

ACCEPTANCE OF THE MOST COMMON QUALITY ATTRIBUTES OF ORGANIC FOOD IN THE FINNISH FOOD CHAIN

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Abstract. *The aim of this study was to establish the degree of acceptance of organic food production and food in the Finnish food chain. The organic food system in Finland is poorly developed and one of the many reasons is that the food chain stakeholders are not committed and do not share common objectives for organic food and its production. A survey was carried among 1527 respondents from agriculture, industry, retail, catering and consumers to establish their opinions on safety and healthiness of organic food, and ecology and ethicality of organic production as well as the support that their own environment provided to their opinions. The results show that all environments are very positive for all four attributes. The best support for positive opinions on organic food and its production was in retail and catering. The community, as a consumer's environment was the least supportive of positive opinions and did not provide enough information about organic food and its production. To develop the organic food system, there needs to be a common objective among all stakeholders. Safety, healthiness, ecology and ethicality, as commonly accepted attributes, could represent tools for a more sustainable food system. Accepting consumers as co-creators in the food chain would enrich communication and strengthen the positive development of the entire organic food chain.*

Key words: *organic food, food chain, acceptance, quality*

INTRODUCTION

The organic food system is poorly developed in Finland comparing it with several other European Community member countries [1] and has not reached the goals set by the Finnish government for its share of the agricultural area or the markets [2], or for sustainable public catering [3]. One of the reasons is that conventional Finnish food is regarded as “almost organic” [4] and the Finns do not find sufficient reason to buy organically produced food [5]. The interest and commitment from all stakeholders in the food chain is needed to enable development of the organic food chain [6]. There have been barometer studies on Finnish consumer attitudes towards organic food [7] and studies on consumption behaviour [8], but nothing has been done at the food chain level.

The aim of this study was to establish the level of acceptance of organic food production and food in the Finnish food chain. Acceptance was tested using a survey where food or food production quality-related attributes were presented in an organic food context: safety and healthiness of food and ecology and ethicality of the food production. Those four attributes were chosen because they are among the most commonly mentioned in consumer studies to describe organic food and organic production. The most commonly mentioned attribute, however, is taste [8],[9], but because taste is difficult to define and is highly personal, it was not included in this research.

Consumers find organic food 1) *safe*, because it has fewer residues from pesticides [10] and medications [11], fewer additives [12] and no GMOs [13], 2) *healthy* [14] and healthier [15] than conventional food, 3) *ecological*, because it is good for the environment [16], better for the environment than conventional [17], maintains biodiversity [18] and has less negative impact on nature [19], and 4) *ethicality*, for better animal welfare [20], living conditions of animals [21] and natural breeding [22].

MATERIALS AND METHODS

The food chain environments chosen for this study were agriculture, the food industry, retail and catering. Society was regarded as the environment of the consumers. The consumer survey was outsourced to achieve optimal sampling. For other environments, the respondents were approached through their employers,

professional associations or lobbyist by a letter informing about the survey and that a link to the survey would be sent to them by e-mail to be distributed to their employees or members. The sample sizes were not large enough for environments other than the consumers (N= 1096, others 50 – 158), so the results cannot therefore represent those environments, but are indicative nonetheless. The survey was carried out in May – June 2012 using the Webropol internet-based system. Analysis of the results was done in June – August 2012 with the Webropol professional analysis tool.

The questionnaire contained 1) demographic questions, 2) environmental questions, 3) sub-environmental questions (e.g. food industry size, communal or private catering), 4) questions on food safety, healthiness, ecology and ethicality e.g. *“in my opinion, organic food is safer than conventional food”*, 5) questions about own environment’s support for respondents’ own opinions e.g. *“in my opinion I get support from my environment for my opinions on the ethicality of organic production*, 6) questions about the information available on the safety and healthiness of organic food and ecology and ethicality of organic production e.g. *“I get enough information on the healthiness of organic food from my environment”*. Options for responding to questions 4-6 were *“agree”* or *“disagree”*.

