

MARKET PERSPECTIVES FOR ORGANIC FOOD IN ARMENIA:

AN ANALYSIS OF ORGANIC FOOD AWARENESS, PURCHASE POWER AND WILLINGNESS TO BUY IN ARMENIA

Prepared for
The CARD internal use

by
Center for Agribusiness and Rural Development in
Cooperation with Foundation of Applied Research and Agribusiness

74 Teryan Street, Yerevan, Armenia



March 30, 2006

ANALYSIS OF ORGANIC FOOD AWARENESS, PURCHASE POWER AND WILLINGNESS TO BUY IN ARMENIA

Personal interviews conducted by

FARA contractors

Tatevik Geovorkyan

Shushan Arabajyan

Coordinated by

Sona Tadevosyan

Data input forms created by

Sona Tadevosyan

Data input implemented by

Tatevik Geovorkyan

Shushan Arabajyan

Focus groups conducted and analyzed by

Armen Harutyunyan

Sona Tadevosyan

Data analyzed

Armen Harutyunyan

Project coordinator

CARD market development and research specialist

Armen Harutyunyan

CONTENTS

SECTION TITLE	PAGE
Executive summary	i
Introduction and objectives of the research	ii-iii
Methodology	iii-iv
General information about organic food and farming	
Organic food	1
Organic farming	2
International organic food market trends	
Sweden	3
Austria	3
Australia	4
France	4
Brazil	5
Finland	5
Great Britain	6
Russian Federation	7
New Zealand	8
Results and analysis	
A profile of the total sample	
Social-economic characteristics	9
Purchase preferences	10
Organic food awareness	12
Willingness to buy and pay premium	14
Conclusions and Recommendations	19

Appendix A	22
Appendix B	24
Appendix C	25
References	28
Personal interview survey	30

Executive Summary

There is market for organic food in Armenia and there are perspectives for the market development accompanied by effective marketing campaign. Research has concluded that although consumers with average and above average income level cannot clearly define organic/ecologically clean product, majority of them associate it with healthy food that does not contains chemicals, good for environment, and has high quality. In comparison to the Dutch and US consumers, these characteristics are similar in many instances. Armenian consumers most of the three countries concern about healthiness of the product: 71.8% (vs. 54% and 49%), and food quality 67.1% (vs. 42% and 12%). Consumers' concern about environment in all three countries is almost the same (more than 50%), with slight higher number for US consumers (58%). Finally, Dutch and Armenian consumers are least concerned about supporting local farmers as compared to US consumers.

Majority of survey respondents are willing to pay price premiums to purchase organic food. Despite the fact that there is willingness to pay price premium, people need to be assured that the product that they purchase complies with characteristics they look for. Respondents of 19-34 age category with household income of 50,000-400,000 AMD per month and married people with children from 25-54 age category, with income level of 100,000-600,000 AMD are willing to pay price premium for organic food.

According to the data collected during personal interviews and focus group discussions, respondents trust domestic products and shift their preferences to the domestic products as much as possible, provided it is complies with their purchase preferences (See Appendix C). Generally, all the factors create good base for organic market development in Armenia. Although, the overall picture looks positive, there are many challenges associated with organic food market development in Armenia. The first and the most important challenge is planning of marketing campaign that will be directed to the satisfaction of the needs of specific market segments.

Introduction

During the past few years, there is increasing interest toward organic farming and processing of organic products in Armenia. This includes organic conferences, creation of institutions that work with farms and agribusinesses for organic food production, processing, and certification. “Ecoglobe” LLC is the first Armenian organic certification body. It has been established in 2002, based on the growing interest of agricultural and food producers to the organic methods and as an opportunity to access organic markets. Ecoglobe certification sectors include plant production, livestock breeding, beekeeping, wild plant collection, aquaculture, food industry/processing, and trade. Since spring 2003, the company assists local food growers and processors and currently collaborates with 14 farms and 8 food processors. Besides preparatory work with the client, organization works with the Ministry of Agriculture of Armenia, on preparation of legislation for organic food definition and certification process. Another Company involved in this area is FruitFull Armenia Foundation (FAF). FAF is an independent non-profit organization, established to foster the development of the farming and food processing market sector in Armenia by enhancing rural development and by promoting the sales of Armenian food commodities as well as food specialties in the domestic and in the export marketplace.

Today, the concern about healthy and quality food products has been increasing in Armenia. In addition, awareness of health and environment safety together with increase of disposable income creates good base for organic market development. This report serves as a manual that is intended to introduce awareness on organic food in Armenia, consumers’ willingness to pay price premium, estimate organic food’s current demand, and project potential demand for consumers with purchasing power. This report provides basic information concerning organic food market in Yerevan, since significant proportion of Armenian purchase power is concentrated there. This makes education and reaching large number of consumers easier and allows marketing campaigns to be more effective. It is focused on assessment of organic food market and defines the future design of the organic farming and processing development project. The growth of supermarket chains with their centralized purchasing system also makes market entry easier.

The main objectives of this research are:

- understanding level of consumer knowledge about organic/ecologically clean products
- identification of the attitude of Armenian consumers toward organic food
- assessment of market segments that are willing to pay premium for organic food
- projection of potential demand with increasing disposable income model
- identification of consumers with purchasing power and assessment of their willingness to pay premium

Research methodology

The types of the research are descriptive, targeted to clarify the characteristics of certain phenomena, and causal, aimed to find whether there is particular variable X causing a variable Y.

A month period was dedicated to secondary data collection regarding organic food definition, international organic market development, organic certification, consumer diversification and income level in Armenia. This type of information was collected from the internet, USDA FAS web site, Armenian Statistical Agency's online sources, interviews with certification bodies in Armenia, journals and magazines. Secondary data portrays market segments for organic food in foreign markets, demand for the organic food, information on the US and European certification bodies etc. As the second stage, primary data were collected to understand situation in local market and future perspectives for organic food market development.

Two research methods were used for data collection; these are personal interviews and focus group discussions. Personal interviews were mainly applied to find out consumer awareness and willingness to pay for organic food and focus group discussions were conducted in order to observe group interaction, where members are exposed to an idea or concept. Dichotomous¹ and multiple choice structures were used in questionnaires for personal interviews. Questions were designed as open-ended and pre-specified, and

¹ Yes or no questions

include information about socio-demographic characteristics, consumer behavior, perceptions, and knowledge of organic food products, associations with organic/ecologically clean product definition, etc. The data were inputted and analyzed using Microsoft Excel 2003 software.

The research was targeted on average and above-average income consumers. The survey sample included 300 interviews, conducted in high value food retail stores and supermarkets in selected Yerevan communities, and 50 interviews, conducted during focus group discussions. Selected Yerevan communities included Central, Arabkir, Kanaker-Zejtun, Nor-Nork, Erebuni, Achapnyak, and Malatia-Sebastia. Quantitative methods were used during personal interviews and qualitative methods – during focus group discussions. Finally, focus groups were used to find out knowledge and preferences of specific consumer groups such as students, faculty, employees of factories, as well as randomly selected diversified consumer groups.

