Tecnical Note - Nota Técnica

Organic products: regulation and market sizing in São Paulo State

Produtos orgânicos: normatização e dimensionamento de mercado no Estado de São Paulo

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Abstract

This study aimed to systematize and analyze the process of standardization and market certification of organic products, as well as to measure this market in the different segments that make it up in the state of São Paulo, focusing on Organic, Biodynamic and Natural technological standards. A notion of agro-food systems, guided by parameters of sustainability (economic, environmental and sociocultural) was used as reference analysis. For measuring the market, previous studies were used, from which estimates were developed with information collected in the field. Interviews were carried out with 5 certification companies, 20 producers, 4 distributors and 105 consumers in different regions of São Paulo State. As a result of research, a strong growth of supply and demand of organic products can be highlighted, with relative price stability. Given the problems observed in the marketing of these credence goods, the 2011 incoming new legislation may help in the organization and regulation of the sector as a whole.

Additional keywords: organic market; regulation; sizing.

Resumo

O presente estudo teve por objetivo sistematizar e analisar o processo de normatização e certificação do mercado de produtos orgânicos, assim como dimensionar esse mercado nos diferentes segmentos que o compõem no Estado de São Paulo, com ênfase nos padrões tecnológicos Orgânico, Biodinâmico e Natural. Utilizou-se como referencial de análise a noção de sistemas agroalimentares, tendo como eixo norteador parâmetros de sustentabilidade (econômica, ambiental e sociocultural). Para o dimensionamento de mercado foram utilizados estudos prévios, a partir dos quais foram desenvolvidas estimativas com informações coletadas a campo. Foram realizadas entrevistas com cinco certificadoras, 20 produtores, quatro distribuidoras e 105 consumidores em diferentes regiões do Estado de São Paulo. Destaque-se como resultado da pesquisa o forte crescimento da oferta e da demanda de produtos orgânicos, com relativa estabilidade nos preços. Face aos problemas observados na comercialização destes "bens de crença", a nova legislação entrante em vigor no ano 2011 deve auxiliar na organização e regulamentação do setor como um todo.

Palavras-chave adicionais: dimensionamento; mercado de orgânicos; regulamentação.

Introduction

Contemporary society is presented as a space of wide heterogeneity. From the point of view of scientific and technological development, this new century is full of alternatives that make everyday life easier. However, there is an accelerated consumption of natural resources, power and wealth are increasingly concentrated, and a huge part of the population lives under extreme conditions.

In this context, the word sustainability

has been increasingly widespread and valued on issues related to development. In the agriculture, it means to have the ability of being productive while maintaining the resource base, and according to GIPS (1986) (cited in DA SILVA, 1998), it must be environmentally appropriate, economically viable, socially fair, compassionate and adaptable, enabling rural communities to have the power to adapt to agricultural conditions in permanent changes, such as increased population, politics, market demands, among others.

According to EHLERS (1996), the so-called First Agricultural Revolution, in the late eighteenth century and throughout the nineteenth century, resulted in tremendous increase in agricultural productivity, with the implementation of crop rotation with forage plants.

In the twentieth century, a revolution in the field, characterized by the chemical, mechanical and genetic standards, called Green Revolution, comes to characterize what is currently known as conventional farming. From this revolution new concerns are raised related to both socioeconomic and environmental problems. Numerous "rebel movements" which are opposed to the paradigm of conventional agriculture appear. Among these groups, the most important were those of Biodynamic Agriculture (initiated by Rudolf Steiner in 1924), Organic Agriculture (initiated by Sir Albert Howard in 1925), Biological Agriculture (initiated by Hans Peter Muller) and Natural Agriculture (inspired by the ideas of Mokiti Okada, 1935).

These currents have become stronger over time, not only in terms of the actions that they advocate, but also by finding weaknesses of conventional agriculture, mainly characterized by the environmental impacts that it results, and by the total dependence on external inputs coming from natural resources. The junction of several alternative technological standards in the conventional agriculture has been called, generically, Sustainable Agriculture and, more recently, Agroecology Science.