Demographic description of the sample

Of all respondents (N= 1527) 53 % were female and 47 % male. There were more male respondents in industry and fewer in catering. 69 % of the total lived in cities, 81 % people worked in retail and of those 82 % in retail chains (private shops 76 %). 20 % of the agricultural producers lived outside the countryside (33 % potato and vegetable producers). 83 % of the respondents from big industry (more than 100 employees) lived in cities and 55 % were from small industry (fewer than 10 employees). Most of the respondents lived in the southern (41 %) and in the western parts of Finland (35 %). The demographic description of the sample is given in Table 1.

Table 1.

The demographic description of the sample

Factor group	Factor	All (N=1527)	Agriculture (N=136)	Industry (N=50)	Retail (N=87)	Catering (N=158)	Consumers (N=1096)
Sex	Female	52,5 %	42,6 %	42,0 %	48,3 %	56,3 %	54,0 %
	Male	47,5 %	57,3 %	58,0 %	51,7 %	43,7 %	46,0 %
Province	Southern F.	41,0 %	26,5 %	50,0 %	55,2 %	46,2 %	41,1 %
	Western F.	34,5 %	46,3 %	30,0 %	27,6 %	32,3 %	35,3 %
	Oulu	9,0 %	6,6 %	6,0 %	4,6 %	7,6 %	10,3 %
	Lapland	3,5 %	3,7 %	2,0 %	1,2 %	1,3 %	3,2 %
	Eastern F.	11,0 %	16,9 %	12,0 %	11,5 %	12,7 %	10,1 %
Municipality	City	68,6 %	14,7 %	72,0 %	80,5 %	70,9 %	73,8 %
	Urban	13,4 %	5,2 %	6,0 %	10,3 %	12,7 %	15,2 %
	Countryside	18,0 %	80,2 %	22,0 %	9,2 %	16,5 %	11,0 %

RESULTS AND DISCUSSION

The highest share of positive answers per environment for the four arguments was in catering (82 %) and among consumers (80 %). The lowest share was in industry (68 %). The conventional and organic producers exhibited the biggest and most significant ($p < 0,01$) difference regarding their positive views on organic food and its production: food safety organic 97 % and conventional 37 %, healthiness: organic 96 % and conventional 35 %, ecology: organic 99 % and conventional 48 % and ethicality: organic 99 % and conventional 46 %. Female respondents were more positive than male (e.g. ethicality: female 89 % and men 82 %, $p < 0,01$), respondents from Lapland less positive than those from other provinces (e.g. healthiness: Lapland 56 %, $p < 0,01$, others 75 % – 81 %). The consumers using organic products were more positive regarding organic food and its production than others (e.g. ecology: users 88 % and non-users 56 %, $p \leq 0,05$). The best support for positive opinions regarding organic food and its production came from retail (80 %) and agriculture (71 %). 45 % ($p < 0,01$) of consumers felt support for their positive opinions. 70 % of the

respondents from industry got enough information about organic food and its production. 53 % of the consumers answered that they received sufficient information. The statistically significant results for opinions, support and information are presented at environmental and sub-environmental levels. The shares of positive opinions are given in Figure 1. and the shares of environmental support for those with positive opinions in Figure 2.

Safety of organic food

75 % of all respondents considered organic food to be safer than conventional food. The most positive responses were from catering (80 %) and retail (78%), and the least positive from industry (58 %, $p < 0,01$) especially from the larger companies (33 %, $p < 0,01$) and meat industry (29 %, $p < 0,01$). The greatest environmental support was from retail (81 %), especially food stores (92 % and supermarket chains 76 %). 33 % ($p < 0,01$) of those who considered organic food not to be safer than conventional got support for their opinion (highest for big industry 61 %). 52 % ($p < 0,01$) of consumers got enough information about the safety aspects of organic food. Most information was available in industry (74 %, $p < 0,01$). Respondents from the countryside most easily got information (64 %, $p < 0,01$, urban 51 %, city 55 %).

