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Study on the production of vegetables and organic agriculture in the city of Garanhuns, Pernambuco, Brazil

Luan Melo*[1]

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*Autor para correspondência
[1]Universidade Federal Rural de Pernambuco. E-mail: luan.danilo@yahoo.com.br

ABSTRACT: The vegetables stand out among the plants due to the adequacy of their production to the small farmer characteristics, the variety of products grown in the same area and a lower dependence on external resources. Thus, the objective of this work was to study the production of vegetables in the city of Garanhuns-PE, Brazil and understanding the fairground on organic agriculture. From a methodological point of view, questionnaires were applied, the data were tabulated and converted into percentages. For this step we used computational resources to support the creation of graphics. It will be essential that humanity review its approach to using natural resources to be able to renew it towards sustainability, providing future generations enjoy these resources without harming the current civilization or later.
Keywords: agricultural, production system, sustainability

Estudo sobre a produção de hortaliças e agricultura orgânica na cidade de Garanhuns, Pernambuco, Brasil

RESUMO: As hortaliças se destacam entre os vegetais devido à adequação de sua produção às características do pequeno agricultor, pela variedade de produtos cultivados em uma mesma área e uma menor dependência de recursos externos. Com isso, o objetivo deste trabalho foi estudar a produção de hortaliças no município de Garanhuns-PE, Brasil e a compreensão dos feirantes sobre agricultura orgânica. Do ponto de vista metodológico, foram aplicados questionários, os dados foram tabulados e transformados em porcentagem. Para essa etapa utilizou-se recursos computacionais para dar sustentação à criação de gráficos. Faz-se imprescindível que a humanidade reveja as suas estratégias de gestão dos recursos naturais para que seja possível renová-la no caminho da sustentabilidade, proporcionando as gerações futuras usufruir desses recursos sem prejudicar a atual civilização nem as posteriores.

Palavras-chave: agricultura, sistema de produção, sustentabilidade

INTRODUCTION

Currently environmental preservation and the search for healthier foods have become a concern of humankind, this has led to an increase in demand for health beneficial foods,

including vegetables, which are essential for a balanced diet and important sources of vitamins, salts minerals, carbohydrates, fiber and other substances that contribute indisputably to human health (FILGUEIRA, 2003; NAKAZONE, 2003).

The vegetables stand out among the plants due to the adequacy of their production to the small farmer characteristics, the variety of products grown in the same area and a lower dependence on external resources (ORMOND et al., 2002). Almost all of the marketing of vegetables in Brazil is performed through the free markets (SCHMIDT, 2001) that are marketing centers thanks to the variety of products and consumer opportunities to confront commodity prices without having to move kilometers. It is also classified as a place for meetings and leisure, making it a social factor (SANTOS, 2005). However, a new scenario was developed with the input of large supermarket chains which have been standing out as a strong marketing channel for these products.

The marketer is an important component in the marketing and feasible to system efficiency, resulting in reduced number of individual intermediaries acting between the grower and the consumer. This can be achieved with alternative organizations in the service of producers. Commonly, in Brazil, the farmer sells his produce to a wholesaler, who in turn sells to (LUENGO and JUNQUEIRA, 1999).

The city of Garanhuns-PE has fairs records dating back to the sixties and are distinguished by the adopted production system: conventional. In contrast, food production coming from the organic system, including vegetables, has grown on average 50% per year in Brazil. Much of the national production is in the Southeast region (60,2%) and South (25,2%), followed by the Northeast (8,7%), Midwest (3,3%) and North (2,6%) (OKUDA, 2002). According to Biodynamic Institute (2014) Brazilian organic production covers an area of 6,5 million hectares of land, placing the country among the world's largest producers of organic.

Knowledge of the heterogeneity of production systems and awareness of producers and consumers linked to production systems is of fundamental importance to the establishment of public policies to strengthen the production and ecological basis of consumption. Thus, the objective of this work was to study the production of vegetables in the city of Garanhuns-PE, Brazil and understanding the fairground on organic agriculture.

MATERIALS AND METHODS

The city of Garanhuns-PE has coordinates 08º53'25 "S and 36º29'34"W, at an average altitude of 896 m. Its population is 129.408 people in an area of 458.552 square kilometers, has the Caatinga and Atlantic Forest has its economy based on agriculture. The methodology used was the multidisciplinary approach, from the questionnaires, a total of three hundred (300) fairground producing vegetables in their properties and traded in the Garanhuns Supply Center/GASC. The survey was conducted in June and July 2014.