According to Brazilian law (Law No. 10.831) on what is an organic product, in Art. 1st an organic system of agricultural production is considered those that adopts specific techniques by optimizing the use of available natural and socioeconomic resources and that respect the cultural integrity of rural communities, with the objective of economic and ecological sustainability, the maximization of social benefits and the minimization of non-renewable energy dependence. As a complement, on Article § 2, the concept of organic farming system and industrial production covers the so-called: ecological, biodynamic, natural, biological regenerative, agroecological, permaculture and other systems which meet the principles established by this Law.

According to WILLER (2008), approximately 30 million hectares are organically managed by more than 700.000 farmers in 138 countries around the world. According to the study, organic product sales moved in 2007 more than 40 billion dollars, more than double that of 2000, when this sum was of 18 billion.

The rapid growth process of this market in recent years must be highlighted. The organic market today is an important and fast-growing segment, as well as an important alternative to the competitive insertion of family farmers.

When growing in importance in society, studies and research directed to this agriculture show themselves as key issues. Among these, market regulation and sizing are important for the development of public policies. Identified as a natural product free of chemical pesticides, organic products have a strong appeal as healthy food. On the other hand, there is a high degree of uncertainty in the characterization of what is an organic product, allowing the existence of opportunistic attitudes of agents participating in this market. In this sense, studies that systematize the rules governing the organic ranking in the market, as well as studies that size the different segments that compose it, will give transparency and higher reliability to it.

Objectives

This study aimed to systematize and analyze the process of standardization and market certification of organic products, as well as to measure this market in the different segments that make it up in the state of São Paulo, with emphasis on Organic, Biodynamic and Natural technological standards. Specifically, it was sought to evaluate the development and growth perspectives of the different segments, as well as to analyze the coordination strategy of this market.

Material and methods

The analytical framework used supports the notion of agri-food systems. According to BATALHA (2001), "agribusiness system can be considered the set of activities that contribute to the production of agro-industrial products, from inputs production (seeds, fertilizers, agricultural machinery etc.) until the arrival of the final product (cheese, cookie, pasta etc.) to the consumer."

"It is understood that a specific system is composed of firms with different levels of vertical coordination. Transactions conducted between them that can happen through the market or through contracts (formal or informal). Institutions (game rules) establish the environment in which transactions occur and interfere in the definition of the objectives of the organizations and in the

adopted governance structures" (FARINA; et al., 1997).

Given this configuration, a set of variables for the analysis of these systems is proposed: Institutional Environment, Organizational Environment, Competitive Environment and Business Strategies. Accordingly, it can be expected that the organization of a system change in response to changes in the institutional environment, such as market regulation process or sectorial policy changes (FARINA et al., 1997).

In this sense, the design of agents that make up a system, the market regulation process, the competitive environment and sectorial policies set up a panorama in which the strategic actions of the companies are prepared (FARINA et al., 1997).

The analysis of different market segments to be worked has as its guiding axis parameters marked on the notion of agricultural sustainability (economic, environmental and sociocultural). It is understood that different market segments need to be designed in a systemic way[1] along a production chain, and its development is directly linked to the dimensions of sustainability.

Regarding methodology, given the type of information that is intended, it was opted for the qualitative interview as support for the analysis and estimates to be made. According to GODOI & MATTOS (2006), the qualitative interviews can be divided in three modalities:

1. Free interview around a theme, open to new questions in the context of interaction; 2. Interview with a prepared script, with flexibility for the interviewer to ask questions during the interview; 3. Open standardized interview, with a list of ordered questions that will be the same to all respondents.

Among these modalities, the one that better fits to this study is number two.

This paper addresses, in a systemic perspective, influential agents in the development of the production chain (producers, certifiers, distributors and consumers). The choice of sites for market sizing was based on a study conducted by the IEA (Agricultural Economy Institute)[2], delimiting the main producing areas of organic products in the State of São Paulo. From this delimitation, the field research was carried out with the specified agents, and estimates validated by certification.

Three technology standards were considered (organic, biodynamic and natural) and interviews were made in five certifiers, 20 producers, four distributors and 105 consumers[3] in different regions of São Paulo. The interviewed certifiers were: the Biodynamic Institute - IBD, ECOCERT Brazil, Mokiti Okada and Biodynamic Association. Although the Biodynamic Association is not a certifier, it develops an important role in spreading biodynamic agriculture in Brazil, organizing fairs in São Paulo, justifying the interviews. The distributors interviewed operate in the retail and wholesale branch, and are located in the Botucatu, Piracicaba, Limeira and Ipeúna area.

