

THE ORGANIC FOOD MARKET: A QUANTITATIVE AND QUALITATIVE OVERVIEW OF INTERNATIONAL PUBLICATIONS

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Introduction

Organic agriculture and consumption are undergoing an expansion process throughout the last years. Specialists from this sector are expecting a 9% growth or higher (OTA 2012). Organic food sales in the United States jumped from approximately US\$11 billion in 2004 to US\$27 billion in 2012, according to the *Nutrition Business Journal*. In 2010, the United States bet the European Union and became the biggest organic market in the world. This market was consolidated by corporate mergers and acquisitions, according to the *Organic Monitor* (2010). It led to big emerging companies in all supply chain levels.

This expectation of growth within a market that already presents increasing indices over 20% grows all around the globe. Therefore, attentions are turned to the demand for this type of products as well as to the means used to ensure these products' distribution, quality and adequate certifications (STORSTAD; BJORKHAUG, 2003). According to a United Nations Conference on Trade and Development (UNCTAD, 2013), nowadays there are approximately two million organic farmers, about 80% of them in developing countries. The commerce of organic food sells 60 billion dollars

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every year. The rising of the organic and natural products market follows the world trend of increasing the demand for product and services that provide health and well-being. The growing distrust by some sectors of society in the modern industry is associated to the rise of the organic market. The modern industry developed a series of products to facilitate daily life, but it also significantly increased the discharge of persistent chemicals into the environment, a fact that brings serious consequences to human health and natural ecosystems.

The trend of this market's growth and this products' consumption stands out. However, it brings up questions that are discussed in different publications on the understanding of the dynamics between production and consumption, the benefits and differences between the conventional and the organic agriculture, certifications, quality and identification stamps as well as of how prices are set in this market. This information ends up influencing and pressuring the changes in the way to work in this sector and in the production, transformation and consumption processes of organic food.

(LOCKIE, 2002) highlights the study by Friedland about the complexity of social issues linked to "bringing food to the table". He drew an analysis chart to describe the stages certain goods go through during their manufacture and how they are valued. According to (DIXON, 1999), many authors argue that the power is moving from the product to the consumer, since Friedland. Besides, some of them argue that nowadays people identify themselves through consumption and it includes food. This concept goes against the traditional Marxist thought that people find sense in their productive capacity.

In face of the changes in the relationship, power and values, consumers must be evaluated according to their dietary approach. (CHRYSSOHOIDIS and KRYSTALLIS, 2005) highlight that the demand for organic food is often based in moral and ethical values. Thus, studies on the consuming market pinpoint that organic purchases were usually done due to some sort of moral/ethical value or were motivated by reasons linked to the environment, ethics, quality, health and conscience as well as by specific attributes of the product such as nutritional value, taste, freshness and price (BROWNE et al., 2000; GRUNERT; JUHL, 1995).

The herein discussed theme is justified by the rise of the so-called sustainability paradigm (SOUZA et al., 2009) (DIAS, 2011; TACHIZAWA, 2011) in the agriculture and by the changes in the demand for healthier products as well as by the development of a larger ring between food production, its processes, quality, certifications and the consumer. Thus, studying organic market issues became theme of interest to identify its possible influence over consumption demands and consumers' behavior.

The current study aims to make a bibliometric exploratory survey to map and assess publications on organic food market and generate quantitative indicators. A search in the *Web Of Science* database for publications released between 1945 and 2013 was done. One hundred and ninety-six publications were found and subsequently discussed and analyzed according to descriptions in the methodology section. A qualitative analysis of the most relevant articles was done and it followed the h-index. The discussion was based on the institutional theory. The study is divided into five sections: introduction, theoretical section, methodology, results and final considerations.

Theoretical section

The origins and spread of the organic concept

Nowadays, the agriculture grounded in patterns that squanders natural bases faces issues that rise the discussion on the milenar organic production model which was already quite discussed in the early XIX century. However, this debate lost power due to the theory by German chemist Justus Liebig (1803-73). Thus, there were two theories struggling to prevail, the theory of humification and Liebig's chemical theories. According the Liebig's theory the increase in agricultural production is proportional to the amount of chemical substances added to the soil. Liebig's work is actually a milestone between the ancient agriculture, in which the agronomic knowledge was mainly empiric, and the contemporary one, which is featured by scientific and technological improvements. Since the ancient Greeks up to the XIX Century, people believed that nutrition of plants was done through roots mostly comprised by the same material of the plant as a whole (FIGUEIREDO, 2002).

Next, new studies have proved that living microorganisms and bacteriological processes must be part of soil studies. The famous researcher Louis Pasteur (1822-95) was one of the greatest oppositionists of the chemical theory. Even if Liebig's findings did not impair the scientific discussion about the Organic Agriculture (OA), they have caused a strong impact on the industrial production sector, since they opened a wide market to artificial fertilizers (FIGUEIREDO, 2002).