General information about organic food and farming

Organic Food

International federation of organic agriculture movement claims that organic agriculture is based on four principles that are health, ecology, fairness, and care. It means that it should sustain and enhance the health of soil, plant, human, animal and planet as whole, be based on living ecological system and cycles, work with them and emulate and help sustain them, ensure fairness with regard to the common environmental, life opportunities, and finally it must be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment. (IFOAM, 2005)

According to the US Organic Food Research Foundation, organic food refers to agricultural production systems used to produce food and fiber. All kinds of agricultural products are produced organically, including produce, grains, meat, dairy, eggs, flowers, fibers such as cotton, and processed food products. Organic farming management relies on developing biological diversity in the field to disrupt habitat for pest organisms, and the purposeful maintenance and replenishment of soil fertility. Organic farmers are not allowed to use synthetic pesticides or fertilizers. Some of the essential characteristics of organic systems include: design and implementation of an "organic system plan" that describes the practices used in producing crops and livestock products; a detailed recordkeeping system that tracks all products from the field to point of sale; and maintenance of buffer zones to prevent inadvertent contamination from adjacent conventional fields. USDA makes no claims that organically produced food is safer or more nutritious than conventionally produced food. Organic food differs from conventionally produced food in the way it is grown, handled, and processed.

Certified organic refers to agricultural products that have been grown and processed according to uniform standards, verified by independent state or private organizations, accredited by USDA. All products sold as "organic" must be certified. Certification includes annual submission of an organic system plan and inspection of farm fields and

processing facilities. Inspectors verify that organic practices such as long-term soil management, buffering between organic farms and neighboring conventional farms, and recordkeeping are being followed. Processing inspections include review of the facility's cleaning and pest control methods, ingredient transportation and storage, and recordkeeping and audit control. Organic foods are minimally processed to maintain the integrity of food without artificial ingredients or preservatives. Certified organic requires the rejection of synthetic agrochemicals, irradiation and genetically engineered foods or ingredients. (The national organic program, 2002)

Organic Farming

Organic farming is an environmentally responsible approach to producing high-quality food and fiber. Personal health and environmental concerns have long been motivating factors for those who choose to farm organically. Increasingly, however, economics has become a major factor. Organic farmers typically earn a premium for their production, and though it is not true for all products, many organic commodity crops have lower costs of production than the same conventional crops. (George Kuepper, 2002)

Organic farming is a form of agriculture that relies on ecosystem management and attempts to reduce or eliminate external agricultural inputs, especially synthetic ones. It is a holistic production management system that promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. In preference to the use of off-farm inputs, organic farming emphasizes management practices, taking into account that regional conditions require locally adapted systems. Utilizing both traditional and scientific knowledge, organic agricultural systems rely on agronomic, biological, and mechanical methods (these may require external inputs of nonrenewable resources, like tractor fuel), as opposed to using *synthetic*² materials, to fulfill any specific function within the system. Organic farming is also associated with support for principles beyond cultural practices, such as fair trade and environmental stewardship, although this does not apply to all organic farms and farmers. (Smil, Vaclav, 2001)

² chemical synthesis - purposeful execution of chemical reactions in order to get a product, or several products

According to European Commission, organic farming can be defined as a method of production, which puts highest emphasis on environmental protection and, with regard to livestock production, animal welfare considerations. It avoids or largely reduces the use of synthetic chemical inputs such as fertilizers, pesticides, additives, and medicinal products. Farming is only considered organic at EU-level if it complies with Council Regulations (EEC) No 2092/91. In this framework, organic farming is differentiated from other approaches to agricultural production by the application of regulated standards (production rules), certification procedures, and specific labeling scheme, resulting in the existence of a specific market, partially isolated from non-organic foods. It does not deal with other types of low-input farming.

A producer/organic farmer is any natural or legal person who operates an agricultural holding, involved in producing, packaging and labeling of his own organic products following the ruled of Council Regulation (EEC) No 2092/91.

A processor is any natural or legal person who preserves and/or processes organic agricultural produce. The packaging and labeling of organic products is also considered organic as processing. (European commission, 1999, Jacob Hansen, 2001)

International organic food market trends

Leading developing country suppliers of organic products are Argentina, Mexico, Brazil, Dominican Republic, China, India, Sri Lanka, and Turkey. Imported products include fresh fruits and vegetables, coffee, tea and cocoa, grains, pulses and seeds, vegetable oil and fats, edible nuts, spices and herbs, dried fruits, fruit and vegetable juices and concentrates, sugar and honey. (EU market survey, 2004)

Sweden: The Swedish organic consumer differs little from the average Swedish consumer. Well-educated females would be the most enthusiastic group, while men between ages 40-60 are the least interested. The Swedish organic consumer is less oriented to "natural" or "healthy" than their counterparts in continental Europe. In Sweden, there is a good market for products like organic white bread or organic white

(refined) sugar, while these products are very difficult to market in e.g. Germany. (US Embassy Stockholm, 2000)

Austria: At present, about two thirds of organic production is sold in the domestic market, 90% through the retail trade, mainly the two largest supermarket chains, and 10% directly by producers. The turnover of organic products is estimated at AS 3 billions. In general, these products are 25 - 30% more expensive at the wholesale and retail level than conventional products. According to a poll, more than 95% of the Austrian population is informed about organic foods, 70% are interested in buying such products, the same share regards them as more healthy, and 40% find them more tasteful. Despite the great interest in organic foods shown in polls, only a small share of the population is actually ready to pay a higher price for such products. (Walter Krucsay, 1999)

Australia: While no specific data is available, reports indicate that the character of the Australian organic market is changing in some fundamental ways. While the “green” element has always been important, there are now some new players. People who are interested in the best of everything - cars, houses, etc., whatever the product, they are into the best. Many people now believe organic to be of superior quality. One of the strongest selling points for organics in Australia is the perceived environmental benefits. The objective is to sell the sustainability argument as the debate on how to address the concerns about Australia’s fragile and low fertility soils gains increasing importance. In 1996, the value of organic production in Australia was estimated at \$90 million, of which \$30 million was sold for export. Currently, the overall market is thought to be in the order of \$200 million. (Lindy Crothers, 2000)

France: Most consumers in France are politically/ideologically motivated: long-time promoters of the environment, animal rights and personal health, they are organic products’ loyal consumers. They tend to be well-educated and middle-aged. Belonging to mid- to high- income brackets, they have little concern for price and accessibility. They often shop in health food stores and through direct sale schemes. Another group of consumers are health-conscious: they are also long-time consumers of organic products. However, they factor price and convenience into their purchasing decisions. They tend to

be professionals aged 25 years and above. Concerned less by the environment than by health matters, they select products based on health-related criteria.