In GASC a few buildings, since it occurs on the street, open to the public and subject to passing cars, people and animals that surround the site freely. This is an improper condition due to the ease of food contamination, or is outside of the requirements established by Brazil (2002), which provides for hygienic and sanitary standards of facilities, equipment and food handlers.

After being informed about the nature of research and procedures, the vendors agreed to participate in the study, answer the questionnaire and all

the data were kept confidential, ensuring the participant's anonymity.

First had to be careful to mark each bank in advance, not to be unexpected in the workplace, or repetition of the measured information. The dynamic method seeks interaction, extension and producer, to achieve the necessary environment for the development and data collection.

This type of research allows a holistic view, where situations are described and evaluated so that the reader can understand the results and conclusions to their particular context, trying to establish what he could apply in the case referred to his own experience (LÜDKE and ANDREW, 1986).

From a methodological point of view, this study can be classified also as a research study applied, aims to generate knowledge for practical application directed to the solution of specific problems, demonstrating truths and local interests (Silva and Menezes, 2001).

Cervo and Bervian (2002) point out that this research note, record, analyze and correlate variables without performing manipulations. The form of the quantitative approach was used, which means in figures the opinions and information to classify them and analyze them, requiring the use of resources and computational techniques (Silva and Menezes, 2001).

The questionnaire had the following questions:

1) What is the basis of your income?
2) What are the vegetables produced on their property?
3) Do you think it possible to produce without pesticides?
4) You have any health problem concerning the use of pesticides?
5) You receive technical assistance?
6) What is the size of the property and the activities they do these?
7) How is the transport of food produced?
8) What is your demand for organic products?
9) What are the factors that hinder the production and marketing of products?
10) How important is the organic production system for health and environment?

After the questionnaires, data were tabulated and converted into percentage. For this step we used computational resources to support the creation of graphics.

RESULTS AND DISCUSSION

After two months of implementation of the research, we found that respondents with incomes fairground based on the marketing of vegetable and fruit. Noteworthy is the variety of vegetables that some visited stalls offered, they are: carrots (40%), peppers (50%), onions (50%), cucumber (70%), coriander (100%), green onions (60%), looseleaf lettuce (60%) and curly (70%) (Figure 1). Silva and Costa (2010) emphasize that the street markets of the city of Pombal-PB, Brazil the best selling vegetables are onions, cilantro, peppers, tomatoes, lettuce, green onions and carrots, thus showing the great variety of vegetables marketed in both fairs.

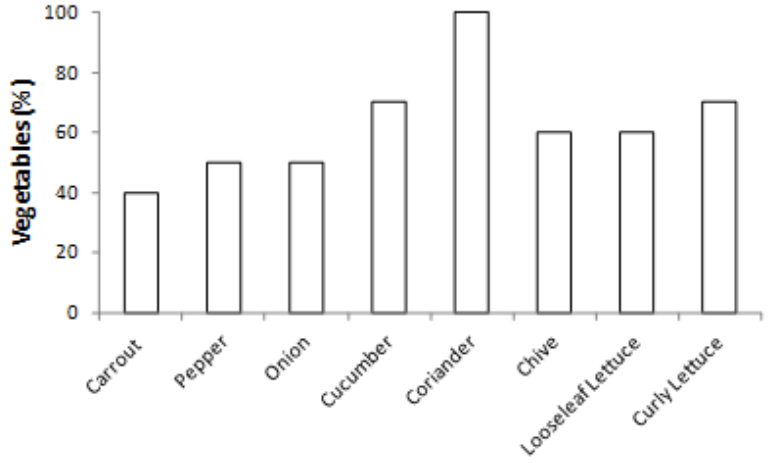

Figure 1 - Vegetables marketed in Garanhuns Supply Center/GASC.

Information on the production of vegetables are extremely important for the planning of municipal and state policies related to the sector, keeping in mind the diversity of the site, providing appropriate forms of marketing actions aimed at improving the distribution of flows, with consequent benefits for both consumers and producers. According to Ribeiro et al. (2006) the free markets play a key role in generating rural employment. As agricultural production is diverse and not integrated, small producers find their best consumer markets in urban centers.

