

ORGANIC FOOD CONSUMPTION IN CHILE

Marie von Meyer-Höfer
Evelyn Olea Jaik
Sebastian Lakner

Department of Agricultural Economics and Rural Development, University of
Göttingen

Organic food consumption in Chile

1. Introduction

Organic food is an important niche market segment in the agribusiness and food sector today (Hsieh and Stiegert 2011). Since 1990, the global organic food market has been steadily growing, and has a current value of approximately 47 billion. Euro (Sahota 2013 and 2009; Li et al. 2007). The rising demand for organic products is concentrated in developed countries located in Europe and North America, while Latin America and Asia are important producers and exporters of organic food products (Flores 2013; Adasme-Berríos et al. 2011). Nevertheless, there is some evidence that these export oriented countries are developing a domestic demand which is often overlooked (Berent 2013; Garibay and Ugas 2009). Many supermarkets, specialized stores and local farmers' markets in Latin America are now selling organic food in order to satisfy the latent growing demand for such products, mainly in Costa Rica, Mexico and urban centers of South America (Garibay and Ugas 2009).

These changes in global consumption patterns can be attributed to the increasing awareness of consumers all over the world about food security, nutrition, health and quality issues (Haas et al. 2010; Aertsens et al. 2009; Hughner et al. 2007; Tsakiridou et al. 2007; Bonti-Ankomah and Yiridoe 2006). For many consumers, the main motivation for buying organic food is health-related, due to the fact that organic food is free from chemical residues and pesticides (Tsakiridou et al. 2007; Magnusson et al. 2003; Saba and Messina 2003). However, apart from this rather egocentric motivation, altruistic motives (ecological / social / animal welfare aspects) also increasingly affect consumers' purchase decisions (Padilla-Bravo et al. 2012; Aertsens et al. 2009).

While there have been many studies aiming to identify the determinants of organic food consumption in developed economies (Aertsens et al. 2009; Hughner et al. 2007), studies considering emerging economies are scarce and mostly related to Asian countries (Suprpto and Wijaya 2012; Sangkumchaliang and Huang 2012; Voon et al. 2011; Chen 2009 and 2007). With respect to organic consumption in Latin America, only few studies

are found (de Barcellos et al. 2012; Juarez Hernandez 2010; Gonzalez 2009; Rajagopal 2007; Hearne and Volcan 2005).

Chile has a growing middle class of currently 40% of the population, and is the most developed among the Latin American countries considering its economic but also political stability (HDI 2011). Since 2010, it is a member of the Organization for Economic Cooperation and Development (OECD). According to the Human Development Index (HDI), which combines indicators of life expectancy, educational attainment and income, it holds position 44 in the worldwide comparison and is thus the highest ranked country of Latin America (HDI 2011).

The questions arising in emerging economies such as Chile concerning organic food consumption are at first related to the identification of the characteristics of organic consumption, by looking at frequency of purchase as well as at the socio-demography of consumers. Moreover, it is important to identify consumers' understanding and perceptions of organic, and which barriers they encounter regarding organic food consumption. Better insights into these aspects can help to target policy as well as marketing strategies to support the further development of these organic food markets.

In the next section we will give an overview about the organic food market in Chile, before we describe our data and methodology used for this study. We then present and discuss our results and close with some political as well as marketing implications for the Chilean organic food market.

2. Organic food market and trends in Chile

The global market for organic food is in continuously growing (Sahota 2013). While consumer demand for organic products is concentrated in North America and Europe (both represent more than 95% of global revenues), Latin America is considered as more a production and export-oriented region (Sahota 2013). The main export markets of Latin American organic food products are the United States, Europe and Japan (ibid.). In some Latin American countries with stable economic performance, high growth rates of the gross domestic product (GDP) and a stable political conditions, like in Chile, there is also evidence for a growing domestic demand of organic food mostly in urban areas (Flores 2013; Garibay and Ugas 2009; Eguillor Recabarren 2009). Although there are no official statistics on Chile's organic domestic market, the food sector authorities state that about 20% of organic production is sold locally and the demand is growing by approximately 20% annually (USDA 2010; EMG 2007). Consumers in Chile are becoming more health-conscious and aware of their eating habits due to nutritional problems such as obesity (Villalobos et al. 2006). Furthermore, there is evidence of increasing ethical consumption behavior mainly identified in the higher income segments of the population (Valdivieso and Ariztía 2011; Ubeira 2010).