Healthiness of organic food

75 % of all respondents considered organic food to be healthier than conventional food. The most positive responses were from catering (78 %) and consumers (76 %), and the least positive from industry (62 %, $p \leq 0,05$) especially from large companies (33 %, $p < 0,01$). Most environmental support was from retail (81 %), especially food stores (85 %, $p < 0,01$) and the lowest from big industry (50 %) and public catering (53 %, $p < 0,01$). 33 % ($p < 0,01$) of those who considered organic food not to be healthier than conventional got support for their opinion. 52 % ($p < 0,01$) of consumers got enough information about the healthiness of organic food. Most information was available from agriculture (68 %, $p < 0,01$) and industry (65 %, $p < 0,01$). Respondents from the countryside most easily got information (63 %, urban 53 %, city 55 %, $p < 0,01$).

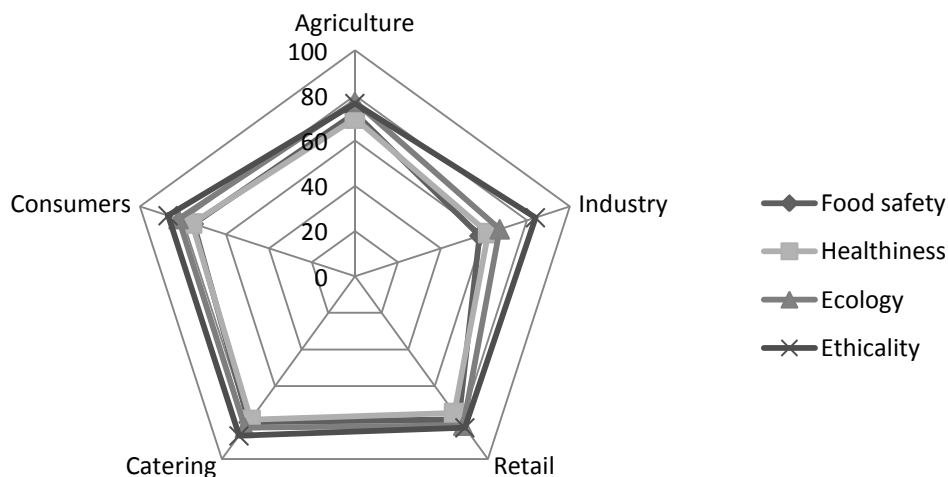


Figure 1. Shares (%) of positive opinions on safety and healthiness of organic food and ecology and ethicality of organic production per environment

Ecology of organic production

81 % of all respondents considered organic production to be more ecological than conventional production. The most positive respondents were from catering (83 %), retail (82 %) and consumers (82 %), and the least from industry (67 %, $p \leq 0,05$), especially large companies (50 %, $p \leq 0,05$). Most environmental support was from retail (78 %, $p < 0,01$) and least from consumers (49 %, $p < 0,01$) and big industry (47 %, $p < 0,01$), where

there was most support for those who did not find organic food to be more ecological than conventional (31 %, $p < 0,01$). 52 % ($p < 0,01$) of consumers got enough information about the ecology of organic production. Most information was available from agriculture (69 %, $p < 0,01$) and industry (71 %, $p \leq 0,05$).

Ethicality of organic production

86 % of all respondents found organic production to be more ethical than conventional production. The most positive responses were from catering (87 %) and consumers (87 %), and the least from agriculture (76 %, $p < 0,01$) especially milk producers (60 %, $p \leq 0,05$) and big industry (56 %, $p < 0,01$). 62 % ($p < 0,01$) of those who considered organic production to be more ethical than conventional got support from their environment. Most support was from retail (82 %, $p < 0,01$) and least from consumers (52 %, $p < 0,01$) and public catering (41 %, $p < 0,01$). 29 % ($p < 0,01$) of those who considered organic food not to be safer than conventional got support for their opinion. 53 % ($p < 0,01$) of consumers got sufficient information about the safety of organic food. Most information was available from agriculture (70 %, $p < 0,01$) and retail (70 %, $p \leq 0,05$). Respondents from the countryside most easily got information (64 %, $p < 0,01$, urban 55 %, city 57 %).

