a significant difference between organically farmed and conventionally produced tomatoes. The taste of the conventional tomatoes was considered preferable to the taste of the organic tomatoes due to sweetness.

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