According to Chilean Organic Agriculture Association (AAOCH), in 2010, the total market sales of organic products were 27 million Euros, and in 2013 it is expected to reach 40.8 million Euros. From this estimation, only 1.5 million Euros can be attributed to local consumption (AAOCH 2010). The largest part of the organic land area is used for the production of berries (34%), grapes (31%), tropical and subtropical fruits (9%) and olives (8%) (Flores 2013), which represents some of the competitive sectors within the Chilean Agribusiness that are focused on export. On the domestic market, a large variety of products are offered such as fresh fruits and vegetables, olive oil, wine, herbal tea, spices and honey (Flores 2013; Adasme-Berríos et al 2011). The domestic market is mostly located in the capital Santiago with 5.39 Mio. inhabitants and other main urban areas such as Valparaíso. The main distribution channels of organic food are: supermarkets, specialty shops, street fairs, restaurants mainly situated in Santiago or the Internet (Flores 2013).

The expansion of a robust local market is still a major task, which is why this paper will focus on the identification and analysis of the characteristics of organic consumption in Chile. It derives implications for policy and marketing as to how the organic food market in Chile could be developed in the future.

3. Methodology and Data

3.1. Research design and sample

The data for this study was collected in an online quantitative consumer study. The survey was carried out during July 2012 with 300 Chilean consumers. For sampling and technical implementation we cooperated with a professional consumer panel provider (ODC-Services). The target population is individuals of 18 years old and older. Out of the 300 completed online questionnaires, we used 270 for analysis. The main reason for conducting an online survey was the lower cost and quicker response times compared to other survey methods (Weber and Bradley 2006). However, we are well aware of the fact that there are often pronounced limitations of this method, especially regarding the sampling bias (Skitka and Sargis 2006; Evans and Mathur 2005; Tourangeau 2004). Online surveys in emerging countries like Chile face the difficulty of limited internet access of certain socio-demographic groups, for example people with lower education and income, as well as rural populations. Today approximately half of the Chileans have access to internet from their home or work (Internetworldstat 2012; Comscore 2011). Due to our interest in the characteristics of organic food consumers who are often associated with higher levels of education and income as well as with urban residence (Yue et al. 2008; Denver et al. 2007; Lea and Worsley 2005), we are sure that the problem of sampling bias is adequately addressed in this study and will not significantly affect the results.

Table 1 gives an overview about the socio-demographic characteristics of our sample. The majority of respondents live in urban areas of the metropolitan region of Santiago de

Chile (RM. Metropolitana) and Valparaíso. As predicted, the sample is biased towards higher income and higher education levels than compared to the Chilean averages: whilst 80% of the respondents in our sample have a university degree, on the national average is only 17% (INE 2008). Also, we observe the expected bias in our sample towards higher income categories than the Chilean average (AIM, 2008).

Table 1. Socio-demographic characteristics of the sample

	Frequency	%
Gender		
Female	129	47.8
Male	141	52.2
Average age	38.5	
Education: University degree	215	79.4
Monthly disposable household income		
< 400	49	18.1
400-600 million CLP	55	20.4
600-1.200 million CLP	85	31.5
1.200 - 1.700 million CLP	44	16.3
>1.700 million CLP	37	13.7
Children living in the household	159	58.9
Region / domicile		
RM. Metropolitana	165	61.1
V. Valparaíso	33	12.2
Other regions	72	26.7

Source: own calculations 2013

CLP: Chilean Peso. Average currency exchange (February 2012 - 2013): €1= CLP 623

3.2. Questionnaire design

The online questionnaire used in this study was programmed with the help of the survey software "Survey Enterprise Feedback Suite 8.1 (EFS)" of Globalpark AG. An online pre-test was conducted with 43 individuals before administering the final version of the survey. The test improved the precision and consistency of some questions.

The focus of the questionnaire was on the consumption and understanding of organic food consumption as well as on potential barriers for organic purchases. To ensure that all respondents have the same information about organic food they were given the following definition of organic food: *"Currently, organic products have to fulfill at least the following*

criteria: No use of synthetic fertilizers; No use of chemical pesticides; No use of genetically modified organisms; Higher animal welfare standards than in conventional production; Use of fewer additives in food processing than in conventional production."

3.3. Measurements

In order to identify the characteristics of Chilean organic consumers we used the IBM® software Statistical Package for the Social Sciences (SPSS®) Version 20 to carry out the following analyses: 1) Frequency analysis: Overall organic consumption and frequency of organic consumption in comparison to socio-demographic data. 2) Factor analysis: understanding of organic food and barriers towards organic consumption.