Figure 1 shows the organics producing regions in São Paulo, which were the basis for the realization of field interviews. The locations of the interviews are shown in Figure 1.

Results and discussions

Standardization

The results relevant to the regulation of organic markets, classified within different segments and technological standards are presented as follows.

There is a number of current regulations in force, and a group of standards agreed between legislators, scholars and agents involved in this market. The current legislation of organic products already represented a step forward in terms of service to system users.

From the current regulation a new legislation began, under construction by the Ministry of Agriculture, Livestock and Food Supply - MAPA (Figure 2), in a joint effort of the Ministry with the State Committee for Organic Production – CEPorg. The marketing of organic products, according to the incoming legislation, will be done in three modalities: certification through audit, Collaborative Systems and Direct sales (BRASIL, 2009).

In the first case, the certification will be made by OACs, i.e., Conformity Assessment Bodies, which must be accredited in MAPA and Inmetro and cannot exercise oversight nor provide technical assistance. As for participatory systems, it also must be accredited by MAPA, and meet the Contract requirements (responsibilities), Commercial transaction statements, Information for certified units, Records and documentation and Certification in groups. Producers direct sales to consumers can occur without certification, provided that it is made by family farmers linked to an organization with Social Control - OCS, registered on MAPA, and farmers will have to ensure the traceability of its products and the free access by enforcement agencies and consumers to production and

[1] "The systemic approach considers that every system evolves in space and time due to internal and external changes in the system. As a system, an agro-industrial production chain will also be subject to change over time "(BATALHA, p. 39, 2001).

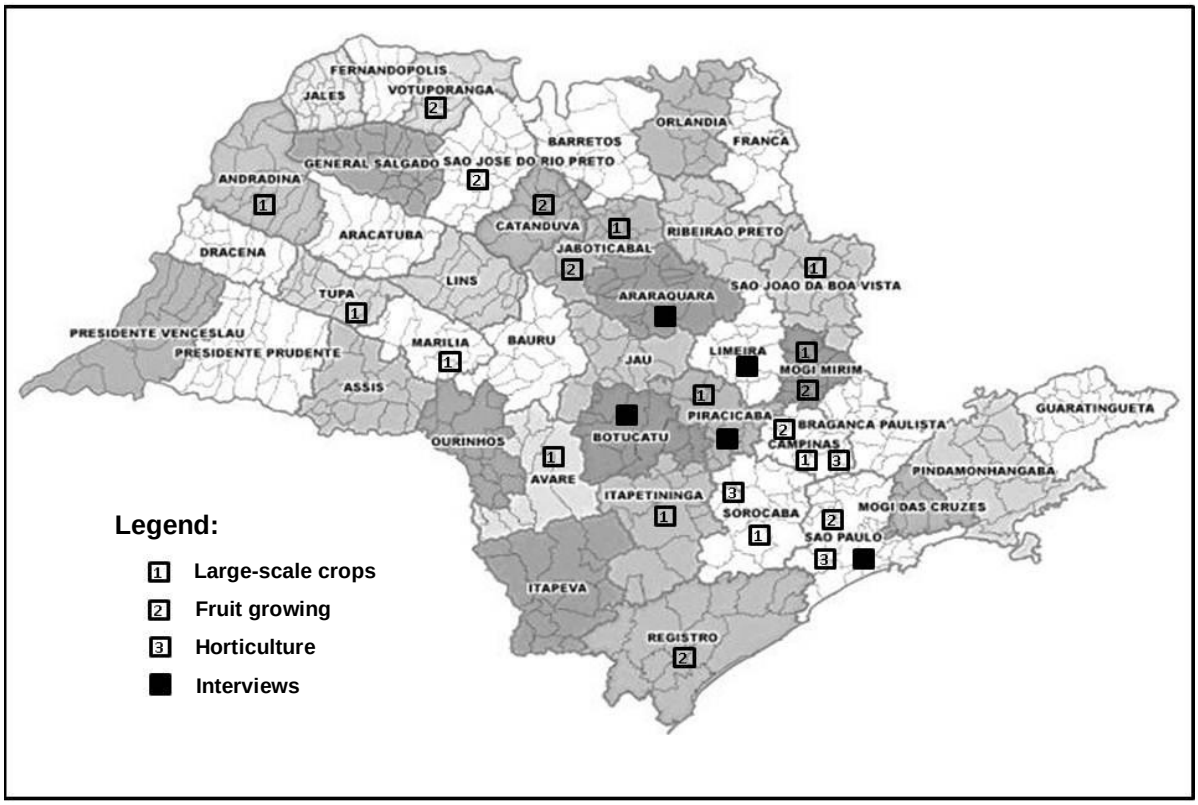
[2] Revista Informações Econômicas, SP, v.36, n.3, mar. 2006.