The transition of areas previously occupied by subsistence farming, grass-plots and forage legumes into plantations of more commercially valued species led to great changes in the agricultural production structure. It also caused the separation between livestock and vegetal production. The discussion on the organic issue emerged again in Europe, after sanitation crises caused by bacteria and viruses infecting animals took place, such as the mad cow disease (1980).

The social and practical basis of the modern OA movement was set in the 1940's, due to publications by Howard (Howard 1940) and Balfour (Balfour 1943) in the United Kingdom, and Rodale (Rodale 1945; Tate 1994) in the US. The movement is grounded in the importance of the organic matter to the agriculture. It is noticeable that Charles Darwin's study on warms was crucial for the understanding of the organic matter dynamics used in the soil by OA pioneers (Darwin 1945).

Up to late 1940's, organizations such as the *Soil Association* in the UK and the biological label *Bioland* in Germany (known as the first Organic Agriculture) were launched. Hans Muller's work, in Germany, was labeled with the first organic certification in the world, *Bioland*, which is still active. In the mid 1930's, Mokiti Okada developed a work with the so-called "Natural Agriculture" in Japan, which was ranked second place in the Japanese organic agriculture. The terms "biological agriculture" and "natural agriculture" can be replaced by "organic agriculture" in Europe and Japan (LOTTER, 2003).

The "organic food" or most properly called "organically produced food" result from a food production, processing and packing system that broadly excludes synthetic products

and chemical materials from all of its stages, from the farm to the consumer. Instead of strongly depending on external sources of chemical materials and fertilizers, organic farmers tend to use inputs from their own farms to get adequate yield, keep a healthy soil and control plagues. Within an organic system, natural predator insects, culture rotation, and additional work include composites and manure (WILKINS; HILLERS, 1994).

Agricultural movements alternative to the conventional and against the abusive use of industrialized agricultural inputs, the dissipation of traditional knowledge and the deterioration of the social basis of food production have been greatly recognized by their importance. Definitions on organic agriculture and the trade of organic products now include social and ethical practices and matters such as fair working practices, family farms, ethical and animal feasibility (IFOAM, 2001).

This new attention given to the organic production and consumption may come from already highlighted questions regarding sanitary barriers and concerns as well as from the systematic environmental and sustainable concern raised back in the 1960's. The book "Primavera Silenciosa" from 1962 talks about the excess of population as well as about events from 1972 (Stockholm) and 1987 (the *Brundtland* Report) that brought up discussions on the integration of environmental conservation practices and the development of an agricultural production.

Sustainability has incorporated legislations regarding pesticides, food safety, natural production and the values added to the origin and quality of the food. Such discussions motivated the cultivation of products able to meet the interest of consumers concerned with environmental, human health and planet conservation aspects, fact that gave more room to the organic agriculture.

Organic market and trends

The approximate 20% annual growth in the consumption of food comes from the organic food market. It forces producers, retailers and other involved actors to test their capability to meet the demand and creates an attractive space to new players (LOCKIE, 2002).

The trade of certified organic agriculture (OA) products spread to more than 130 countries worldwide. The demand for organic products was boosted by the belief that they are healthier, tastier and more ecological than the conventional products (CPs). Whereas many statements about the healthier properties of organic products remain, there are not enough evidences to label them as totally healthy (LOTTER, 2003). Legislation and certification issues are discussed by many authors (GUTHMAN, J., 1998; GUTHMAN, JULIE, 2007; SIDERER; MAQUET; ANKLAMB, 2005) and seen as a way to develop reinforced bases to this type of products in the market.

However, further comparative researches are needed, mainly bioassays on sanitation parameters and on the reproduction and analysis of food functional (non-organic) components. Comparisons between organic and conventional products are usually inconclusive. The cultivation procedure and the location where the planting is done are factors commonly more important than the cultivation system. This theme is one of the most common ones in different studies on organic markets and production (GUTHMAN,

JULIE, 2008; LOTTER, 2003; SIDERER et al., 2005; TORJUSEN et al., 2001). The theme aims to present and discuss the advantages and disadvantages found by producers and consumers when they deal with organic food.

One of the presented advantages related to this kind of product and used to booster the market are those presenting environmental appeal. The evidences of significant environmental improvement due to the organic agriculture are truly huge. The pesticides were practically vanished and the pollution caused by nutrients was drastically reduced. Erosion and biodiversity losses were reduced, as well as the use of water and fossil fuel. This changes diminished the impacts related to global warming in comparison to conventional agricultural systems (LOTTER, 2003).

However, some authors highlight that, besides the advantages showed to the consumer, there is another factor that helps developing the organic market. It involves setting a relationship between producers and consumers. The relational approach on the role of the actor-network and the perspectives of governability suggests that the promising pathway used to bring the holistic consume into agro-food studies is the assumption of the multiple reasons why people are getting mobilized as consumers within a network of production and consumption (LOCKIE, 2002). (TORJUSEN et al., 2001) corroborate such assumption by indicating that the system can be set to the production, distribution and consumption of organic products.