The explanatory factor analysis is applied to discover the smallest number of interpretable factors needed to explain the correlations among a set of variables. In an explanatory factor analysis no structure is palced on the linear relationships between the observed variables and factors. However the number of latent variables is specified. We used main component analysis and varimax as rotation method. As quality criterion we used the Kaiser-Meyer-Olkin-Value (KMO) to measure the suitability of the sample for a factor analysis. The explained variance was also considered as indicator for the relevance of the result of the factor analysis. The Cronbach´s Alpha (min. 0.7) was used as quality criterion for the reliability of the created factors.

4. Results

The results section is structured as followed: At first we present the results of the frequency analysis of organic food consumption, followed by the results of the factor analysis. After presenting the results, they will be discussed and political as well as marketing implications will be given in chapter 5.

4.1. Results of Frequency analysis.

Table 2 shows the results of the frequency analysis of the question whether respondents have already tried organic food.

Table 2. Have you ever consumed organic food?

	Frequency	%
Yes	246	91.1
No	24	8.9
Total	270	100.0

Source: own calculations 2013

Out of our sample of 270 Chilean consumers, over 90% state to have already consumed organic food. In order to investigate organic food consumption in Chile in more depth, we asked those 246 organic consumers to further specify their consumption frequency.

Table 3 shows that the majority of organic consumers buy organic food always (8%) or regularly (34%), 40% state to sometimes buy organic, 18 % do it rarely.

Table 3. Frequency of organic consumption among organic consumers

	Frequency	%
Always	19	8
Regularly	85	34
Sometimes	98	40
Rarely	44	18
Total	246	100

Source: own calculations 2013

Combining these results with the socio-demographic data, we can gain some general insights into consumers' habits and characteristics. However, from this analysis we cannot tell anything about the amounts of organic food consumption nor about the types of products consumed.

Unfortunately we could not find any significant differences concerning the socio-demographic characteristics of Chilean organic and conventional consumers so that we cannot give recommendations for marketing from a socio-demographic perspective. However, we know from other studies that socio-demographic characteristics are often not that strong in predicting organic food consumption as expected (Verain et al. 2012; Lea and Worsely 2005; Diamantopoulos 2003). Moreover, marketing should pay much greater attention to understand, attitudes, buying intentions and actual buying behavior of consumers regarding organic food (Diamantopoulos 2003). This is why we will analyze the understanding of organic food consumption and perceived barriers from a consumer's point of view in the following chapters.

4.2. Results of Factor analysis

As already mentioned the Chilean organic market is very small and still in an early developmental stage, still we are very interested in the understanding of Chilean consumers about organic food and what they perceive as barriers to their organic food consumption. To analyze these two questions we ran two exploratory factor analyses, which will be presented in the following.

4.2.1. Understanding of organic food

At the beginning of the questionnaire, respondents were confronted with a list of standards and asked to what extent they think these should be fulfilled by an organic food product. We ran an exploratory factor analysis with the listed criteria: *No use of synthetic fertilizers; No use of GMO; No use of pesticides; Use of fewer additives in food processing than in conventional production; higher animal welfare than in conventional production; Support small scale farmers; Pay fair prices to producers; Protection of natural resources; Support local economy; Reduce food transportation distances; Use of environmental friendly packaging.*

The result of this factor analysis is shown in table 4. It displays the rotated component matrix for the final solution of the factor analysis with a KMO of 0.86 which explains 66% of the total variance. The Cronbach's Alpha calculated for each of the two factors is 0.85 for factor 1 and 0.86 for factor 2, which are both acceptable values. The items "use of few additives in food processing" and "use of environmental friendly packaging" had to be excluded from the final solution due to double loadings. Factor 2 consists of the main organic criteria that distinguish organic production the most from conventional food production. The factor is thus named "basic organic criteria". The other six items forming factor 1 combine aspects of a broader understanding of organic from a consumer's point of view, including items concerning the support of local production cycles, fairness and animal welfare. The factor is thus named "sustainability criteria".

Table 4. Results of factor analysis: Understanding of organic food

Items included	Factor 1 "sustainability criteria"	Factor 2 "basic organic criteria"
Support small scale farmers.	.826	
Pay fair prices to producers.	.815	
Protection of natural resources.	.723	
Support local economy.	.721	
Reduce food transportation distances.	.706	
Support animal welfare.	.700	
No use of synthetic fertilizers.		.895
No use of GMO.		.851
No use of pesticides.		.850

Source: own calculations 2013

KMO: 0.86; total variance explained: 66%;