The agribusiness of vegetables in Brazil, and therefore in Pernambuco, is complex and dynamic, with very peculiar characteristics as reported by Vilela and Henz (2000) of the new demands of society and the technological innovations that are increasing the supply of fruits and creating new business opportunities, similar to what occurs in other countries.

Survey participants reported that the properties in which food is produced is used the consortium of several species in confined spaces. According to Resende (2014) the consortium besides enriching and diversifying the agro-ecosystem is a way to ensure income to the farmers, which is less subject to total losses from water stress, diseases and pests or loss due to fluctuating prices on the market. Montezano and Peil (2006) also stated that the intercropping system has been considered as a key factor in supporting small farms and is considered part of more sustainable farming systems due to the advantages offered to farmers, can constitute a technology applicable and accessible, giving an alternative system of cultivation, allowing a greater gain, either by synergistic or offsetting effect of a culture to another, but also the lowest environmental impact provided in relation to monoculture.

Many of the merchants (90%) complained about the lack of prior planning knowledge, technical assistance and say they use pesticides. This can contribute to environmental degradation, as they knew little alternative forms of management. Similar results were found by Ormond (2002) who conducted interviews with merchants, consumers, research institutions, cooperatives and rural extension bodies, the latter revealed that the main barriers to the growth of the agricultural market in Brazil is the lack of information and planning ie, lack of technical assistance.

Through conversations found to occur direct contact of producers of vegetables with pesticides and indirectly's going to contamination of biota in areas near agricultural plantations, which ultimately disrupt local ecosystems, bringing a lot of damage to people these areas. Peres and Moreira (2003) report that pesticides have in their formulas principles assets in touch with the people become a potential risk of poisoning, causing damage to health.

When asked if they have had or have any health problems related to the use of pesticides, all said no, but when asked for some symptoms, all admitted already having felt dizziness, headache and malaise during the preparation and implementation of pesticides. Some reported product to hypersensitivity reaction, where the layer of affected skin showed up red and irritated, and breathing difficulties and fatigue. They said they do not have personal protective equipment (PPE) layout. Do not use goggles, gloves, boots or rubberized suits. Some use long-sleeved shirts and hats during application also to protect themselves from the sun. It is not uncommon to observe some fairly unprotected workers. They recognize that have already been informed about the importance of the use of PPE, however yet still resist adopting them. Most producers (fairground) launches packaging in areas around the property and only one respondent packaging stored in a warehouse, and there are returned to the manufacturer.

For transport of marketed products, 30% employ carts whose driving force animals, hardwoods are wrapped in cloths and placed in these carts, while 70% do so in plastic bins placed in cars (Figure 2).

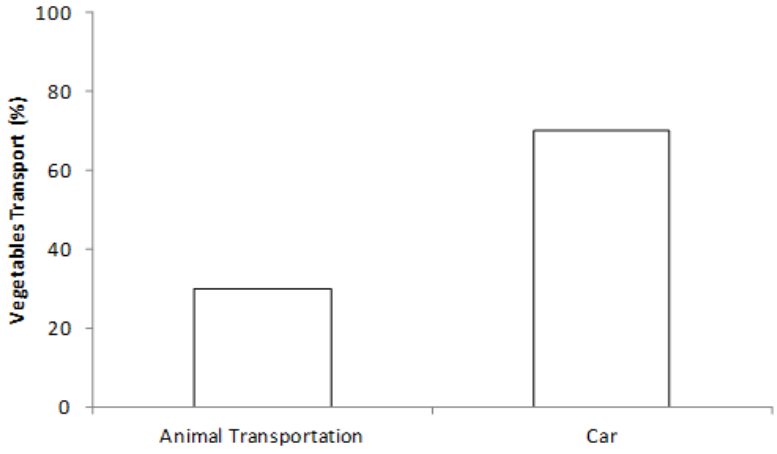

Figure 2 - Transportation of vegetables sold in Garanhuns Supply Center/GASC.

It is very common pest problems, as it is not carried out appropriate forms of control. Regarding the distribution of these products was verified that 100% of the fairground considered "easy". This result was expected, since many individuals sell their products directly on the property or in street markets located in the very location where the food is produced. In this case, as the report of some farmers, this facility is due to small distance that the products run.

The distribution is associated with the local movement of material production or storage to the customer.