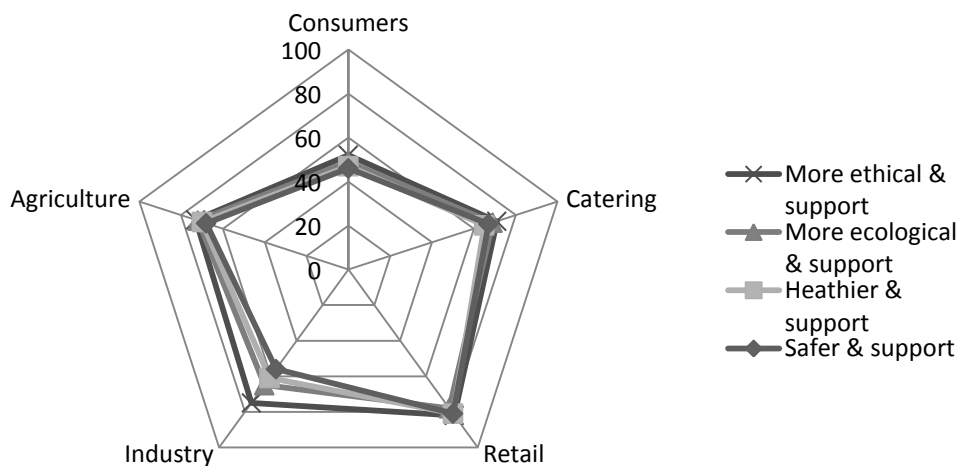


Figure 2. **Shares (%) of support from the environment for the positive opinions on safety and healthiness of organic food and ecology and ethicality of organic production**

Discussion

There were no similar studies available for comparison of these results. The literature supports the choice of the quality attributes as well as their acceptance in general [23]. Although the information available reflects the opinions on organic food and its production [6] and 44 % of the respondents in this study did not get enough information from their environment, the entire food chain was very positive towards the four most commonly mentioned quality attributes of organic food and its production. The community, which was regarded as the consumers’ environment, gave significantly less support to the consumers’ positive opinions on organic food and production than other environments did for their members. Support needs acceptance, the right values and motivation, and is based on information [24],[25]. It is easy to understand that information is more easily available to respondents working in the food chain than in other professions.

Some of the differences between environments and sub-environments were expected, such as organic farmers being more positive than conventional farmers regarding organic production. One of the reasons for the good results from retail and catering might be that those environments have not been implicated in the negative impacts like GMO, pesticide residues, additives, pollution or unethical treatment of production animals of conventional food and its production. This result supports such observations. Attitude is something that is learned and the more credence given to organic or conventional production in terms of ecology or ethicality, for example, the stronger become attitudes associated with the two production systems

[26]. After several food scandals, consumers have become increasingly interested in their food and many consider organic food to be a good option. Acceptance is a result of support from the environment and members' opinions [24]. According to the findings of this study, acceptance was strongest for the retail and catering sectors.

CONCLUSIONS

It is impossible to develop the organic food chain unless stakeholders share a common objective and have the tools to realise it [27]. This study has indicated that safety, healthiness, ecology and ethicality of organic food and its production have good support from the food chain. Therefore, those should be taken as values and tools [28] in addition to the economical measures [29] to shape the food chain towards becoming more sustainable through development based on the principles of common good [30]. Consumers value safety and healthiness in food, as well as the ecological implications and ethicality of production. The literature strongly supports such views. Consumers should be accepted as co-creators and co-innovators [31]. There remain several bottlenecks in the organic food chain. This study has shown that the food chain stakeholders in Finland share their attitudes and acceptance of organic food and its production. Open discussion on the benefits of organic food and its production is needed to address the current lack of information on its merits and demerits.

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