Another poll, conducted during an organic food show on a sample of 1,000 persons over the age of 18, reveals that 59% of organic foods consumers believe organic foods are a passing phase that will have little impact on French eating habits. Only 10% of respondents regularly eat organic food products, while 38% profess eating them from time to time. All respondents agree that organic food products are consumed for their perceived natural and high quality. However, few French consumers associate organic food products with flavor and freshness. Substantiating organic food consumer profiles, 50% of respondents who buy organic food products were between the ages of 25 and 49 and either worked in management positions or were self-employed professionals. They lived in cities and had high income. This poll implies that consumers who work in manual jobs, are retired, or are unemployed are less likely to buy organic foods (Laurent J. Journo, 2001)

Brazil: Brazilian consumers of organic foods are not extremists. According to research conducted in 2000 by a local LCA, the Organic Growers Association (AAO), organic shoppers are pursuing balance. The study demonstrated that 60% of those interviewed eat red meat on a regular basis and maintain heavy Brazilian dishes as part of their diet. A larger number of Brazilians aspire towards healthier eating habits and quality of life, although it is a hard regime to follow in modern society. Brazilian consumers are counters balancing bad eating habits by incorporating high quality and nutritious products in their menu. Another survey, conducted by Gallup Institute in 2000, revealed that 7 out of 10 São Paulo consumers would be willing to pay 30% more for organic products if the origin and characteristics were unquestionable. Besides health and nutrition issues, organic consumers demonstrate a higher level of environmental consciousness compared to the general consumer. They are politically and ideologically motivated, engaging the cause of sustainable development to improve quality of life. Consumers of organic products can be divided by light, moderate, and heavy users. As mentioned by retail employees, organic products have a high acceptance as they are perceived as higher quality. Therefore, among Brazilian consumers, there is confusion about the “organic”

concept. Organic items can be found on retail shelves with margins that exceed 300%. When organic products were introduced in the Brazilian market they had an exotic appeal and, as suppliers were limited, prices were very high. As other producers entered the market and started to offer constant supply, prices moderated. However, as the premium price position was accepted by a niche of consumers, retailers appear to prefer to maintain the high margins. (Fabiana Borges da Fonseca, 2002)

Finland: Overall, consumer demand for organic foods has risen at a steady, but moderate rate over the past several years, and there is no evidence to suggest a change in the trend. Studies conducted by FinFood-Luomu indicate that currently, 19% of Finnish consumers “regularly” purchase organic foods, higher than the 11% figure in 1998. Conversely, the number of consumers who have never tried organic products has declined from 33% to 23% during the same period. The percentage who “occasionally” use organic has increased slightly since 1998, and is currently estimated at 42%. The trend towards organic foods, however, can be described by the dramatic increase in regular users and decrease in non-users from 1998 to 2002. The statistics were compiled through consumer surveys. (FinFood LUOMU)

The trend toward organic foods is expected to continue, and consumer surveys have identified the following primary reasons for the appeal of organic food products: taste, purity, freshness and animal welfare/environmental considerations.

The feature of purity has become more important in recent years, due in part, to widely publicized news reports on contaminated beef and other food products appearing in other EU countries and other parts of the world. The Finnish consumer has long trusted the quality of domestic food products, and these incidents have contributed to the general perception that domestically produced foods are superior to imported foods, and that domestic organic foods are among the highest quality. Market surveys confirm this preference for domestic products, and this may pose a challenge to prospective exporters. It is important to note, however, that actual buying habits of the Finnish consumer, as observed at retail outlets, often reflect a more liberal attitude toward food imports.

Among the factors that do inhibit consumer interest in organic foods are the following: price/quality relationship, short shelf life, and unattractive packaging. Of particular significance is the price/quality relationship. The cost of organic foods in Finland can be up to 300% higher than similar conventional foods, depending on the food group. While high cost may not discourage all buyers, research by the Finnish Association for Organic Farming shows that demand for organic foods falls rapidly when the premium reaches 15%. (Peter Lemiska, 2002)

Great Britain: Organic consumers are older and wealthier than the norm. They tend to be from the ABC1 socioeconomic groups, have higher levels of disposable income and there is a clear bias towards older (aged 50-70) consumers. Inherent in this consumer profile are several characteristics, such as strong enthusiasm for meal preparation, belief that organic products improve the quality and taste of a meal, an abundance of time to shop and prepare foods, high levels of health consciousness and concerns over food safety. In addition to the affluent and older consumers, parents with young children have developed into a key target market for organic products. Organic baby food has seen phenomenal growth, as parents translate their concerns over food safety to their retail behavior when buying for children. Approaching 50% of all baby food sales are organic; such has been the growth in the sector. This compares to the approximate 2% share represented by organics in the total food market. Changing demographic trends should assist continued growth in the organic sector. With the population forecast to benefit from increased disposable income levels and greater life expectancies, the number of people in the organic sector's key demographic is forecast to increase.

A basic segmentation of organic consumers is into loyal or regular users and occasional users. The market is very dependent on a relatively small number of regular consumers. Less than 9% of homes in the UK account for almost 64% of the total sales value of organic foods. However, the proportion of regular consumers has increased over the last 3 years as the core consumer base expanded. By contrast, over 80% of UK households purchase organic products less than once a month or not at all. Even acknowledging that there is a proportion of consumers that will never buy organic, the potential gains from

transforming occasional and trial buyers into regular purchasers remain huge. However, recent market intelligence from market research company Taylor Nelson Sofres (TNS) indicates the size of this challenge. For the first time, the percentage of households buying organic at least once over a one-year period has dropped, falling to 77.7% in the year to 5 Jan 2003 (from 80% in the year to 6 Jan 2002). (Phil Bicknell, 2003)

Russian Federation: Three factors will drive market demand for organics in Russia. They are wealth, education, and a long-standing interest in producing, purchasing, and consuming “ecologically clean” products. Supermarket owners that have begun to stock imported organic products specifically note that wealth is a key demand factor, noting that in general the organic food consumer has sufficiently greater disposable income to purchase higher-priced organics. Education is also important; the organic consumer or potential consumer has likely traveled overseas, resulting in a more refined market taste and exposure to organics in other countries where the development of this industry has outpaced Russia’s. Finally, the average Russian consumer either grows his own fruits and vegetables at a dacha plot, or retains the image of small plot production and healthy products from those plots. If organics that are produced in a manner similar to the dacha production or that correspond to this image are available, the Russian consumer is more likely to purchase them with respect to others. (Randall Huger, 2004)

New Zealand: A study of consumers’ purchasing behavior showed that the availability of organic food was the main criterion affecting purchase decisions (cited by 97% of the sample) followed by price (64%) and quality (22%). Most respondents (87%) purchased organic food for health reasons. According to research in 1999, New Zealand consumers’ food budgets consisted of less than 5% of organic food. Most consumers who purchased organic food paid an average premium of 20% over conventional food. Lack of availability and expense were the reasons for consumers not buying organic produce. (Vinita Sharma, 2001)

Results and analysis

1. Social-economic characteristics

The sample was grouped according to the age and gender variables and sample distribution is displayed in Table 1a.

Table 1a. Age and gender distribution

Gender	Age of surveyed person						Total
	19-24	25-34	35-44	45-54	55-64	65 and older	
Male	39	31	12	27	9	6	124
Female	49	23	26	48	19	12	177
Total	88	54	38	75	28	18	301

Marketing research was targeted to survey average and above-average consumers with special emphasis on age group from 19-50. Results above show predominance of woman (56.7%). The importance of the information that more women do shopping and make purchase decisions lays in the future consumer behavior analysis and promotional activities.