(LOCKIE; HALPIN, 2005) have studied the ways to distribute, sell and the profile of organic product buyers. They found that approximately 80% of all the sales in the US happen by means of wholesale, 13% are directly sold to the consumer, 7% by the retails. Significant and regular purchases of organic products are done by 10% of the American families, and it can vary up to 4.8% in houses with big families and 18% in families without children.

(KRYSALLIS; CHRYSOHOIDIS, 2005) state that some of the factors that affect conventional buys also affect the organic ones. These factors include quality of the food, safety, trust in the certification and, in case of certain products, the brand's name. According to Packer, (1998 apud LOTTER, 2003), of all the consumers who decided not to buy organic products, 28% said that they were too expensive or their prices were a little higher, 19% did not notice any difference in comparison to the conventional products, 8% were unaware of the organic production or product and 6% believed that their quality was not so good.

According to (LOTTER, 2003) the yield in the organic agricultural system is in average 10 to 15% lower in comparison to the conventional one. However, such lower yield is usually compensated by lower production costs and higher gross profit margin. When converted to large scale, the organic agriculture would not result in lack of food and may lead to reduction in meat consumption.

Institutional Theory: a contribution to the discussion on organics

The institutional theory is one of the theoretical approaches that have been helping the understanding of the social phenomena. This theory originates in studies developed

in the later XIX Century by fields such as Economics, Political Sciences and Sociology (SCOTT, 1995).

The institutional theory presents a different view from that of the classical economy (technical environment) and the linear or Cartesian view of the world. According to this view, the relations would work in an organized way and it would happen among specific variables only. The institutional theory creates a new way of getting related with the environment, it has more classical and updated approaches as well as different investigation methods. However, Meyer and Rowan (1992) introduce issues related to myths and symbolism in the analysis field. These issues were previously put aside, i.e., the authors point towards the elements of the formal structure that are turned into organizational myths by the institutionalization process. The authors understand organizations as structural reflexes of a socially built reality and these organizations are mainly limited to their institutional environment.

Such perceptions are essential to the construction of the way organizations deal with external pressure resulting from the adoption of practices, actions, programs, models and behaviors as well as on how they adapt themselves to work in this field. This adaptation regards not just already pointed questions, but the construction of an image legitimated by the market where it is in. Legitimacy, according to Scott (2001) is linked to the moment when the actions taken by an entity are figured or assumed as expected, correct and appropriate to the context of a socially built system of rules, values, beliefs and definitions.

It is possible saying that the institutional theory assesses the way choices are molded, measured and canalized by the institutional environment. Thus, this influence is expressed by means of institutions that are built by rules, norms and beliefs that together describe the reality of an organization by explaining what it is and is not, how one can and cannot act (HOFFMAN, 1998).

Understanding the institutional approach a little better is the way to see the evidence of how this approach may work as the basis to the existing analysis, within the context of organic products, agriculture and market. The legitimacy of the organic agriculture becomes stronger due to the growing concern of the consumer society with environmental impacts, respect and citizenship values as well as with the maintenance of the human health (quality of life).

Besides the environmental aspects associated with organic products, new values also include participative processes, alternative markets, certification and the traceability of the food, - all of them grounded in aspects related to hygiene and dietary reeducation. The transformation of such values applied to business strategies in the scope of the agriculture that works with organic production points towards important relations found nowadays in the process of constructing new markets. The quality referential based on the sense of food safety turned into new competitiveness parameters (SCHULTZ, 2006).

Thus, the quality of the food, or the new values attributed to it, is based on the institutionalization of social and environmental issues emerge as essential elements to understand the organization and market and consumption dynamics.

Methodology

The current study's methodology was based on an exploratory survey on secondary data published in the *Web of Science* database. The search was done by the Proxy of UFRGS and the research was performed in May 20th, 2013. The textual search used the term: *Topic*= ("organic food") and *Topic*= ("market"). The keywords were linked to the interest in the specific relation of evolutions in the organic market to present the scientific panorama of existing publications in the chosen database. One hundred and six (196) publications were organized by the number of citations ("*Times Cited – highest to low west*") to organize the studies according to their relevance. No time restriction was set to identify everything that was published between 1945 and 2013 (it is worth highlighting that the 2013 period presents limitations on the search for data published until May, and it could have undergone changes until the end of the mentioned year).

Web of Science was chosen as the database to be consulted since it is multidisciplinary, presents high quality, relevance and it indexes some of the most cited journals in their respective fields (CROSSAN; APAYDIN, 2010). Since it is linked to the *ISI (Institut for Scientific Information) Thompson -Web of Knowledge* platform, this database also presents the index of citations and informs the documents listed by each article and the documents that have cited them. There are more than 10.000 indexed journals nowadays. (Hirsch, 2005) presents the *h-index* to measure impacts according to the number of citations. The *h-index* factor is based on the number of years in its subscription, within the selected period of time (free translations, *Web of Science*, 2013).

Results

The results showed 196 studies related to the market and organic food theme. The search was done by topic and looked for the links among themes. Although the search held the period between 1945 and 2013, the first article was published in 1991, its title was: *An Update On Organic Farming And The Development Of The Organic Industry In Australia*. This article was published in the journal *Biological Agriculture & Horticulture*, by Conacher, J; Conacher, A. O. and discussed the need for increasing organic food production in Australia, since the production until 1980 would not be enough to meet the growing demand for these products. Three years later, another study related to organic market and food was published.