Cronbach's Alpha Factor 1: 0.85; Cronbach's Alpha Factor 2: 0.86

The results of the factor analysis show that there are two components of consumer understanding of organic food in Chile. On the one hand there are the three basic organic criteria (factor 2), which distinguish organic food products the most from conventional food products. These basic criteria provided nearly in all organic production standards across the world imply both health and environmental benefits for consumers. Especially the “No use of chemical pesticides” is a major motivation for consumers of organic food products, because of their fear of pesticide residues (European Commission 2010; Aertsens et al. 2009). Apart from this perceived health benefit of organic food, the absence of chemical pesticides and synthetic fertilizers is beneficial for the protection of soil and water from pollution and for biodiversity preservation (Stolze et al. 2000, see also chapter 7.1). The discussion about the use or nonuse of GMOs in food production is highly emotional, and many consumers mistrust the techniques of genetically modification applied in food production (Thiel and Marggraf 2009).

On the other hand, the “sustainability criteria” (factor 1) is composed of items regarding quite diverse aspects regarding fairness, animal welfare issues, support of local food production, support of small scale farming and the protection of natural resources. These items represent characteristics that consumers associate with organic food whether they might be scientifically proven or not. Among these items we find quite a few referring to traditional values of the organic movement mentioned for example in the IFOAM definition of organic food, such as the promotion of “*fair relationships and a good quality of life for all involved*” or the reliance of “*processes (...) and cycles adapted to local conditions*” (IFOAM 2013). Additionally, we recognize two of the main criteria of the fair trade movement, which has also always played an important role for niche food markets. Factor 1 shows the potential that a wider understanding of organic food production could have major impacts on the positioning of organic food in Chile.

4.2.2. Barriers towards organic consumption

The second exploratory factor analysis is run with eleven items describing potential barriers of organic food consumption. These are: *For me it is hard to change my consumption & shopping routines; I do not know where to buy it; I do not know how to distinguish it from conventional food; Such products are not available where I usually go for shopping; I think such products are too expensive; I would need to spend more time for shopping; I would need more time for preparing a meal with such products; I do not think that such products really exist; I have made some bad experiences with such products; My family/friends do not like such products; Others do not consume such products either, why should I do so?*

During the process of factor analysis four items had to be eliminated from the final result of the factor analysis due to double loadings (“*For me it is hard to change my consumption & shopping routines*”; “*I do not know how to distinguish it from conventional food*”; “*I would need to spend more time for shopping*”; “*I do not know where to buy it*”).

The final result of the factor analysis shows that the barriers are split into two factors. The KMO value is 0.83 and the explained total variance is 60%. Factor 1 combines five items such as bad experiences, skepticism, social pressure or inconvenience of organic consumption; its Cronbach's Alpha is 0.8. We name it "skepticism & inconvenience barrier". Factor 2 consists only of two items focusing on the problems of availability of organic food products, so that we name it "availability & price barrier". Its Cronbach's Alpha is very low (0.54) but acceptable in this case because of the item's plausibility (Schmitt 1996).

Table 5. Results of factor analysis: Barriers towards organic consumption

	Factor 1 "skepticism & inconvenience"	Factor 2 "basic organic criteria"
I had bad experiences with organic products.	.795	
Others do not consume organic, so why should I?	.787	
I do not think that such products really exist.	.748	
My family / friends do not like organic products.	.719	
The preparation / cooking of organic products take much longer.	.669	
Organic products are not available where I usually go shopping.		.839
Organic products are too expensive.		.787

Source: own calculations

KMO: 0.83; explained total variance: 60%;

Cronbach's Alpha Factor 1: 0.8; Cronbach's Alpha Factor 2: 0.54

The first factor shows a general lack of motivation and skepticism regarding organic food. Many of the items forming this factor have also been mentioned as barriers in other studies, for example the perceived uncertainty or skepticism (Thøgersen, 2007) and the lack of trust in the organic certification (Krystallis et al. 2008 ; Hughner et al. 2007 ; Aarset et al. 2006; Lea and Worsley 2005; Padel and Foster 2005). The lack of organic food products perceived by consumers is another commonly mentioned barrier to organic food consumption (Zanoli and Naspetti 2002). The rather personal barriers combined in factor 1 suggest that organic food should be evaluated differently than conventional food products, which are often classified as low involvement products. Factor 1 shows also a clear influence of social norms and personal experience.

Factor 2 ("availability & price barrier") represents some of the most frequently mentioned barriers of organic food consumption, typical for emerging markets like Chile as well as elsewhere. Until today, organic food products are much more expensive than

comparable conventional products even in the mature markets of European or northern American countries, which is a crucial barrier for many consumers (Stolz et al. 2010; Hughner et al. 2007; Botonaki et al. 2006; Lea and Worsley 2005; Padel and Foster 2005; Zanolli and Naspetti 2002). Another important barrier is the real or perceived lack of availability of organic food products (Aertsens et al. 2009; Rodriguez et al. 2008).