Table 1b. Marital status

	Frequency	Percent	Cumulative %
Single	130	43.2	43.2
Married (without children)	44	14.6	57.8
Married (with children)	124	41.2	99.0
Missing	3	1.0	100.0
Total	301	100.0	

Table 1c. Household income /in Armenian Drams/

	Frequency	Percent	Cumulative %
less than 50,000	35	11.6	11.6
50,000-100,000	83	27.6	39.2
100,000-250,000	130	43.2	82.4
250,000-400,000	45	15.0	97.3
400,000-600,000	6	2.0	99.3
600,000 and more	2	.7	100.0
Total	301	100.0	

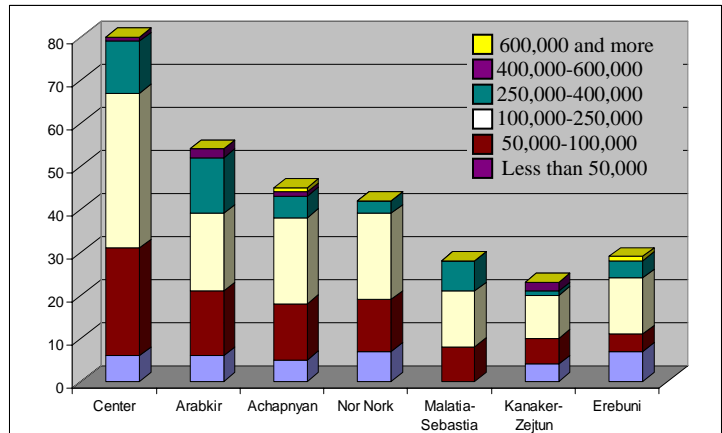
Majority of the respondents (88.4%) are people with average and above average income, from which 27.6% are people with average monthly income and 60.8% are people with income above average.

Single and married people with children constituted 84.4% of the sample, the rest are married couples with no children. Marital status is used to estimate buying behavior of consumers. Household income distribution shown in Table 1c presents data on household income, one of the key factors of the research.

In the Chart 1a, we can observe income distribution by the communities where interviews took place.

Chart 1a. Sample income distribution by Yerevan communities

Interviews were conducted in the following Yerevan communities: Center, Arabkir, Achapnyak, Malatia-Sebastia, Kanaker-Zejtun, and Erebuni. The probability to meet above-average income people was bigger in Center and Arabkir communities, so more interviews were conducted at those communities.



The income relationship with willingness to pay premium for the organic food will be discussed later in the report. Community analysis tells us where organic products should be distributed. It is important to understand the distribution of income and willingness and purchasing power to pay premium for the organic food in order to better organize logistics and product distribution. Chart 1a shows that more people with income above average live in Central and Arabkir communities: out of 60.7% of people with above average income 26.7% are people from Central community and 18% from Arabkir, 14.8% from Achapnyak, 12.5% from Nor Nork, 10.9% from Malatia-Sebastia, 9.9% from Erebuni, and 7.1% from Kanaker-Zejtun.

2. Purchase preferences

According to the secondary information collected from European and US organic food markets, the prices for organic food items higher than for conventional food. However, there are many other characteristics of the product that people pay attention during the purchase. In order to find out the most important factor that affects people purchase pattern, analysis of preferences by importance were conducted and the results are presented in the Table 2a.

Table 2a. Purchase preferences by importance

	Mean	Std. Deviation
Quality	3.70	.513
Healthiness	3.57	.683
Taste	3.56	.583
Nutrition facts	3.34	.719
Price	2.98	.941
Place	2.85	.895
Packaging and labeling	2.49	.923
User-friendly	2.45	2.421

As you can see from the Table 2a, standard deviation is high (2.421) for user-friendly packaging, which means that the information is not close to the average and may tend to extreme.

In order to explain results better, Table 2b showing medians for selected criteria is presented below. User-friendly option has the lowest median, which proves that the least selected by preferences option is user-friendliness.

Table 2b. Purchase preferences by importance

		Price	Quality	P&L	User-friendliness	Nutrition	Taste	Healthiness
N	Valid	301	301	300	301	301	301	301
	Missing	0	0	1	0	0	0	0
Mean		2.98	3.70	2.49	2.45	3.34	3.56	3.57
Median		3.00	4.00	3.00	2.00	3.00	4.00	4.00

Tables 2a and 2b indicate that the most important factors while doing shopping are quality, healthiness, taste, nutrition and price, and less important ones are packaging, labeling, and user-friendliness. In addition, table 2c presents general weekly purchase pattern of respondents.

Table 2c. Weekly purchase pattern

	N	Minimum	Maximum	Mean	Std. Deviation
Fruits and vegetables	266	1	5	2.68	.937
Bread and bakery	266	1	5	2.47	.746
Meat and meat products	266	1	4	2.10	.678
Juice	266	1	5	1.97	.844
Milk and dairy	266	1	4	1.97	.685

Table 2d. Reading labels

	Frequency	Percent	Cumulative Percent
no	56	18.6	18.6
yes	245	81.4	100.0
Total	301	100.0	

As you see in Table 2d, 18.6% of surveyed people do not read labels while purchasing and 81.4% read labels. Almost 70% of them ranked expiration date and content of preservatives as the

first priority criteria while purchasing a product. The other criteria that were ranked as second, third, and fourth priorities were content of vitamins, country of origin and brand name. The information that consumers do not read are the content of proteins, carbohydrates, fats, organic food certification note, and bar codes. (See Appendix BI for more information on label reading).

Although face-to-face interviews were conducted inside and outside of supermarkets, people mentioned that they choose different places for shopping. Majority of the surveyed people do their shopping in the supermarkets, but prefer farmer markets for purchase of fresh fruits and vegetables. The most important factors that affect people while selecting the place of consumption are place convenience and service (See appendix BII).

It was found that survey respondents like to buy food that has high quality, good for health and tasty. As it was mentioned, majority of people read labels and pay most attention on expiration date and content of preservatives; they prefer to buy processed products from supermarkets and fresh fruits and vegetables from farmer markets. Finally, while shopping they look for a convenient place with good service.

Other matters to study were preferences on purchasing domestic food and main factors affecting on buying domestic versus imported products. Almost 99% of surveyed people prefer to buy domestic raw meat, 91% buy domestic processed meat products, 98.3% – domestic milk and dairy products, 94% – domestic cheeses, 98.7% – domestic fruits and vegetables, and 72.1% – domestic canned products of fruits and vegetables (See Appendix C). This information provides us with feedback that people trust the quality and prefer to buy domestic food products. The information below portrays main factors

affecting on preference to purchase domestic food products. During survey, people were asked to express their attitude toward selected criteria describing domestic food products and as a result, 94.7% of surveyed people believed that domestic products are healthier, 85% said it is more natural, 84.7% – fresh, 76.4% – tastier, 68.1% – safer, 66.1% – has higher quality, and 46.5% – free of chemicals. Thus, majority of surveyed people agreed with almost all statements describing domestic products and less than 50% believed it is free of chemicals. During discussions in focus groups, mainly young representatives stressed that majority of the imported products have longer shelf life and contain preservatives. This information is extremely important of starting organic food producers while planning market campaigns.