The total of 196 articles resulted in 1272 citations between 1991 and May 2013. The average of citations per year was of 71.22 (all the articles). However, the articles were organized as *Times Cited- highest to lowest*, i.e., from the most cited to the less cited in order to organize them by relevance. Just the first 20 articles were responsible for the *h-index* of 20, it means that these studies had 20 citations or more. Charter 1 presents all articles in descending order, the article's title, authors, source (journal), publications year, total of citations since its publications and the average of citations by year.

Charter 1: Relevant items for Organic Food Market research

| Article | Author | Source | Year | Total citations | Average of citations/year |
|--|---|--|------|-----------------|---------------------------|
| Organic agriculture | Lotter, DW | Journal Of Sustainable Agriculture | 2003 | 70 | 6.36 |
| Regulating meaning, appropriating nature: The codification of California organic agriculture | Guthman, J | Antipode | 1998 | 69 | 4.31 |
| Food system orientation and quality perception among consumers and producers of organic food in Hedmark County, Norway | Torjusen, H; Lieblein, G; Wandel, M; et al. | Food Quality And Preference | 2001 | 68 | 5.23 |
| The polanyian way? Voluntary food labels as neoliberal governance | Guthman, Julie | Antipode | 2007 | 66 | 9.43 |
| Consumers' willingness to pay for organic food - Factors that affect it and variation per organic product type | Krystallis, A; Chryssohoidis, G | British Food Journal | 2005 | 55 | 6.11 |
| Need for research to support consumer confidence in the growing organic food market | Siderer, Y; Maquet, A; Anklamb, E | Trends In Food Science & Technology | 2005 | 53 | 5.89 |
| The 'conventionalisation' thesis reconsidered: Structural and ideological transformation of Australian organic agriculture | Lockie, S; Halpin, D | Sociologia Ruralis | 2005 | 49 | 5.44 |
| Countervailing market responses to corporate co-optation and the ideological recruitment of consumption communities | Thompson, Craig J.; Coskuner-Balli, Gokcen | Journal Of Consumer Research | 2007 | 46 | 6.47 |
| 'The invisible mouth: Mobilizing 'the consumer' in food production-consumption networks | Lockie, S | Sociologia Ruralis | 2002 | 45 | 3.75 |
| Wine produced by organic grapes in Greece: using means end chains analysis to reveal organic buyers' purchasing motives in comparison to the non-buyers | Fotopoulos, C; Krystallis, A; Ness, M | Food Quality And Preference | 2003 | 44 | 4 |
| Organic consumers' personal values research: Testing and validating the list of values (LOV) scale and implementing a value-based segmentation task | Chryssohoidis, GM; Krystallis, A | Food Quality And Preference | 2005 | 36 | 4 |
| Whiteness, space and alternative food practice | Slocum, Rachel | Geoforum | 2007 | 34 | 4.86 |
| The character of demand in mature organic food markets: Great Britain and Denmark compared | Wier, Mette; Jensen, Katherine O'Doherty; Andersen, Laura Morch; et al. | Food Policy | 2008 | 33 | 5.50 |
| Organic certification and the UK market: organic imports from developing countries | Barrett, HR; Browne, AW; Harris, PJC; et al. | Food Policy | 2002 | 32 | 2.67 |
| Personal determinants of organic food consumption: a review | Aertsens, Joris; Verbeke, Wim; Mondelaers, Koen; et al. | British Food Journal | 2009 | 29 | 5.80 |
| Foundations of production and consumption of organic food in Norway: Common attitudes among farmers and consumers? | Storstad, O; Bjorkhaug, H | Agriculture And Human Values | 2003 | 28 | 2.55 |
| Influences Of Pesticide-Residue And Environmental Concerns On Organic Food Preference Among Food Cooperative Members And Non-Members In Washington-State | Wilkins, JI; Hillers, Vn | Journal Of Nutrition Education | 1994 | 28 | 1.40 |
| Bringing good food to others: investigating the subjects of alternative food practice | Guthman, Julie | Cultural Geographies | 2008 | 27 | 4.50 |
| Information Asymmetries and consumption decisions in organic food product markets | Giannakas, K | Canadian Journal Of Agricultural Economics | 2002 | 21 | 1.75 |
| The spaces and ethics of organic food | Clarke, Nick; Cloke, Paul; Barnett, Clive; et al. | Journal Of Rural Studies | 2008 | 20 | 3.33 |

Source: developed by the authors according to research data

The methodologies chosen by the scholars for the 20 (twenty) analyzed studies were classified according to what is shown in Charter 2:

Charter 2 – Study methodologies

| Classification of the reasearch | | | |
|---------------------------------|---|---|----------|
| According to nature | According to aims | According to means | Quantity |
| Qualitative | Exploratory | Bibliographic | 3 |
| | Descriptive | Other | |
| | Exploratory | Case study | 2 |
| Quantitative | Exploratory | Bibliographic and theoretical discussion | 4 |
| | Exploratory | Interview | |
| Quantitative | Descriptive | Cluster analysis Numerical projection Analysis in panel Multi-varied Analysis – survey | 5 |
| | Causal | Cause and effect relation between variables | |
| Qualitative and Quantitative | Exploratory Bibliographic Field research Case study | Focus group | 3 |
| Qualitative and Quantitative | Exploratory based on the awareness of the term “organic” Descriptive | Interview Quantitative survey (questionnaire) Factorial analysis and t test | 2 |

Source: developed by the authors according to research data

It is noteworthy that there is a clear division between the types of performed studies. Of the 20 (twenty) articles, 9 (nine) are just qualitative, 6 (six) are just quantitative and 5 (five) are qualitative and quantitative. Another evidence is the classification gotten by the journal in which the most relevant publications were released, as shown in Charter 3:

Charter 3: Classification of journals that have published

| Classification of the journal | Number of articles | Percentage |
|-------------------------------|--------------------|------------|
| A1 | 5 | 25% |
| A2 | 7 | 35% |
| B1 | 1 | 5% |
| B2 | 1 | 5% |
| B4 | 1 | 5% |
| Unidentified | 5 | 25% |

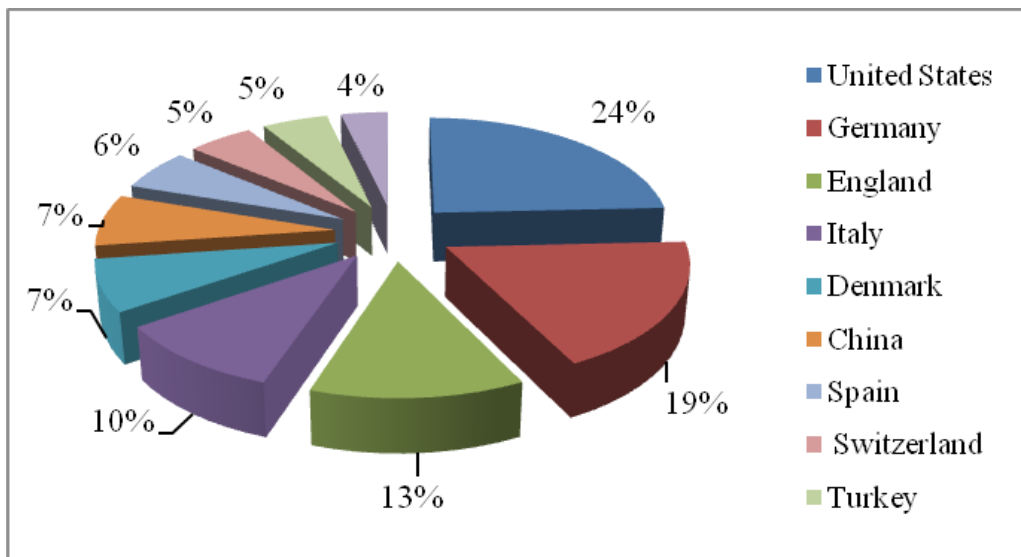
Source: developed by the authors according to research data

Of the total 20 most relevant articles, it was possible identifying that 60% of the articles are classified as “A” by the following fields: Business, Environmental Sciences, Food Sciences and Agricultural Sciences (the focus on performed analysis and fields that stood out among publications in this theme), 25% are classified as A1 and 35% as A2. The remaining publications are 5% B1, 5% B2 and 5% B4. A total of 5 journals did not have “Qualis” identification, they represented 25% of the total. Thus, the articles’ relevance and discussion is supported by quite respected journals from the academic world. Among authors who have more publications, it is possible highlighting Hamm, with 8 (eight) publications; Janssen(5), Krystallis(4) and Guthman(3).

Countries

The countries with bigger numbers of publications are US with 24% (47 studies), Germany with 19% (37 studies) and England with 13% (25 studies). Figure 1 represents the graphic with the publications by country.

