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Consumer Perception on Alternative Poultry*

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1. Introduction

The pattern of world food consumption has changed in the last decades towards a greater demand for quality attributes. Recent crises of food safety, such as dioxin, "mad cow", foot-and-mouth disease, have attracted the consumers' attention. However, the quality attributes are not only related to food safety, but also to the impact that production has on the environment and on social welfare. Despite the low per capita income in Brazil, a growing number of consumers have become concerned with these issues and are willing to pay price premiums for natural foods, which supposedly do not contain chemical products or other sources of contamination in addition to being produced in an environmentally friendly manner (Regmi *et al*, 2001; Unctad *et al*, 1999).

Due to the increasing demand of consumer groups in relation to the issues cited above, a market niche has emerged for organic agriculture. The market for organics is of particular interest, because of its brisk growth in recent years. In Brazil, there is already a wide range of organic products being produced both for the domestic market and, mainly, for the external market. Nevertheless, it is still difficult to assess the size and evolution of this market due to the lack of regular and methodologically-based research generating statistics on it (Pensa, 2002; Unctad,1999).

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There are a growing number of studies on the market of organic products in Brazil. However, few address consumer perception (Rezende, 2001). This article intends to contribute to the knowledge of this market, presenting the results of an exploratory study on consumer perception, in São Paulo, of alternative chicken – free range, natural, and organic. As the research was conducted on a small sample and only in São Paulo, there is no intention to make inferences on the behavior of the Brazilian consumer. Nonetheless, the article exposes some very interesting results for discussion.

Chicken presents an additional difficulty for consumer studies: there is no organic chicken sold in the São Paulo market! We found free-range chickens and natural chickens, alternatives to the conventional production, but none that correspond exactly to what would technically be defined as organic. This happens because, in order to produce an organic animal, the feed must be organic, which considerably increases the production costs (Torne-Celer, 2001).

This article is organized in four parts. Section 2 provides a brief analysis of the alternative aviculture agribusiness system, which presents the technical characteristics of the production of alternative chickens, and identifies, based on the available literature, the coordination problems of this system. It shows the importance played by brand name and by certification. Section 3 contains the main contribution of the work, presenting the methodology of the research conducted on consumers and the analysis of the results. Section 4 concludes the article**.**

2. A Brief Analysis of the Alternative Aviculture Agribusiness System

The characteristics that differentiate alternative chicken from conventional refer to the production process. Therefore, though the focus of this work is the consumer's perception, it is important to describe the main differences of these production processes.

Section 2.1 contains an analysis of the technical characteristics of the different production processes and is based on the work of Torne-Celer (2001) about the Brazilian agribusiness system of alternative chicken.

2.1 Analysis of the Technical Characteristics

The production of conventional chicken is always conducted in the form of confinement. The lineages utilized are characterized by a high feed conversion rate, which increases the growth rate. The feed is composed of grains, fat, and animal flour. Also added to the feed are vitamins and antibiotics permitted by the Brazilian law.

The use of these medications has been increasingly criticized in scientific studies due to the risks of selection of resistant bacteria. Moreover, the reason for using growth-promoting antibiotics is exclusively economic, since they do not improve the quality of the meat in any way, but merely reduce the slaughter time and the mortality index, increasing productivity. Another factor that reduces production costs is the possibility of

utilizing slaughter residues of the company, like flour and animal fat, in the feed. This practice has also been widely criticized due to recent phytosanitary problems that have occurred mainly in Europe.

The production of differentiated chicken appears as an alternative to conventional poultry. The free-range chicken is bred in semi-freedom. Differently from the conventional poultry, the animal is rustic with no defined race and, therefore, grows more slowly. Its feed is composed, essentially, of grains and other plants that can be produced on the property.

The breeding of natural chicken differs from the conventional only in the feed and not in the manner of breeding[1], using the same lineages as the conventional. Its feed is exempt from products of animal origin, GMOs, and antimicrobians, both for treatment as well as growth promotion. The absence of antibiotics leads to a higher slaughter time and a higher mortality rate.

According to Normative Instruction nº 7 of 1999, neither natural chicken nor free-range chicken is organic. For the animal to be considered organic, it would be necessary to utilize techniques that promote the optimization of natural and socioeconomic resources, reducing the dependence on non-renewable energies. Production must be almost completely self-sufficient, minimally dependent on nonrenewable energy, free from the use of pesticides and other toxic substances and GMOs. The major difficulty of producing organic animals is that their feeds must also be organic. Because of its high production cost, there is no certified organic chicken in Brazil (TORNE-CELER, 2001).