3. Organic food awareness

What people know about organic food? With what do they associate it? What is the price premium respondents are willing to pay for organic food? Answers to these questions are discussed in this section. Beside surveys, focus group discussions were conducted to identify awareness on organic food products in Armenia. This method was used to deeply understand attitudes, beliefs, feelings, and motivations of people regarding organic food. Four focus group discussions involving 50 participants were conducted and only one participant could partly describe the “organic food” concept. Around 14 participants express the idea that organic products are rich in nutrients. Participants having age from 19-23 years old defined organic food as good for health, which may contain few chemicals, and ecologically clean food that should not be dangerous for environment. Majority of the participants were familiar with term “ecologically clean”, but none of them was able to define it. Almost 78% of focus group participants believed that large-scale food processors in Armenia are certified organic food producers and only 6% believed that there are no certified organic food producers in the country.

Table 3a. Awareness of organic food

	Frequency	Percent	Cumulative Percent
no	83	27.6	27.6
yes	218	72.4	100.0
Total	301	100.0	

In Table 3a, 72.4% of respondents claimed that they know what organic

food is. However, this information does not give the real picture of the level of awareness on organic food among domestic consumers. Table 3b presents information collected from 72.4% of respondents regarding characteristics associated with concept of “organic food”. According to the results of the survey, (See Table 3b) 73.2% of respondents think that organic food does not contain chemicals, 71.8% agreed that it is safer and better for health, 61.1% said it has high quality, 51.8% – good for environment, 51.2% – has better taste, 30.2% – more expensive than conventional food, 22.3% – facilitates farmers job and only 14.3% – has low yield. During personal interviews, participants associated “organic food” with “natural food”. However, according to the USDA’s National Organic Program, “natural and organic are not interchangeable”. Other claims, such as “free-range”, “hormone-free”, and “natural”, can still appear on food labels. However, these terms should not be confused with “organic”. (USDA organic standards, 2006)

Table 3b. Organic food characteristics (in %)

Characteristics	Agree	Slightly agree	Disagree	I don't know	Rates
					Agree/ Not agree
Better taste	51.2	18.6	9.6	20.6	69.8/30.2
Doesn't contain chemicals, healthy	71.8	6.0	2.3	19.9	77.8/22.2
Higher quality	67.1	9.0	9.0	76.1	76.1/23.9
Better for the environment	51.8	15.0	4.3	28.9	66.8/33.2
Expensive	30.2	29.6	12.6	27.6	59.8/40.2
Better for farmers	22.3	24.3	10.0	43.5	46.6/53.4
Very low yield	14.3	16.3	19.6	49.8	30.6/69.4

According to the Table 3b, majority of respondents agreed that organic food complies with all characteristics, but “low yield” and “better for farmers”.

4. Willingness to buy and pay premium

Generally, it can be said that almost all organic products command higher price than conventional products. This is mainly due to more labor-intensive production and expensive materials. Premium between conventional and organic products generally range between 15 – 25%, depending on the type and quality of product and the current market situation. The price differential between conventional and organic food however

decreased during recent years and competition in the organic sector is increasing. (EU Market Survey, 2004)

In Armenia, there is trend that organic food is healthy, does not contain chemicals, and has high quality, which was proved by majority of respondents. To recall necessary for this section information, the following data on household income are summarized and presented in Table 1c and Chart 4a. They show that 88% of respondents are consumers with average and above average income, majority of them pay attention to quality, healthiness, and taste. The respondents were inquired regarding their willingness to pay premium to buy organic food.

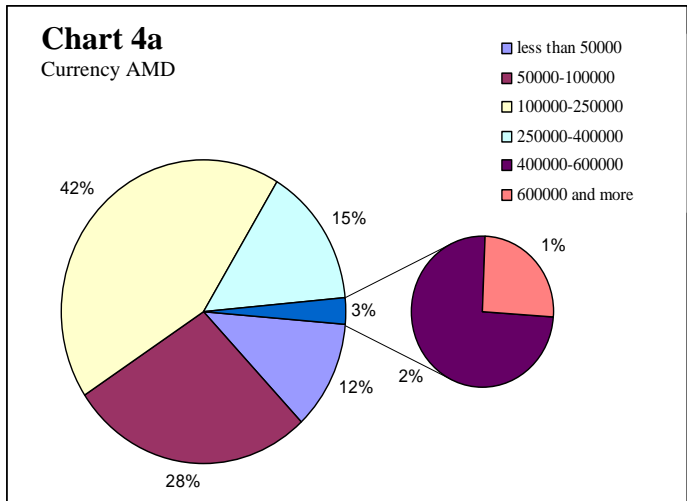


Table 4a. Willingness to pay price premium

	Frequency	Percent	Cumulative Percent
wouldn't buy it	16	5.3	5.3
0%	70	23.3	28.6
10%	100	33.2	61.8
20%	76	25.2	87.0
50%	39	13.0	100.0
Total	301	100.0	

Table 4a shows that 5.3% of respondents will not buy organic food at all, 23.3% would buy if it costs as much as conventional

food, 33.2% will pay 10% premium for it, 25.2% were willing to pay 20% premium, and only 13% of respondents were willing to pay 50% premium. In general, 71.4% of respondents were willing to pay price premium. Relationship between willingness to pay premium price and household income is summarized in Table 4b.

Table 4b. Marital status, household income, and willingness to PPP³ (298 responses)

	Currency- AMD		wouldn't buy it	0%	10%	20%	50%	PPP ratio
single	Household income	less than 50,000	1	7	4	4	0	8/8
		50,000-100,000	1	8	16	8	4	28/9
		100,000-250,000	3	9	17	12	9	38/12
		250,000-400,000	2	2	7	7	5	19/4
		400,000-600,000	0	1	0	1	1	2/1
		600,000 and more	0	0	0	0	1	1
Total			7	27	44	32	20	96/34
Married (without children)	Household income	less than 50,000	1	6	2	2	0	4/7
		50,000-100,000	1	10	6	2	0	8/11
		100,000-250,000	0	1	5	4	2	11/1
		250,000-400,000	0	0	0	2	0	2
		Total			2	17	13	10
Married (with children)	Household income	less than 50,000	0	4	2	2	0	8/4
		50,000-100,000	1	9	13	3	0	16/10
		100,000-250,000	4	10	22	23	7	52/14
		250,000-400,000	1	3	5	4	7	16/4
		400,000-600,000	1	0	0	0	2	½
		600,000 and more	0	0	0	1	0	1
Total			7	26	42	33	16	91/33
Total								212/86

The information summarized in Table 4b may be considered for planning of marketing campaign for organic food in Armenia. As it can be judged for the table, the willingness to pay premium ratio is bigger for single respondents and married respondents with children, and is significantly low for married respondents with no children. For majority of married respondents with or without children, household income falls into range from 100,000 to 600,000 AMD, while single people's income ranges mostly from 50,000 to 400,000 AMD.