Figure 1 – Countries that have published about organic food



Source: developed by authors according to research data

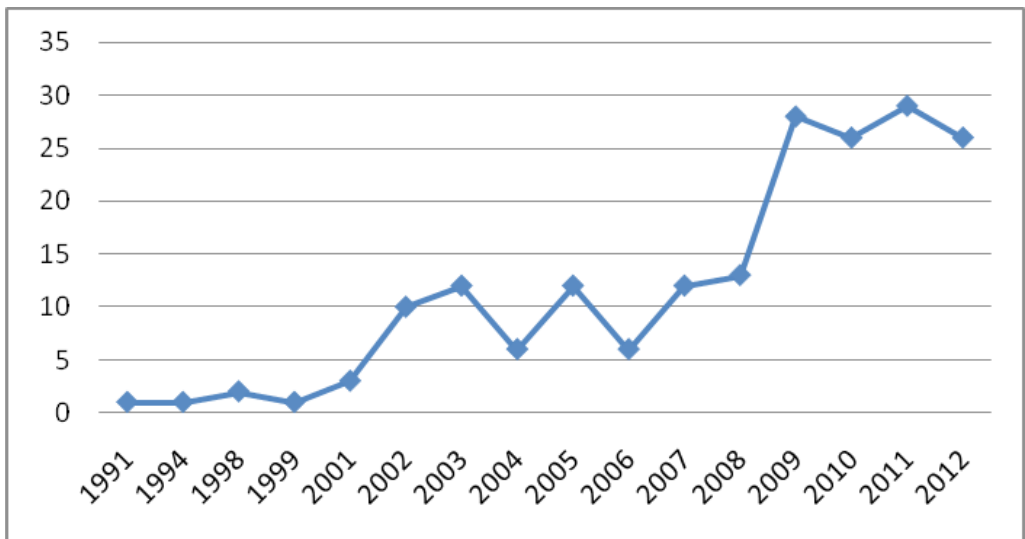
The types of documents among the 196 publications have indicated that 152 studies are articles (78%) published in journals and conferences and 44 are other types (22%) of documents such as reviews and book chapters. The prevailing language in the analyzed studies was English 92% (180 studies), German 5% (10 studies), Spanish 1% (2 studies) and others 2% (4 studies).

The evolution of the publications

The analyzed publications started to be released in 1991. They highlight the growing process that took place in 2006 and that is still on. There is a high concentration of publications in 2009, when the number of publications jumped from 13 to 28.

It is possible noticing a constant evolution in the number of publications on organic market, especially after 2009, when there is a bigger number of publications recorded. From 2009 to 2013, 60% of all the publications discuss such theme. One must consider that 2013 was a year still in course, so, it was possible facing changes throughout time. Figure 2 shows such evolution in a graphic.

Figure 2 – Graphic evolution of the publications

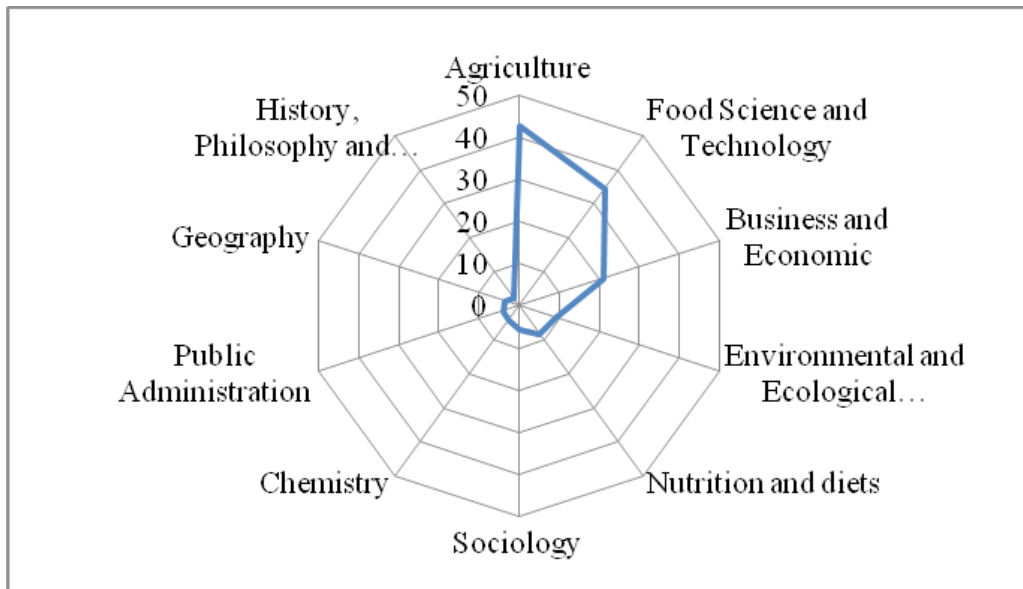


Source: Developed by the authors according to research data

Research fields

The most commonly found research fields in the database are: agricultural, management and environmental business - all explored in an associated way or not. According to the description of the themes presented ahead, it is possible identifying the pinpointed fields. Figure 3 shows how these publications are distributed.

Figure 3 – Research fields



Source: Developed by the authors according to research data

The agricultural field presented 84 studies, 43% of all the publications. It was followed by Food Technology, with 68 studies (35%). In third place, there was economics with 41 studies, 21% of the total. The Environmental and Ecological Sciences have 18 studies (9%); followed by Nutrition, with 16 studies (8%), Sociology with 11 studies (6%), Chemistry and Public Administration with 4% studies each, Geography with 7 studies (3.8%) and History with 5 studies (3%). The sum results in more than 100% because some studies are included in more than one field.

Structural relation for market-organic food studies

The current section presents the synthesis of the themes found among the 20 (twenty) most relevant studies. The most cited study within the suggested analysis was one of (LOTTER, 2003) who performed a historical survey on the Organic Agriculture and the introduction of these products in the American and European markets. The study lists a theoretical study that approaches sustainability, organic agriculture, agro-ecology and the food market. It shows the market possibilities for these products and the growth trends.