[3] The selection of consumers was based on some fairs in the state, both in São Paulo and Botucatu. And the latter was chosen especially for its biodynamic technological standard, as the Biodynamic Association has a more regional performance.

processing sites. In this case, producers will receive an identification to ensure their business (BRASIL, 2009).

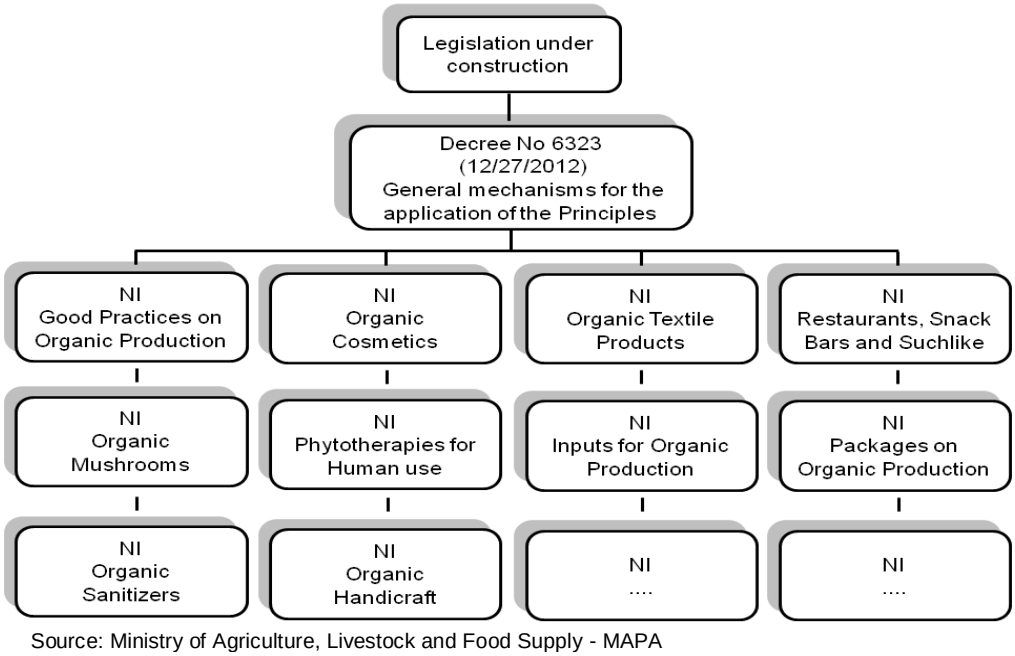
Direct sales can be made for fairs, supplies to consumers, sales in property, consumer groups, government procurement and farmer shops and restaurants, among others, and it is prohibited for direct sale products, and the use of a MAPA Seal is mandatory in the first two modalities (BRASIL, 2009).

In addition to the national seal, any organic product can exhibit the seals of certifiers - OABs - that may be present in the product conformity assessment (BRASIL, 2009).



Source: Organized through a study by CAMARGO et al., 2006

Figure 1 – Organics producing regions in São Paulo.



Source: Ministry of Agriculture, Livestock and Food Supply - MAPA

Figure 2 – Legislation under construction.

In 2003, the Law No. 10.831 was enacted, which regulates organic production. From this date this law has been regulated by organic production committees coordinated by MAPA (Ministry of Agriculture, Livestock and Supply) with community participation, represented by non-governmental organizations (NGO) and government institutions (BRASIL, 2003).