The consumers of organic products opt for free-range and natural chicken, since these types have similar characteristics. Indeed, these alternative types can be found for sale in locations specialized in organic products.

Though alternative productions fulfill, in theory, several consumer demands in relation to food quality, they also bring some disadvantages in terms of sanitary safety that are not present in conventional aviculture. For example, organic and free-range agriculture present higher risk of contracting salmonella due to being bred in the open (Torne-Celer, 2001).

In addition to sanitary problems, the alternative chickens present some economic difficulties. The less prepared feed, the more rustic lineages and the lack of antibiotics lead to slower growth of the animal and higher mortality index, reducing productivity.

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[1] The term "natural" still causes great confusions. According to AAO – Association of Organic Agriculture– and APAN – Association of Natural Agriculture Producers –the natural product is a product with even more rigid norms than organic. However, in this work, we describe the same concept adopted in the work previously cited on free-range and natural production, that is, the concept of the Korin and Sertanejo – Premium chicken, the only brands of natural chicken found in the market.

Despite the higher costs, alternative production has shown to be an interesting opportunity for investment for aviculturists, because, contrary to the conventional aviculture that has presented super production in the last years, the growing demand for alternative chickens has surpassed production. Despite the characteristics that differentiate alternative chickens are not easily observable, the fact is that, in the market, there are substantial differences in prices between the alternative and the conventional. This is a concrete signal that the consumer is willing to pay price premiums for quality attributes associated to the production process (Torne-Celer, 2001).

2.2 Coordination Problems of the Alternative Aviculture Agribusiness system

In growing markets, such as that of alternative chicken, the action of opportunistic agents can harm the market. For example, a producer could use growth promoters in an attempt to reduce production costs and sell the product as alternative chicken, since the consumer has no tools to inspect the productive process at low cost. Nevertheless, insomuch as consumer distrust increases in relation to the quality of the product, he will no longer be willing the pay the price premium. That is prejudicial both to the supply side as well as demand, since the producer will not manage to sell his differentiated product for a fair price and the consumer, who is willing to buy a differentiated product for a higher price, will not find it in the market. That is, the market for differentiated chicken could become a "market for lemons". Akerlof shows that in a market where there is asymmetry of information between producers and consumers, the low quality product expels the high quality product because the consumer prefers to pay the low price when there is no way to ascertain the quality of the superior product.

Another characteristic of this market are the strong interdependences, both horizontal and vertical. The vertical relationships are extremely important, because for the product to be organic, natural, or free-range, all the stages of the process must be in accordance with their respective standard. The horizontal interdependences are not less important as the action of each producer affects the reputation of all agents of the same production stage. The literature uses the expression "netchains" for those organizational arrangements that are characterized by strong horizontal and vertical interdependences (Lazarini et al, 2001; Pensa 2002). Due to these strong interdependences, certification plays a decisive role in the smooth functioning of this market.

The characteristics that differentiate the alternative chickens are related to a standard of process and not of product, that is, a standard not observable by the consumer or client, at low cost. This makes the process far more complicated. For the production of alternative chicken to be certified, all the agents of the productive chain must be certified to guarantee that they will act according to the norms that define a product as organic or alternative.

In a situation of asymmetry of information, in which most of the characteristics of the production process are not perceived, the consumer finds in the authenticity seal a

guarantee of product differentiation, supporting his decision to buy (Sans & Fontguyon, 1998). Hence, "certification promotes quality gains for the consumer and income elevation for the agents" (Nassar, 1999). Certification, therefore, avoids the outcome of the market for lemons foreseen by Akerlof.

Differently from certification, brand name does not guarantee the process standard of a generic product, referring only to the product supplied by a specific company. The firm develops a reputation and the consumer pays a price premium for that relationship of trust. Certification can be seen as a substitute for brand name, in expanding markets, because it guarantees a process that can be followed by many firms of different sizes and origins. Nevertheless, it will only emerge in markets where there is a sign from the demand that firms will have positive returns should they adopt it.

Following, we will explore the Sao Paulo consumer's perception of alternative chicken, the importance he attributes to brand names and to certification, and his willingness to pay a price premium for this differentiated product.

3. Consumer Perception of Alternative Chicken

As was previously stated, the problem of this study is to investigate the perception of the consumer as to alternative chickens.