(LOCKIE, 2002) questions the ways through which the production and consumption concepts are set in the agro-food scope. (LOCKIE; KITTO, 2000) have defined a theoretical and methodological approach, which is expanded in the current study. They advocated for the use of the actor-network theory to pay more attention on the food's symbolic economy, the complex network and on the relational power. They are accom-

plished by the production-consumption networks, the “action at a distance” effect and by the technology for networks.

(BARRETT et al., 2002; GUTHMAN, J., 1998) have chosen the certification and regulation of organic products as their theme. They studied these products in the market, its entrance barriers, institutions involved in the process and the import and export market. The study by (GUTHMAN, J., 1998) is reflexive and discusses agribusiness and sustainability goals as well as the production and trade of organics. The authors shined their light spots and showed conflict among them, but they also clearly presented the relevance given to organic food by the agribusiness. Yet, in another study, (GUTHMAN, JULIE, 2007) talk about the need for using labels to express food’s ecological values.

(SIDERER et al., 2005) investigated the state of art of organic food in regards to the legislation (certification, inspection and labeling), the market, client and the organic food itself. The article focuses on the discussion about the reliability aspects of properties and the quality of organic food in the market. They aimed to find business opportunities to the agriculture and the general market. The study also compares organic and conventional products and their benefits. (GIANNAKAS, 2002) also explores such issue and introduces the difficulties to disclose all the information demanded by the consumer and the effectiveness of the products’ certification means as a way to influence the decision of consuming organic products. By taking such questions under consideration (CLARKE et al., 2008) introduce the ethical variable using a discussion based in a relevant case.

(WILKINS; HILLERS, 1994) consider the consumption of organic food not yet relevant, if one takes under account information on the big number of pesticides and fertilizers used in the food. They investigated the influence from this information over the preference and consumption of organic food due to the people’s concern with the effects of the use of pesticides on health and on the environment, despite the implications to nutrition teachers and the organic food market. The authors also compared groups of consumers. Their results corroborate the hypothesis that the concern with pesticide residues is an important factor to influence the preference for organic food.

(TORJUSEN et al., 2001) studied the perception of producers and consumers about organics in the studied region and the relevant aspects that have influenced the consumption of such products. Multi-varied analyses showed that the quality aspects of conventional food such as freshness and flavor, the “observation aspects” were important to all the consumers. Organic food buyers are more concerned with environmental, ethical and health issues than those who buy conventional products, the so called “reflection aspects”.

(WIER et al., 2008) state that the decision for buying organic food is motivated by attributes such as freshness, flavor and benefits to the health. These attributes can be understood as being compatible with the modern production and with the sales structure. (AERTSENS et al., 2009) performed a theoretical review about the motivations and personal decisions to consume organics: emotional attitudes, emotions, personal rules and the uncertainty related to the consumption of organic foods. General viewpoints are used within a structure that links Schwartz’s value theory and the Planned Behavior Theory (PBT). Both theories are seen as relevant to better understand organic food consumers.

(FOTOPOULOS; KRYSTALLIS; NESS, 2003) performed a study on organic wine. They identified buyers and non-buyers of organic food and the motivational and cognitive differences between the two types of consumers. These differences can offer a solid explanation about their different purchasing behavior regarding organic products. According to (CHRYSSOHOIDIS; KRYSTALLIS, 2005), internal values such as “self-esteem” and “enjoyment of life” are considered as the main motivators behind organic products’ purchasing. These motivators meet the search for healthier and tastier organic products.

The study by (AERTSENS et al., 2009), taking under consideration values and the Planned Behavior Theory, states that the decision for consuming organic food may be explained by the attributes of it and values such as “safety”, “hedonism”, “universalism”, “benevolence”, “stimulus”, “self-orientation” and “conformity”. They believe that such values may positively influence attitudes towards the consumption of organic food.

Social considerations were equally important to all the authors. Results indicate that many interests from organic farmers meet the concerns of those who buy organics. It may give the basis for the identification of common goals and to the improvement in communication and in the cooperation between consumers and producers, in order to develop an organic food system in the future (TORJUSEN et al., 2001).

(STORSTAD; BJORKHAUG, 2003) also studied the features of producers and consumers. Their results indicate that organic farmers and consumers in Norway have similar attitudes regarding environmental issues and animals well-being in the Norwegian agriculture. In opposition to the organic farmers and consumers, the conventional farmers see no environmental problem and do not care for animal well-being in nowadays agricultural system. Technology was also identified as a variable able to help reducing environmental issues.

(KRYSTALLIS; CHRYSSOHOIDIS, 2005) approached the economic aspect of the market and the availability of consumers willing to pay for organic products. They also checked whether the factors that affect conventional purchases equally affect organics. Such factors include the quality of the food, safety, reliability on the certification, and, in case of specific products, the brand’s name. The features of consumers who pay for organics, such as socio-demographic profile, do not determine the availability of organic product buyers. (GUTHMAN, JULIE, 2008; SLOCUM, 2007) studied aspects of social and racial differences linked to alternative food’s features, as well as aspects related to the sustainable agriculture and the safety of food involved with these differences.