This activity involves the functions of management and inventory control, material handling or finished products, transport, storage and administration applications (BERTAGLIA, 2003; PENTEADO, 2003). Thus, there is evidence that the logistics related to the distribution strategy is not being an obstacle to their competitiveness.

With respect to Figure 3, it was found that 5% of producers (fairground) have 3 ha cultivated with coffee, cucumber, carrot, onion and beans; 20% employ 8 ha in dairy farming; 20% 4 ha intended to fruit, 60% have an area of 10 ha with beans and corn, 20% produce vegetables in areas up to 4 ha.

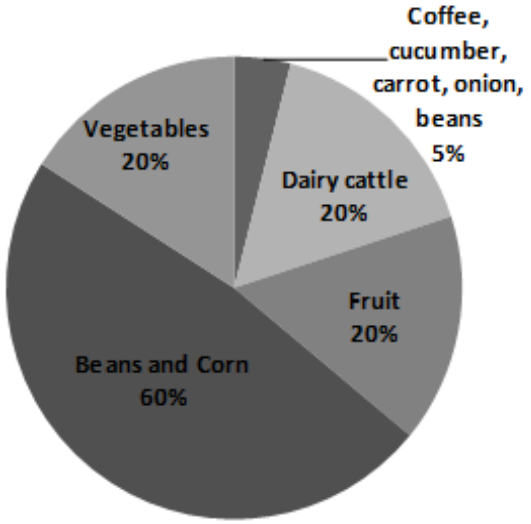

Figure 3 - Size of the properties and activities that carry these.

In the city of Garanhuns, the main agricultural activities are the bean crops, corn, vegetables and fruit, and livestock stands out with milk production. The striking relief, peculiar of small farms of the South Wild of Pernambuco, leads to a planting along contour lines to promote sustainable land use.

In the opinion of 60% of respondents, there is a "high demand" for organic products. This is a relevant fact, it suggests that the organic market shows up as an attractive opportunity. Tacconi (2004) conducted a survey of consumers in the city of Natal, Brazil, revealed that 82, 4% of respondents usually buy organic food "sometimes", "often" or "always." In the Northeast, check up similarities between the opinions of fairground Garanhuns-PE and Natal-RN regarding the demand for organic products.

Have been the questionnaire as evidence that the quality of the vegetables sold in Garanhuns-PE municipality, according to participants, is not being used as a pretext to complaints from consumers. However, Rodrigues and Batalha (2014) say that in the area of food the notion of quality can not be an absolute notion, but an essentially relative notion, since different consumers appreciate due to their own judgments and criteria. Accordingly, for this class of product quality is related to the objective aspects and mainly the subjective aspects.

In the perception of 70% of the fairground, spending on labor was considered very important in higher costs of organic products compared to

conventionally grown. This can be explained second concepts of Organic Planet (2006) which describes the practice of organic farming requires a lot of manpower, whether employed or family. In countries like Brazil, and consequently in the city of Garanhuns-PE, there is no labor in abundance, this type of agriculture is an excellent choice for Employment in rural areas, with the added benefit of preserving the health of rural workers and not cause damage to the environment.

It was also noted that 100% of respondents demonstrated knowledge of the importance of organic agriculture to human health and the preservation of the environment. However, Smith et al. (2007) analyzing the marketing of organic agricultural products as a factor of social and economic inclusion, revealed that only 5% of participants in the settlement Chico Mendes in Pombos-PE, had knowledge of the benefits of this type of production to the health of humanity and the environment. Have Darolt (2001) after conducting research in the metropolitan region of Curitiba-PR verified that they are concerned with family health which can be impaired by the indiscriminate use of pesticides. As well as organic farmers in Santa Catarina, who responded as the main reason to continue with organic production are the consumer health factors and ecological reasons (OLTRAMARI et al., 2002).

Thus, it appears that the organic system is committed to the health, ethics and citizenship of individuals contributing decisively to the preservation of life and nature.

CONCLUSIONS

The current moment requires profound changes in the structures and functions the Garanhuns-PE municipality in the traditional food distribution system, especially in the chain of produce.

Exposures caused by pesticide use occur not only to rural workers, but also the environment.

You need awareness of the local population for the consumption of organic products, through lectures in schools, associations, visits to places of culture, among others, in order to clarify the health benefits of their families as well as the preservation of the environment.

It will be essential that humanity review their management strategies of natural resources, so you can renew it towards sustainability. Providing future generations enjoy these resources without harming the current civilization or later.

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