The CPOrgs (Committees of Organic Production) are aimed to help in the actions necessary for the organic production development, based on the integration between the several actors of the organic production network from public and private sectors, and on the effective participation of society in planning and democratic managing public policies (BRASIL, 2008). Normative Instruction No. 54 of October 22, 2008, regulates the structure, composition and allocation of organic production committees and adopts the guidelines for the preparation of CPOrgs by laws (BRASIL, 2008).

The CPOrgs work in the regulation of the 2003 law to this day, what was achieved by the publication of Normative Instructions on the topic, such as vegetable, animal and textile production, with some of these already approved and others in progress.

Although there are suggestions in some points, the normalization process is well regarded by the agents of this market.

Market sizing

Face material restrictions, the size of the organic market in the state of São Paulo was carried out by the estimate for the three segments analyzed. The estimates were made based on available information, analyzed and validated by the interviewed certifiers. The results show that the organic market segment currently represents 96-98%, followed by the biodynamic and natural, estimated at between 2-4% of the entire market.

The adopted procedure for organic markets sizing comes from a broader survey conducted by Camargo et al. (2006), with production estimates for the entire state of São Paulo. Through these data, an estimate of the growth of the area planted with organic products was developed.

Data from 2003 estimate the planted area with organic products in São Paulo on 10.234 ha (Camargo et al., 2006). Estimates of the Ministry of Agrarian Development (MDA) indicate an increase in the planted area of organic products (for Brazil as a whole) of 20% per year (BRASIL ECONÔMICO, 2010). Based on the explicit information (using the same growth rate of Brazil for the state of São Paulo), the area planted in the state in 2009 would be of 30.561 ha.

Having this estimate as a parameter, interviews were conducted with key certifiers for data collection on certified areas. Another source of information was the certifiers. The collected data point to an increase in the organic area higher than the estimates made from the growth rate provided by the Ministry of Agrarian Development. According to data provided by IBD for the year 2008/2009, the area planted with organic farming would be higher, 45.253 ha, with 44.735 ha of organics and 518 ha of biodynamics. As for the Natural segment, based on information collected from the Mokiti Okada Foundation, the area planted in São Paulo this year would be of 500 ha. Adding the area estimates, the total in 2009 would be of 45.753 hectares.

Based on the collected and estimated data, Table 1 was prepared with the participation of each segment in the organic agriculture of the State of São Paulo.

Taking into account other studies pointing a significant development of organic agriculture in the state of São Paulo, certifiers information is considered more reliable than the estimates from the growth rate made available by the Ministry of Agrarian Development. Considering the two values, from 2003 (Source - IEA) and 2009 (source - Certifiers), the growth of the planted area for organic agriculture in the State of São Paulo would be approximately 350% in the period assessed, much higher than the value observed for Brazil as a whole.

Table 1 – Estimate of different segments of organic agriculture in the State of São Paulo, Brazil – 2009.

Segments	2009	Participation (%)
Organic	44735	97.8
Biodinamic	518	1.1
Natural	500	1.1
Total cultivated area (ha)	45753	100.0

Source: Prepared by the authors from a field survey, 2010.

Relevant aspects in the organic market growth: production, distribution and consumption

The planted area growth is directly related to the conversion from conventional to organic farming. According to producers of the three segments, the main reasons for conversion to organic, biodynamic or natural foods are: the health and a concern for the quality of life provided by this type of production; manage nature in a more sustainable way nature and produce healthier food. Such characteristics provide a differentiated product and a gain, both for producers and for final consumers. A strong family influence in this technological standard has been verified. The perception of a promising market was also relevant in this choice for respondents.

The findings of CAMARGO FILHO (2004) were confirmed, where the vast majority of pro-

ducers is made up of small family farmers linked to associations and groups of social movements. These characteristics point to a high cultural and family influence in the development of the agriculture and of the adopted practice. This type of organization emphasizes the importance of environmental issues in the development of this production.

These properties, those with less than 10 ha, are related to the production of vegetables and some fruits, and above 10 ha are related to the production of fruits, field crops (corn and coffee) and breeding for both cut, like chicken and cattle, as well as for the production of derivatives, such as cheese, yoghurt etc.

There has been a growing demand for products in the three segments analyzed (organic, biodynamic and natural). Consumers have a higher economic level. This growth is directly related to consumer awareness level, with a decrease in sales in holiday periods.