In conclusion of this factor analysis we observe that trust and credibility are crucial features for the whole organic sector to be successful, especially because organic food is a credence good that needs to be communicated to the consumer (Grolleau and Caswell 2006; Jahn et al. 2005; Akerlof 1970).

5. Conclusions and Implications

In conclusion, from our literature review and own data analysis, we observe that Chile's domestic market for organic food products is still very small but has some interesting opportunities for future growth (Flores 2013). The frequency analysis of current organic food consumption in Chile shows potential for an increase in organic sales if the large number of occasional consumers could be motivated to buy organic more frequently.

To expand the level of organic food consumption, an adjustment of marketing strategies is needed, which becomes clear when interpreting the results of the factor analysis about the understanding of organic food in Chile. At first we notice that consumers seem to attach much more positive characteristics to organic food products than they usually fulfill (e.g. "support of small scale farmers"). This might be on the one hand due to a lack of information among Chilean consumers concerning organic food. On the other hand we know from other markets where organic food has already become a well-known alternative to conventional food with a good image that consumers tend to attribute much more positive characteristics than it actually fulfills. This psychological phenomenon is called Halo-Effect which describes the tendency to coherently evaluate independent properties of an object and to allow one dominant attribute to shape a general impression (Rosenzweig 2008).

Both potential reasons for our results, however, should motivate a comprehensive marketing strategy for organic food in Chile that emphasis not only its basic criteria but also the other potential benefits that consumers expect from organic food. Both practical and political actors need nevertheless ensure the credibility of the organic food sector, because this might be the only way to reduce the lack of information and skepticism.

Another field of action for marketing but also for political actors could be the overcoming of the analyzed availability and price barriers. An observation we have made when analyzing the organic food market in Chile was that typical everyday-life products such as cereals, bread, milk or eggs were not mentioned among the major domestically grown organic foods. The largest part of organically cultivated land (> 80%) is used for export good such as

berries, grapes, tropical / subtropical fruits and olives (Flores 2013). An increased support of domestic organic food production could have a positive effect for organic food producers and consumers in Chile. In the first case it would provide producers with other distribution options than only the export market. In the other case it might reduce the availability and price barrier that actually prevents consumers from buying organic food in Chile.

Our general impression of the Chilean organic food market is that it provides interesting future opportunities for growth benefiting the national producers, retailers and consumers, but many specific questions still have to be analyzed in detail and thus deserve further research.

6. References

- AAOCH (Agrupación de Agricultura Orgánica de Chile). 2010. Online <http://www.aaoch.cl>. Accessed 20.06.2012.
- Aarset, B., Beckmann, S., Bigne, E., Beveridge, M., Bjorndal, T., Bunting, J., Mc Donagh, P.; Mariojous, C., Muir, J., Prothero, A., Reisch, L., Smith, A., Tveteras, R. and Young, J. 2006. The European consumers' understanding and perceptions of the 'organic' food regime: the case of aquaculture. *British Food Journal* 106(2) : 93-105.
- Aertsens, J., Verbeke, W., Mondelaers, K. and van Huylenbroeck, G. 2009. Personal determinants of organic food consumption: a review. *British Food Journal* 111 (10): 1140-1167.
- Adasme-Berríos, C., Jara-Rojas, R. and Díaz-Tobar, B. 2011. Dimensiones que caracterizan el consumo potencial de alimentos orgánicos en la Región del Maule, Chile. Dimesnions chracterizing the organic food consumption in Maule Region Chile. *Revista de la Facultad de Ciencias Agrarias* 43(2): 59-69.
- AIM (Asociación Chilena de Empresas de Investigación de Mercado) (2008): Grupos Socioeconómicos (Socioeconomic groups). Online http://www.aimchile.cl/wpcontent/uploads/2011/12/Grupos_Socioeconomicos_AIM-2008.Pdf. Accessed 10.05.2012.
- Akerlof, G.A. 1970. The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics* 84: 488-500.
- Berent, T. 2013. Entwicklung regionaler Strukturen – Bioexporte fördern locale Märkte. (Development of regional structures – organic export supports local markets). *Ökologie & Landbau* 165: 32-34.
- Bonti-Ankomah, S. and Yiridoe, E.K. 2006. Organic and Conventional Food: A Literature Review of the Economics of Consumer Perceptions and Preferences - Final Report. Submitted to Organic Agriculture Centre of Canada Nova Scotia Agricultural College P.O. Box 550, Truro, Nova Scotia B2N 5E3, Canada.