³ Pay price premium

Table 4c. Marital status, age, and willingness to PPP (298 responses)

			wouldn't buy it	0%	10%	20%	50%	PPP ratio
single	Age	19-24	5	12	29	21	11	61/17
		25-34	1	3	5	9	8	22/4
		35-44	0	0	3	0	1	4
		45-54	0	6	5	1	0	6/6
		55-64	0	0	1	0	0	1
		65 and older	1	6	1	1	0	2/7
Total			7	27	44	32	20	96/34
Married (without children)	Age	19-24	0	2	3	0	1	4/2
		25-34	1	2	2	3	0	5/3
		35-44	1	1	2	1	0	3/2
		45-54	0	2	3	1	0	4/2
		55-64	0	7	2	4	1	7/7
		65 and older	0	3	1	1	0	2/3
Total			2	17	13	10	2	25/19
Married (with children)	Age	19-24	0	0	1	1	0	2
		25-34	2	4	6	3	4	13/6
		35-44	1	4	8	11	5	24/5
		45-54	2	11	23	15	6	44/13
		55-64	2	6	2	3	0	5/8
		65 and older	0	1	2	0	1	3/1
Total			7	26	42	33	16	91/33
Total								212/86

Table 4c presents data on correlation between age and willingness to pay price premium. Numbers were marked to demonstrate positive (red), neutral (green), and negative (blue) ratio of willingness to PPP. Singles from 19-34 years old and married people with children from 25-54 years old are the major categories where respondents were willing to pay price premium. Thus, summarizing Tables 4b and 4c, it may be concluded that majority of people willing to pay price premium for organic food are single people from 19-34 age category with household income of 50,000-400,000 AMD and married people with children from 25-54 age category with income level of 100,000-600,000 AMD. Table 4d portrays the gender diversification for paying price premium for organic food.

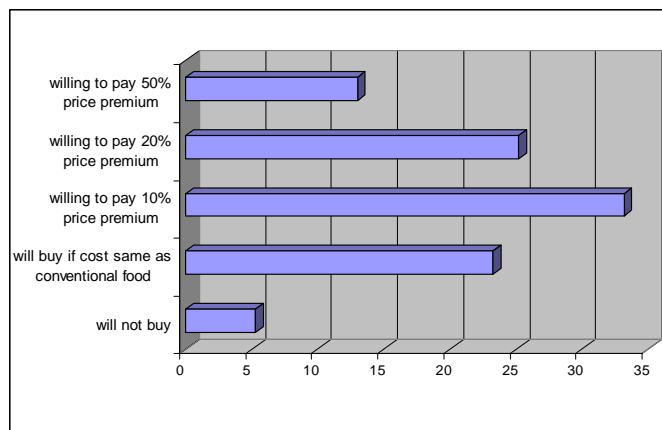
Table 4d. Willingness to PPP by gender (298 responses)

Gender	How much more than the price of conventional food would you pay for organic					PPP ratio
	wouldn't buy it	0%	10%	20%	50%	
Male	11	22	44	26	21	91/33
Female	5	48	55	48	18	121/53
	16	70	99	74	39	212/86

The PPP ratio shows that women are more conscious about organic food than men are. Summarizing Tables 4a, 4b, and 4c, we can observe that total PPP ratio equals to 212/86, which means that 212 of 298 respondents are willing to pay price premium, and the rest 86 are not.

From total number of respondents that are willing to pay price premium, 47% are willing

Chart 4a. Overall willingness to PPP



10% price premium, 35% agreed to pay 20% price premium, and finally, 18% are willing to pay 50% price premium to purchase organic food. Chart 4a summarizes information regarding willingness to pay price premium for buying organic food. It can be concluded that majority of respondents.

(58.4%) are willing to pay price premium from 10% to 20%. According to the data published in Dairy Industry Journal, (T.I. Ribalova, 2006), it is projected that in general, market potential for organic food will reach \$100 billion in 2008 and main markets will be Germany, Great Britain, USA, Canada, and Japan. Armenia cannot be equalized with developed countries, but there are market segments that have willingness and purchasing power to buy organic food. In addition to household income level, there are other factors derived from data collected in this section that may affect on consumers willingness to

PPP. For example, 5% of respondents whose average income is less than 50,000 AMD per month are willing to pay 10-20% price premium. There is a segment in Russian market (Maria Ivannikova, 2005) that despite of its small household income purchases organic products and pays price premiums to buy food because of allergic sickness. Very few people over 55 years old had shown some willingness to pay price premium for organic food partly due to lack of knowledge about it.

Several comparisons can be made between possible Armenian buyers of organic food (according to Table 3b) with EU and US organic food buyers based on their buying preferences. In the comparison we will use data derived from this consumer survey, USDA GAIN report of organic products in Netherlands (Wendalin Kolkman, 2002) and US organic food consumers' preferences (USDA Economic Research Service, 2005).

Table 4e. Factors influencing organic food purchase decision for consumers of Armenia, US, and Netherlands

Country	Factors influence organic food purchase				
	Healthiness	Environment	Taste	Food quality	Support local farmers
Armenia	71.8%	51.8%	51.2%	67.1%	22.3%
US	54%	58%	NA	42%	57%
Netherlands	49%	51%	41%	12%	14%

As you can judge from the Table 4e, Armenian consumers most of the three countries concern about healthiness of the product: 71.8% (vs. 54% and 49%), and food quality 67.1% (vs. 42% and 12%). Consumers' concern about environment in all three countries is almost the same (more than 50%), with slight higher number for US consumers (58%). Finally, Dutch and Armenian consumers are least concerned about supporting local farmers as compared to US consumers. These data prove that even though very few Armenians have awareness on organic food, most of them have high concern about healthiness, environment, food quality, and other characteristics influencing their purchase pattern.

Conclusions and Recommendations

The results of the research have shown that consumer needs more information about organic/ecologically clean product. In general, the criteria for purchasing organic food are healthiness of the food that does not contain chemicals, better taste, higher quality, and environmental protection. Almost 60% of respondents agreed that it costs more than conventional food. It can be concluded from the survey that 71.4% are willing to pay price premiums, from which 47% of respondents are willing to pay 10% price premium, 35% agreed to pay 20% price premium, and finally, 18% are willing to pay 50% price premium to purchase organic food. This information gives an overview of the average and above average consumers' willingness to pay more and get better food, but even though there is willingness to pay price premium, people need to be assured that the product that they purchase complies with characteristics they look for. Respondents of 19-34 age category with household income of 50,000-400,000 AMD per month and married people with children from 25-54 age category, with income level of 100,000-600,000 AMD are willing to pay price premium for organic food.

Although the overall picture looks positive, there are many challenges associated with organic food market development in Armenia. The first and the most important challenge is organization of appropriate pricing, distribution, and promotional activities. Pricing is very important at this level; determination of the cost of production and setting the selling price is the key. At the same time, price must be kept fair: by lowering prices you may sell more products, but calculate if there is relationship between quantities against margin to make right decision. The description of market segment mentioned in the above paragraph makes easier understanding where products should be sold, and to whom promotional activities should be directed.