Other highlighted observed aspect of producers: the diversification of production. This is related to a consumer demand for higher product diversity, making it possible to invest in several commercialization channels.

About commercialization, family farmers sell their products primarily through direct sales to consumers (conventional or organic fairs), or indirectly, using intermediaries to place their products in large centers, such as the city of São Paulo. The use of different forms of production draining is a strategy to stay in this market. Larger producers drain its production through contracts, intermediaries or supplying large retailers (supermarkets).

Some aspects were considered limiting for further market growth: in production, the difficulty of finding allowed pesticides; problems with the production technique and lack of funding; lack of seeds and seedlings; and the conversion period, in the case of fruit trees, were appointed as production barriers. In commercialization, the main obstacle is logistics: better transport conditions and a higher transport cost for small volumes.

The high price of products for low and middle-income people is still an obstacle to be overcome. Regarding this issue, a work done by BENDINELLI & PEROSA (2010), in the city of Botucatu, indicates that the price difference between organic and conventional products in organic and free fairs does not seem very significant, especially among leafy vegetables. The high cost of the certifier seal was also emphasized by some producers for the high price of products, thus justifying the increase in demand for participatory certification.

There is still a high degree of uncertainty on the part of consumers surveyed in the characterization of what is an organic product, allowing the existence of opportunistic attitudes [3] of agents participating in this market.

The interviews with the certifiers showed that fraud in this system are not common, given the philosophy acquired by producers. However, some scams were listed by certifiers: overpricing production, mixture of not allowed ingredients, acquisition of apparently natural products, improper use of the mark, lack of accreditation renewal and lack of organization in the documentation. When they are discovered, farmers lose the right to use the seal granted by the certifier.

Regarding distributers, a large range was observed for both fresh and manufactured products. These establishments receive products from several sources, from small producers in the region to producers from other states. In this sense, the logistics of such establishments are involved in several supply regions. The most common, however, is its presence next to a supplier and distributors city, primarily on providing fresh products.

We interviewed 105 consumers, with were predominantly female (58%) and with a higher level of education (77%).

From the total respondents to the organic standard, 17% think prices are too high and 50% think prices are high. As for the biodynamic standard, everyone thinks the prices are very high, although it is not a limiting factor for consumption.

The vast majority (63.6%) of the consumers surveyed have an idea of the production process of organic agriculture and 51% believe that these foods are free of pesticides or harmful chemicals to human health. It is pointed out the fact that 49% of consumers have questions about the use or not of pesticides on its production. As for biodynamic that credibility is of 100%.

Organization and strategies in the organic, biodynamic and natural fields

For the three technological standards analyzed, although they are appropriate to the concepts explained in Articles 1 and 2 of Brazilian law (Law No. 10.831), there are different strategies and coordination in the three market segments.

According to the adopted concept of Agribusiness System (SAG), it comprises the segments involved in the production, processing and commercialization of an agricultural product. Different segments have its relations influenced by the Institutional Environment and Organizational Environment, which is reflected in the competitive environment and on business strategies.

[3] The behavioral assumption of opportunism is in the possibility of emergence of adjustment problems arising from the incompleteness of contracts. The limited sense implies incomplete contracts, resulting in future renegotiations, and thus it can act unethically, imposing losses to the counterparty in the transaction (FARINA et al., 1997).

Aspects of this relation and its influence on the adopted strategies are presented as follows.

Biodynamic Standard

In the case of biodynamic standard, the role of the incoming legislation in 2011 is highlighted, contributing to the coordination and regulation of the whole system. Is noteworthy, however, that in this legislation the differentiation of production systems of this technological standard is not contemplated, which has particularities compared to the other two standards. With regard to the Organizational Environment, the Brazilian Association of Biodynamic Agriculture, based in Botucatu-SP, acts as a guiding element and plays the movement coordination function, organizing fairs (São Paulo, Minas Gerais), exhibitions, courses, events and works in schools.

In terms of the competitive environment, some problems that compromise the development of the chain can be observed: although it has a more conscious consumer public with regard to sustainable and social aspects, it was found difficult to expand the number of participants in the sphere production (doubt in the efficiency of its biodynamic preparations). The marketing of its products is restricted to some fairs, such as those held in São Paulo-SP and in the city of Botucatu. This chain is still hampered by a lack of consumer information when buying a biodynamic product (mixture of organic and biodynamic products on the shelf).