- Botonaki, A., Polymeros, K., Tsakiridou, E. and Mattas, K. 2006. The role of food quality certification on consumers' food choices. *British Food Journal* 108 (2-3): 77-90.
- Chen, M. 2009. Attitudes toward organic foods among Taiwanese as related to health consciousness, environmental attitudes, and the mediating effects of a healthy lifestyle. *British Food Journal* 111 (2): 165-178.
- Chen, M. 2007. Consumers attitudes and purchase intentions in relation to organic foods in Taiwan: Moderating effects of food-related personality traits. *Food Quality and Preferences* 18(7): 1008-1021.
- Comscore. 2011. In Chile 15-24 Year Olds are most engaged internet users. Online http://www.comscore.com/Insights/Press_Releases/2011/7/In_Chile_15-24_Year_Olds_Are_Most_Engaged_Internet_Users. Accessed: 14.02.2013.
- De Barcellos, M.D., Perin, Marcelo G., Pérez-Cueto, F.J.A., Saab, M.S.M. and Grunert, Klaus G. 2012. Consumers' values and attitudes and their relation to the consumption of pork products: a study from Q-PorkChains in Brazil. *Journal on Chain and Network Science* 12 (1): 41-54.
- Denver, S., Christensen, T. and Krarup, S. 2007. How vulnerable is organic consumption to information?. Paper presented at Nordic Consumer Policy Research Conference towards a New Consumer? Towards a New Policy?, Helsinki.
- Diamantopoulos, A., Schlegelmilch, B.B., Sinkovics, R.R. and Bohlen, G.M. 2003. Can socio-demographics still play a role in profiling green consumers? A review of the evidence and an empirical investigation. *Journal of Business Research* 56: 465-480.
- EC (European Commission and European Parliament) 2010. Special Eurobarometer 354: Food-related risks.
- EMG Consultores 2007. "Estudio del Mercado Nacional de Agricultura Orgánica", Report requested by Oficina de Estudios y Políticas Agrarias, ODEPA, Ministerio de Agricultura. Santiago de Chile, Online http://www.odepa.gob.cl/odepaweb/publicaciones/Estudio_Agricultura_Organica_Chile.pdf accessed 6.10.12.
- Eguillor Recabarren, P.M. 2009. Chile. In: Willer, H. and Kilcher, L. (Eds.) (2009): *The World of Organic Agriculture - Statistics and Emerging Trends 2009*. International Federation of Organic Agriculture Movements (IFOAM), Bonn and Research Institute of Organic Agriculture (FiBL), Frick, International Trade Center (ITC), Geneva.
- Evans, J. and Mathur A. 2005. The value of online surveys. *Internet Research* 15 (2): 195-219.
- Flores, P. 2013. Organic Agriculture in Latin America and the Caribbean. In: Willer, H., J. Lernoud and L. Kilcher (Eds.) (2013): *The World of Organic Agriculture – Statistics and*

Emerging Trends 2013, Research Institute of Organic Agriculture (FiBL), Frick, and International Federation of Organic Agriculture Movements (IFOAM), Bonn.

Garibay, S.V. and Ugas, R. 2009. Organic Farming in Latin America and the Caribbean. In: Willer, H. and Kilcher, L. (Eds.) (2009): *The World of Organic Agriculture - Statistics and Emerging Trends 2009*. International Federation of Organic Agriculture Movements (IFOAM), Bonn and Research Institute of Organic Agriculture (FiBL), Frick, International Trade Center (ITC), Geneva.

Gonzalez, J.A.A. 2009. Emerald Article: Market trends and consumer profile at the organic farmers market in Costa Rica. *British Food Journal* 111(5): 498-510.

Grolleau, C. and Caswell, J.A. 2006. Interaction Between Food Attributes in Markets: The Case of Environmental Labeling. *Journal of Agricultural and Resource Economics* 31: 471-484.

Haas, R., Canavari, M., Slee, B., Tong, C. and Anurugsa, B. 2010. *Looking east looking west: organic and quality food marketing in Asia and Europe*. Wageningen Academic Publishers.

HDI (Human Development Index) 2011. *Human Development Index and its components*. Human Development Report 2011.

Hearne, R. R. and Volcan, M. 2005: The use of Choice Experiments to analyze consumer preferences for ecolabeled and organic produce in Costa Rica. *Quarterly Journal of International Agriculture* 4: 381-397.