It takes lots of time and efforts to organize production of the certified organic food in Armenia and both the process of certification and production increase price for the final product. Absence of the legislation may affect on certified organic food producers during

market development stage, because as soon as products are sold, different producers would label conventional products as ecologically clean or organic and sell for lower prices.

There are two main issues, which are important. The first one is the confirmation of legislative act that will legally define organic product and certification process necessary for production. The legislation must clearly define the terms that can be used only for organic products to avoid future confusion with consumers. The terms such as natural, ecologically clean, bio, organic, and other definitions should be presented in the text of the law. Today, Armenian consumers are more familiar with term “ecologically clean” rather than “organic”. The second issue is the introduction of an extensive educational program in form of promotion to inform consumers about product availability, describe the main characteristics of it, and persuade by showing characteristics presented in Table 3b.

Certification of production and processing of organic food is the product development, and producers should pay attention to keeping consistent quality of the product. Knowledge of consumption pattern and trends is the key to success: there are people that are willing to pay price premium, that have specific expectations from quality of food they purchase and they can be convinced that organic food will satisfy their needs. Generally, consumers with average and above average income level that are willing to pay price premium (64.43% of respondents) will be in different segments. A number of them will be buying organic food seldom, some of them regularly. Education is another factor that affects on people’s decision-making and people that have average or high income level are not necessarily to be observed as the only potential clients. Finally, all consumer groups must clearly understand why organic is more expensive.

It is very important to emphasize the role of promotion for organic product. In the US and EU countries consumption of organic product is increasing. This takes place mainly due to welfare of the population and education about product usefulness. Armenian market segmentation will be different, depending on price premiums size,

as it is observed that only 13% of people with income above average are willing to pay 50% price premium. In addition, it will depend on cost of production of organics in Armenia. Generally, if we consider 64.43% of average and above average income people's willingness to pay some price premium, this number will be increasing due to improvement of welfare in Armenia. So, we can conclude that well organized effective promotional campaign will create base for the organic food market development, and whenever it reaches its maximum it will be growing due to disposable income increase in Armenia.

In 2006, "Ecoglobe" LLC will be authorized to provide organic certificate and there are 14 farms and 8 processors that are in process of certification. Marketing campaign should be planned carefully to focus on right market segments and provide appropriate pricing, promotional and distribution activities. As per new product, such factors as presentation of the product in the market and fair pricings that will be profitable for the producer and affordable for consumers should be considered.

Armenian consumer trusts local producer and wants to buy local products as much as possible. The main factors that affect their decision (See Appendix C) are that consumer believes that local products are natural, tastier, and fresh. If all these steps are carefully planned, there are perspectives that organic food market will be growing, demand will create new organic food producers and processors, and larger volumes, and finally, certification will enable entering new markets.

REFERENCES

IFOAM, 2005, Principles of Organic Agriculture,
http://www.ifoam.org/about_ifoam/principles/index.html

The national organic program, “Organic food standards and labels” the facts,
<http://www.ams.usda.gov/nop/Consumers/brochure.html> April 2002

George Kuepper “Organic farm certification and national organic program”
ATTRA, pages 1-8, October 2002

Smil, Vaclav Enriching the Earth: Fritz Haber, Carl Bosch, and the
Transformation of World Food, MIT Press, 2001.

European Commission: Agriculture, environment, rural development:
Facts and Figures – A challenge for agriculture, 1999, 262 pp.

Jacob Hansen, Statistics in Focus: Organic farming, 2001, 8 pp.

EU market survey 2004, organic food products, September 2004

US Embassy Stockholm, Sweden Organic Products 2000,
GAIN Report #SW8009, pages 3-4, 29.06.2000

Walter Krucsay, Organic Production and Marketing of Organic Products 1999,
GAIN Report #AU9046, pages 3-4, 11.10.1999.

Lindy Crothers, Australia Organic Products 2000,
GAIN Report #AS0019, pages 3-4, 06.05.2000.

Laurent J. Journo, France: Organic Food Report 2001,
GAIN Report #FR1071, pages 3-5, 10.31.2001

Fabiana Borges da Fonseca, Brazil Organic Product Report 2002,
GAIN Report #BR2002, pages 3-6, 03.04.2002.

Peter Lemiska, Finland Organic Product Report 2002,
GAIN Report #FI2006, pages 4-6, 09.12.2002.

Phil Bicknell, UK Organic Products 2002,
GAIN Report #US3006, pages 6-13, 03.21.2003.

Randall Huger, Organics 2002,
GAIN Report #RS4017, page 5, 04.05.2004.

Vinita Sharma, New Zealand Organic Products,
GAIN Report #NZ1033, page 2, 07.27.2001

USDA organic standards,
<http://www.ams.usda.gov/nop/Consumers/brochure.html>, Last Updated: March 30, 2006

EU Market Survey, Organic food products, page 77, 2004

T.I. Ribalova, Fashion for organic food aroused but there is no demand, Dairy Industry journal, volume #2, pages 14-16, March 2006

Maria Ivannikova, Classes of organic,
<http://www.sostav.ru/articles/2005/05/12/mark120505-1/>, 12.05.2005

Wendalin Kolkman, The Dutch Market for Organic Food Products
GAIN Report #NL2015, page 5, 03.25.2002

USDA Economic Research Service, Price Premium Hold on as US Organic
Produce Market Expands, Electronic Outlook Report, VGS-308-01, page 7, May 2005

APPENDIX A

Chart AI. Age cross tabulation with willingness to pay price premium (PPP)