Natural Standard

The segment certification (Institutional) is made by the Mokiti Okada certifier, as part of Mokiti Okada Foundation (MOA), with its headquarters in São Paulo - SP. In the business and strategic part of the natural agriculture, it is highlighted the role of Korin company, founded in 1994, with corporate vision based on the philosophy and in the Mokiti Okada Natural Agriculture method. It focuses on the perfect balance between preservation and use of natural resources, pioneering in the creation of the Antibiotic Free Chicken (AF) - without antibiotics and artificial growth promoters, second KORIN (2011). It is situated in the city of São Paulo - SP, and has the unit responsible for animal production in Ipeúna - SP. The growth strategy is not specified to the natural standard, given the difficulty of increasing the number of producers with these precepts. The MOA certification is not exclusively related to natural, since it certifies organic properties (again it is observed a "mixture" of more than one standard, restricting the development of the specific segment). Another problem observed is that there is no loyal public to products, binding the natural agriculture with its consumption, and fairs that only sell natural products. It is difficult even to movement participants to define markets in this segment.

Organic Standard

Certifiers play an important role in the coordination of this segment, along with the legislation, as regulatory of the entire system. The quality of organic products produced in Brazil is guaranteed in three different ways: with the certification, the participatory guarantee systems and the social control for direct sale without certification. Together, the certification and participatory guarantee systems form the Brazilian System of Organic Conformity Assessment – SISORG, and they are performed by assessment bodies of organic accordance.

These organic conformity assessment bodies have to have acceptance mechanisms of production and marketing units. All Brazilian organic products, with the exception of those which are originated from the direct sale by farmers, will be identified through the Seal of the Brazilian System of Organic Conformity Assessment. This label is intended to enable consumers to identify organic products, enhancing security, according to the technical regulations for organic production.

Regardless of the mechanism used by producers, all of them integrate the National Organic Producers Register. The monitoring and the registration of Social Control Organizations – OCS, are performed by the inspectors, made by MAPA and by insured state or federal agencies. They are supplying the National Register of Organic Products and the National Registry of Productive Activities for OCS, besides investigating allegations of irregularities in the production and marketing of organic products. Currently, regulatory agencies are the Federal Superintendence of Agriculture, located in the states capitals.

Final remarks

The organic standard is the most significant, followed respectively by biodynamic and natural, with reduced areas planted in São Paulo.

Sizing the organic market in São Paulo showed a strong growth of the planted area in the decade, well above the growth estimates for Brazil as a whole.

This growth of the planted area has a direct impact on the supply of these products. It is expected that such an offer is accompanied by a similar growth in domestic demand, as growth of exports of fresh food is not as expressive. Since there are no studies showing an increase in the price differential between organic and conventional products, it is possible that this fact is not occurring. It would, therefore, be of interest researching on the design of the demand, as well

on more information about the different marketing channels and forms of participation of producers.

The organic market is constituted by the so-called "belief goods", where trust is crucial for its development.

An important aspect of the study was the high proportion of consumers interviewed (49%) who said they did not have *absolute confidence* that consumed organic products did not contain any type of pesticide. Since most of the respondents follow the organic standard, it is recommended that further studies and information became available on this standard.

Studies on the quality of organic products against this consumer's uncertainty, checking whether or not it has traces of agrochemicals in its composition, would be an important contribution to this market.

This paper presents estimates based on survey information with the agents that participate in this market. A larger study is recommended, with larger samples of the three segments, similar to that realized by the Institute of Agricultural Economics in 2006, and used as a reference in this work.

Organic agriculture as a whole (Organic, Biodynamic and Natural) has increased in recent years in Brazil, and more specifically in the State of São Paulo. Its growth and structuration has been expanding steadily, driven by a trend seen in European countries and in the USA, where producing in a more sustainable way, respecting nature and society is appreciated.

With the new legislation in 2011, there was an expectation of higher organization and regulation of the sector as a whole. Although legislation will regulate the "organic" precept as a whole, the different segments analyzed have different operating and coordination strategies, and rely on it to unlock the growth potential explained in this study.

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