Hsieh, M. and Stiegert, K. 2011. Store Format Choice in Organic Food Consumption. *American Journal of Agricultural Economics* 94 (2): 307-313.

Hughner, R.S., McDonagh, P., Prothero, A., Clifford J., Shultz II, C.J. and Stanton, J. 2007. Who are organic food consumers? A compilation and review of why people purchase organic food. *Journal of Consumer Behaviour* 6 (2-3): 94-110.

IFOAM (International Federation of Organic Agriculture Movements) 2013. Definition of Organic AGAriculture. Online [http://www.ifoam.org/growing_organic/definitions / do a /index.html](http://www.ifoam.org/growing_organic/definitions/doa/index.html). Accessed: 10.01.2013.

INE (Instituto Nacional de Estadísticas) 2008. *Indicadores de la Educación en Chile*. Online [http://w3app.mineduc .cl /mineduc/ ded/documentos/indicadores_2007-2008.pdf](http://w3app.mineduc.cl/mineduc/ded/documentos/indicadores_2007-2008.pdf). Accessed 06.06.2012.

Internetworldstats. 2012. *Chile Telecommunications, Population and Internet Usage*. Online <http://www.internetworldstats.com/sa/cl.htm>. Accessed: 14.02.2013.

Jahn, G., Schramm, M. and Spiller, A. 2005. The reliability of certification: Quality labels as a consumer policy tool. *Journal of Consumer Policy* 28: 53-73.

- Juarez Hernandez, M.I. 2010. A cross-cultural study of motivational *factors and values influencing purchase of organic food in Germany and Mexico*. Juarez Hernandez, Maria Isabel. Doctoral Thesis, University of Göttingen.
- Krystallis, A., Vassallo, M., Chrysosoidis, G. and Perrea, T. 2008. Societal and individualistic drivers as predictors of organic purchasing revealed through a portrait value questionnaire (PVQ)-based inventory. *Journal of Consumer Behaviour* 7: 164-87.
- Lea, E. and Worsley, T. 2005. Australians' organic food beliefs, demographics and values. *British Food Journal*. 107(11): 855-69.
- Li J., Zepeda L. and Gould B. 2007. The Demand for Organic Food in the U.S.: An Empirical Assessment. *Journal of Food Distribution Research* 38 (2): 54-69.
- Magnusson, M., Arvola, A., Hursti, U., Åberg L. and Sjöden, P. 2003. Choice of organic foods is related to perceived consequences for human health and to environmentally friendly behavior. *Appetite*, 40 (2): 109-17.
- Padel, S. and Foster, C. 2005. Exploring the gap between attitudes and behaviour – understanding why consumers buy or do not buy organic food. *British Food Journal*, 107(8): 606-25.
- Padilla-Bravo, C., Cordts, A., Schulze, B. and Spiller, A. 2012. Assessing determinants of organic food consumption using data from the German National Nutrition Survey II. *Food Quality and Preferences* 28: 60-70.
- Rajagopal, R. 2007. Buying decisions towards organic products: an analysis of customer value and brand drivers. *International Journal of Emerging Markets* 2 (3): 236 – 251.
- Riefer, A. and Hamm, U. 2008. Changes in families' organic food consumption. Paper presented at 12th Congress of the European Association of Agricultural Economists – EAAE, Ghent.
- Rodriguez, E., Lacaze, V. and Lupin, B. 2008. Valuation of consumers' willingness-to-pay for organic food in Argentina. Paper presented at 12th Congress of the European Association of Agricultural Economists – EAAE, Ghent.
- Rosenzweig, P. 2008. Der Halo-Effekt. Offenbach: Gabal.
- Saba, A. and Messina, F. 2003. Attitudes towards organic foods and risk/benefit perception associated with pesticides. *Food Quality and Preference* 14: 637-45.
- Schmitt, N. 1996. Uses and Abuses of Coefficient Alpha. *Psychological Assessment*, 8 (4): 350-353.