Final considerations

The attempt to draw a panorama of publications related to the organic market showed the prevalent development of markets (growth and change) associated to sustainability, health, legitimacy, certification and food safety. This development results from global changes, new rules, beliefs and myths that may legitimate organizations or models. The organic agriculture, which is the focus of the current study, is influenced by and at the same time helps this process, since its approach is based in a contaminant-free, health and sustainable production.

The quantitative survey identified 196 articles in the *Web Of Science* database. The first study about market and organic food was published in 1991 and from that time on new publications came out every year. There was a jump in the number of publications in 2009 (the number almost doubled). Most of these publications (60%) were released in Qualis A journals.

A summary of the studies shows an evolution in people's concern with the types of cultivation and their effect over the environment, since the traditional production uses insecticides and pesticides that may bring undesired consequences to the soil and to human health. It approaches the need of further studies in this field in order to obtain conclusive results from these impacts.

Another important consideration refers to the motivations of organic producers and consumers. It somehow shows their awareness about the difference between organic and non-organic products. Thus, the studies open a new possibility of market, since more than 20 (twenty) years have passed and this market is not yet consolidated. The importance given to organic food by consumers and producers is sometimes convergent. The theme became more recurrent since the first publication about the organic market in 1993 and the publications from 2013, but it seems that it was not yet completely understood. It is still a sub-area of the agriculture and the food market that so far did not find its place and is not properly developed.

The presented researches are convergent in regarding to the theme, which covers market perspectives, the need of certifications to set values and the consumers' trust, the closeness between consumers and producers and the motivations to buy organic food instead of conventional food. Some studies highlight the need of understanding the action of buying, the involved values and its reflex on the environment, the improvement in the quality of life and in social patterns. It is easy to understand the limitations of the researches that use just one database and research topics. However, it is worth highlighting the importance given to the chosen database and the clear details about the chosen methodology.

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THE ORGANIC FOOD MARKET: A QUANTITATIVE AND QUALITATIVE OVERVIEW OF INTERNATIONAL PUBLICATIONS

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Resumo: Este estudo objetivou realizar um levantamento bibliométrico, mapear e analisar as publicações referentes ao mercado de alimentos orgânicos. Para isso realizou-se uma busca na base de dados Web Of Science no período de 1945 a 2013 e foram encontrados 196 estudos discutidos e analisados. Os 20 artigos mais relevantes constituíram o h-index e foram analisados de forma qualitativa indicando as principais temáticas e relações encontradas. O maior número de publicações concentra-se de 2006 a 2012 e as áreas que concentram essas publicações são: agrárias, alimentos, negócios e ambientais. Os textos são em inglês e em formato de artigos, publicados em grande parte em revista de Qualis A (60%). A metodologia que prevalece é qualitativa (entrevistas e grupos focais). As temáticas mais discutidas envolvem questões ambientais, certificação, valor atribuído, motivações de consumo, relação produtor-consumidor e comparação entre produtos orgânicos e convencionais.

Palavras-chave: Alimentos orgânicos; Alimentos Convencionais; Certificação; Ambiental.

Abstract: The current study aimed to achieve a bibliometric research, map and analyze publications related to the organic food market. Thus, a search in the Web of Science database was carried out, covering the period from 1945 to 2013. The 196 studies found were discussed and analyzed. The 20 most relevant articles comprised the h-index and were qualitatively analyzed. They indicated the main themes and relationships found. The bigger number of publications was launched between 2006 and 2012 and they were concentrated in the following fields: agricultural, food, environmental and business. They were written in English language and often published in Qualis A journals (60%). The qualitative design is the prevailing methodology (interviews and focus groups). The topics mostly discussed issues involving environmental certification, assigned value, consumer

motivations, producer-consumer relationship and the comparison between organic and conventional products.

Keywords: Organic foods; Conventional foods; Certification; Environmental.

Resumen: Este estudio tuvo como objetivo examinar una exploración bibliométrica, la y el análisis de las publicaciones relacionadas con el mercado de alimentos orgánicos. Para ello se realizó una búsqueda en la base de datos Web of Science para el período 1945-2013 y encontró 196 estudios discutidos y analizados. Los 20 artículos más relevantes fueron el índice h, y se analizaron cualitativamente indicando los temas principales y las relaciones encontradas. El mayor número de publicaciones se centra 2006-2012 y las áreas que concentran estas publicaciones son la agricultura, la alimentación, el medio ambiente y los negocios, en Inglés y el formato de artículos, publicados principalmente en revistas Qualis A (60 %). La metodología predominante es de tipo cualitativo. Los temas relacionados con las cuestiones de certificación ambiental, valor asignado, las motivaciones de los consumidores, la relación productor-consumidor y comparación de productos ecológicos y convencionales más discutidos.

Palabras clave: Alimentos orgánicos; Alimento convencional, Certificación; Ambientales.