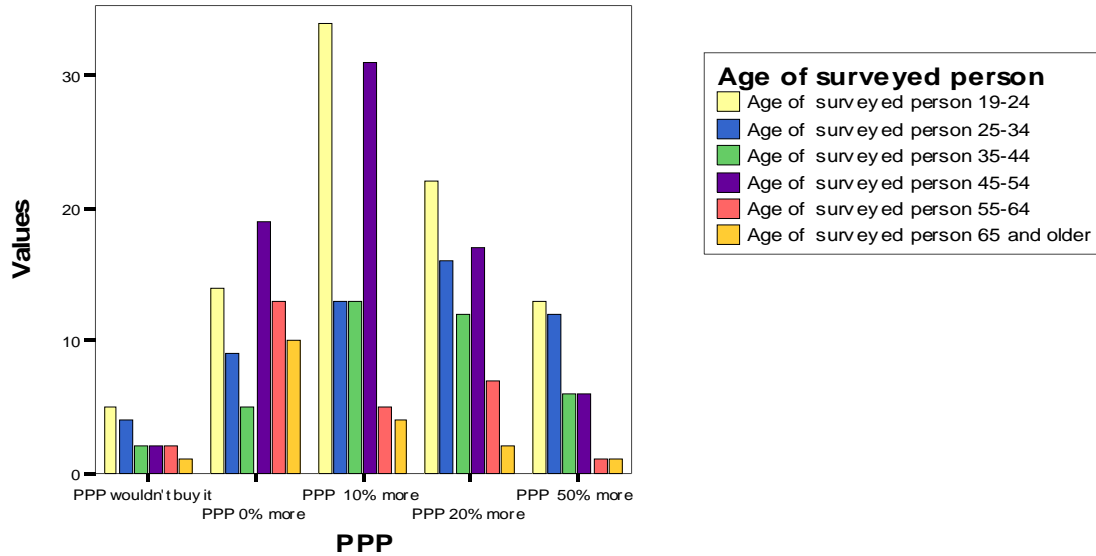
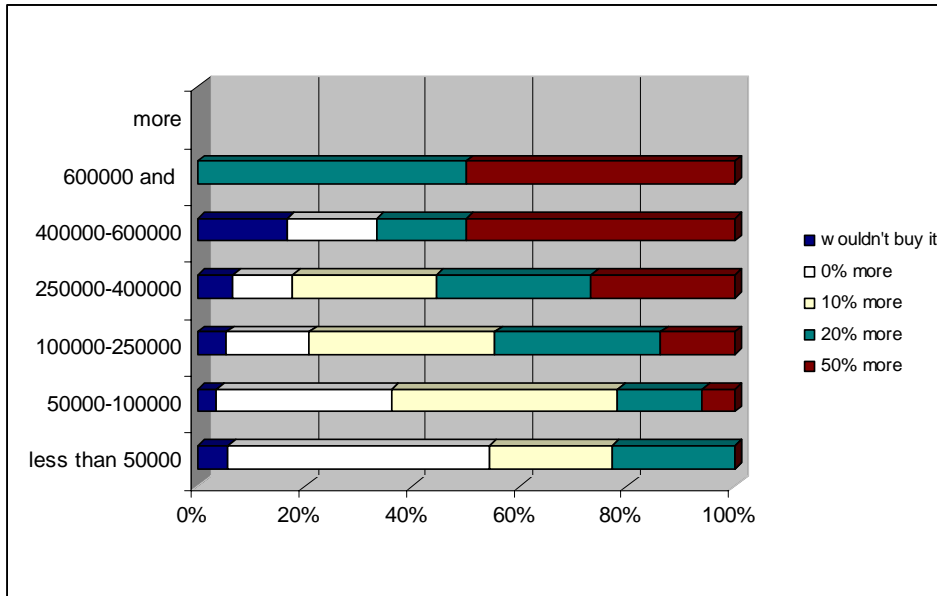


Table AI. Household income and willingness to pay price premium

	How much more than the price of conventional food would you pay for organic					Total
	wouldn't buy it	0% more	10% more	20% more	50% more	
less than 50000	2	17	8	8	0	35
50000-100000	3	27	35	13	5	83
100000-250000	7	20	45	40	18	130
250000-400000	3	5	12	13	12	45
400000-600000	1	1	0	1	3	6
600000 and more	0	0	0	1	1	2
Total	16	70	100	76	39	301
Total in percent	5.4%	23.2%	33.3%	25.2%	12.9%	100%

Chart AII. Household income and willingness to pay price premium



APPENDIX B

Table BI. Information on labels by their importance

	N	Mean	Std. Deviation
Expiration date	301	3.47	.947
Preservatives	301	2.95	1.111
Vitamins	301	2.88	1.098
Brand	301	2.81	1.010
Country	301	2.80	1.033
Quality designation	301	2.79	1.045
Calories	301	2.68	1.073
Instructions	301	2.63	1.049
Proteins	301	2.59	1.034
Carbohydrates	301	2.56	1.042
Certificate of organic food	301	2.54	1.024
Fats	301	2.54	1.024
Bar code	301	2.00	.964

Table BII. Selection of place for shopping

	N	Minimum	Maximum	Mean	Std. Deviation
Convenience	300	1	5	3.74	1.349
Service	301	1	5	3.66	1.125
Price	301	1	5	2.87	1.409
Food safety	300	1	5	2.67	1.243
Quality	301	1	5	1.83	1.047

APPENDIX C

Table C I. Do you buy domestic non processed meat?

		Frequency	Percent	Cumulative Percent
Valid	no	3	1.0	1.0
	yes	298	99.0	100.0
	Total	301	100.0	

Table C II. Do you buy domestic processed meat products?

		Frequency	Percent	Cumulative Percent
Valid	no	26	8.6	8.6
	yes	275	91.4	100.0
	Total	301	100.0	

Table C III. Do you buy domestic milk and dairy products?

		Frequency	Percent	Cumulative Percent
Valid	no	5	1.7	1.7
	yes	296	98.3	100.0
	Total	301	100.0	

Table C IV. Do you buy domestic cheeses?

		Frequency	Percent	Cumulative Percent
Valid	no	18	6.0	6.0
	yes	283	94.0	100.0
	Total	301	100.0	

Table C V. Do you buy domestic fruits and vegetables?

		Frequency	Percent	Cumulative Percent
Valid	no	3	1.0	1.0
	yes	297	98.7	100.0
	Total	300	99.7	
Missing	System	1	.3	
	Total	301	100.0	

Table C VI. Do you buy domestic canned product of fruits and vegetables?

		Frequency	Percent	Cumulative Percent
Valid	No	84	27.9	27.9
	yes	217	72.1	100.0
	Total	301	100.0	

Table C VII. Summary information about respondents' reason for selecting domestic food products.

actor 1 - Natural

		Frequency	Percent	Cumulative Percent
Valid	agree	256	85.0	85.0
	disagree	10	3.3	88.4
	don't know	35	11.6	100.0
	Total	301	100.0	

Factor 2 - Healthier

		Frequency	Percent	Cumulative Percent
Valid	agree	285	94.7	94.7
	disagree	4	1.3	96.0
	don't know	12	4.0	100.0
	Total	301	100.0	

Factor 3 - Fresh

		Frequency	Percent	Cumulative Percent
Valid	agree	255	84.7	84.7
	disagree	13	4.3	89.0
	don't know	33	11.0	100.0
	Total	301	100.0	

Factor 4 – High quality

		Frequency	Percent	Cumulative Percent
Valid	agree	199	66.1	66.1
	disagree	27	9.0	75.1
	don't know	75	24.9	100.0
	Total	301	100.0	

Factor 5 – Safety

	Frequency	Percent	Cumulative Percent
Valid agree	205	68.1	68.1
disagree	16	5.3	73.4
don't know	80	26.6	100.0
Total	301	100.0	

Factor 6 – Free of chemical additives

	Frequency	Percent	Cumulative Percent
Valid agree	140	46.5	46.5
disagree	42	14.0	60.5
don't know	119	39.5	100.0
Total	301	100.0	

Factor 7 – Inexpensive

	Frequency	Percent	Cumulative Percent
Valid agree	160	53.2	53.2
disagree	110	36.5	89.7
don't know	31	10.3	100.0
Total	301	100.0	

Factor 8 – To support local producer

	Frequency	Percent	Cumulative Percent
Valid agree	190	63.1	63.1
disagree	57	18.9	82.1
don't know	54	17.9	100.0
Total	301	100.0	