- Sangkumchaliang, P. and Huang, W. 2012. Consumers' Perceptions and Attitudes of Organic Food Products in Northern Thailand. *International Food and Agribusiness Management Review* 15 (1): 87-102.
- Sahota, A. 2013. The Global Market for Organic Food & Drink. In: Willer, H., J. Lernoud and L. Kilcher (Eds.) (2013): *The World of Organic Agriculture – Statistics and Emerging Trends 2013*, Research Institute of Organic Agriculture (FiBL), Frick, and International Federation of Organic Agriculture Movements (IFOAM), Bonn.
- Sahota, A. 2009. The Global Market for Organic Food & Drink. In: Willer, H. and Kilcher, L. (Eds.) (2009): *The World of Organic Agriculture - Statistics and Emerging Trends 2009*. International Federation of Organic Agriculture Movements (IFOAM), Bonn and Research Institute of Organic Agriculture (FiBL), Frick, International Trade Center (ITC), Geneva.
- Skitka, L. J. and Sargis, E. G. 2006. The Internet as psychological laboratory. *Annual Review of Psychology* 57: 529-555.
- Stolz, H., Stolze, M., Hamm, U., Janssen, M. and Ruto, E. 2010. Consumer attitudes towards organic versus conventional food with specific quality attributes. *Journal of Life Sciences* 58: 67–72.
- Stolze, M., Piorr, A., Häring, A-M, and Dabbert, S. 2000. The Environmental Impacts of Organic Farming in Europe, *Organic Farming in Europe: Economics and Policy* (Vol. 6), Stuttgart, University Stuttgart-Hohenheim.
- Suprpto, B. and Wijaya, T. 2012. Model of Consumer's Buying Intention towards Organic Food: A Study among Mothers in Indonesian. *International Conference on Economics, Business and Marketing Management* (29): 173.
- Thiel, M. and Marggraf, R. 2009. Gentechnik oder nicht Gentechnik - Bestimmungsgründe der Wahl von (nicht) gentechnisch veränderten Produkten [With or without Genetic Engineering – Determinants of the Choice of genetically (non) modified products]. *Yearbook of Socioeconomics in Agriculture* 2009: 35-58.
- Thøgersen, J. 2007. Consumer decision making with regard to organic food products. In Vaz, M.T.D.N.; Vaz, P.; Nijkamp, P. and Rastoin, J.L. (Eds): *Traditional Food Production Facing Sustainability: A European Challenge*, Ashgate, Farnham.
- Tourangeau, R. 2004. Survey research and societal change. *Annual Review of Psychology* 55: 775-801.
- Tsakiridou, E., Boutsouki, C., Zotos, Y. and Mattas, K. 2007. Attitudes and behaviour towards organic products: an exploratory study. *International Journal of Retail & Distribution Management* 36 (2): 158 - 175.

- Ubeira, F. 2010. Caracterización del consumo responsable en Chile. Santiago (Characterization of responsible consumption in Chile). Fundación Ciudadano Responsable.
- USDA (U.S. Department of Agriculture). 2010. Organic Products Report Chile. United States Department of Agriculture: Foreign Agricultural Service. Online http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Organic%20Products%20Report_Santiago_Chile_11-30-2010.pdf. Accessed: 10.02.2013.
- Valdivieso, D. and Ariztia, T. 2011. Consumo Sustentable y Educación para el Consumo Responsable: Mapeo comprensivo de actores, instituciones, normas e iniciativas en Chile. (Sustainable consumption – mapping of actors, institutions and initiatives involved) Santiago: Fundación Ciudadano Responsable.
- Verain, M., Bartels J., Dagevos H., Sijtsema S.J., Onwezen M. C. and Antonides G. 2012. Segments of sustainable food consumers: a literature review. *International Journal of Consumer Studies* 36: 123-133.
- Villalobos, P., Rojas, A. and Leporati M. 2006. Chile Potencia Alimentaria: Compromiso con la Nutrición y la Salud de la Población Santiago (Chile as nutrition potential – compromise between nutrition and health). *Revista Chilena de Nutrición*, 33 (1).
- Voon, J., Ngui, K. and Agrawal, A. 2011. Determinants of Willingness to Purchase Organic Food: An Exploratory Study Using Structural Equation Modeling. *International Food and Agribusiness Management Review* 14 (2): 103-120.
- Weber, J.A. and Bradley, K.D. 2006. Strengths and Weaknesses of Conducting Web-based Surveys: A Review of the Literature. Paper presented at the Mid-Western Educational Research Association Annual Meeting, Columbus, OH.
- Yiridoe, E., Bonti-Ankomah, S. and Martin, R. 2005. "Comparison of consumers perceptions and preferences toward organic versus conventionally produced food: A review and update of the literature", *Renewable Agriculture and Food Systems* 20 (4): 193-205.
- Yue, C., Grebitus, C., Bruhn, M. and Jensen, H.H. 2008. "Potato marketing – factors affecting organic and conventional potato consumption patterns", paper presented at 12th Congress of the European Association of Agricultural Economists – EAAE, Ghent.
- Zanoli R, and Naspetti S. 2002. Consumer Motivations in the Purchase of Organic Food. *British Food Journal* 104(8): 643–653.