Although the characteristics that differentiate alternative chicken from conventional are not easily observed, the price differential between them indicates that there are some attributes of this product that consumers value and that are not present in the conventional chicken. Hence, the objective of this study is to pinpoint which attributes are most important for the consumer choice of alternative chicken, assuming the following hypotheses:

1) The consumer acquires alternative chicken because he considers it to be healthier;
2) The consumer is willing to pay a price premium for alternative chicken;
3) Certification is more important than brand name for these products and can replace it;

Item 3.1 presents the methodology utilized in the consumer research. Item 3.2 presents the results of this research.

3.1 Methodology

The works that address consumer perception of different quality attributes of products utilize different methods, among them Conjoint Analysis. (Baker,1998 ; Spers, 1998) . In the present study we adopted this method to analyze the consumer perception in relation to alternative chicken.

Conjoint Analysis is widely used as a research tool in marketing to verify product acceptance. This tool can be applied both to products available on the market as well as to hypothetical products. The principle of Conjoint Analysis is to break down a product

into its main attributes. Hence, instead of analyzing the utility gained by the product as a whole, one analyzes the utility of each attribute. Thus, it is possible to verify which attribute the consumer values most. (Baker, 1998).

This method is applied in two stages. The first is the choice of attributes and their respective levels that are afterwards combined in various cards. Each card represents a product that the consumer could be choosing in the market. These cards are presented to the consumer who puts them in order, according to his or her preferences. It is necessary to emphasize that the higher the number of attributes, the greater the number of cards, which makes it difficult to operate the survey. Thus the definition of the attributes is an essential part of the process.

Four attributes were defined to make up the cards: price, type of chicken, brand name, and authenticity seal.
The first variable chosen was the type of chicken: conventional, natural, and free-range.

Price was chosen as one of the variables, first, because it is an important attribute in any transaction and because we assume the hypothesis that the alternative chicken consumer is less sensitive to price. This hypothesis is based on the fact that there are substantial price differences between the alternative chickens and the conventional. Three price levels were defined, R$ 1,65, R$ 2,85 and R$ 3,90. These values were chosen from the averages of prices of conventional, natural and free-range chicken respectively, gathered in different supermarkets from different areas.[2] Therefore, levels chosen should cover the internal of chicken prices normally found in the market.

The last two attributes - brand name and authenticity seals - were included in order to identify the relative importance the consumer assigns to these instruments. In relation to the attribute brand name, we defined two choices, product with or without a brand name. In relation to the attribute authenticity seal, we defined three alternatives: without seal, with a company seal[3] or with an independent certifier seal.

The target public of this survey is the alternative chicken consumer. Before conducting the interview, the person was asked whether he or she was a consumer of alternative chicken, and the interview was only carried out if the answer was affirmative. The sample analyzed has 100 observations; all of them were collected at the AAO (Organic Agriculture Association) organic products market at a park in São Paulo. This is a small sample and apparently biased by the fact that it was collected in one specific location. The fact is that it is the largest organic products market in the city of São Paulo. The other two organic products markets in Sao Paulo are much smaller, also belong to AAO, and are located in middle- or high-class neighborhoods, which would lead us to the same group of consumers. The organic products market was chosen because, in general, consumers of organic products are the same consumers of differentiated chicken.

[2] These prices were gathered in April 2001. At the time the exchange rate was 2,19 R$/US$.
[3] Company seal is the seal of the company that is selling the product.

Conjoint Analysis was complemented with a conventional questionnaire that identified the profile of the interviewees, the reasons for consuming alternative chicken, and their perception of certification and brand names. Furthermore, as there is much confusion on the concepts of organic, natural, and free-range, the interviewees were asked whether they considered alternative chicken to be an organic product. Finally, the consumers were asked about the maximum price they were willing to pay for this type of product. One of the objectives of this questionnaire was to check the consistency of the results obtained by Conjoint Analysis.

3.2 Analysis of the Results

a) Consumer Profile

The characteristics of the individuals are essential in order to comprehend the results of the Conjoint Analysis. 91% of the interviewees have a family monthly income over 10 minimum salaries4 and 57% receive over 15 minimum salaries, while the average income in the State of São Paulo is 7,4 minimum salaries[5]. 81% of the interviewees have a college education, of which 21% have done graduate work, which contrasts with the fact that the average population of the State only finishes primary school. This result shows that the population in question is inserted in the elite of society, both in terms of income as well as education.

b) Results of the Conjoint Analysis

The Conjoint Analysis calculates the importance that each attribute has in total aggregate utility of the product.

All the attributes had a similar relative importance. The highest coefficient is brand name, 28,77%, in second place was the authenticity seal with 26,69%, in third place was price with 23,33% and, finally, type with 21,21%.

Brand is the most important attribute, but its relative importance is very close to certification. It should be noted that this is a result consistent with the type of consumer public that has an elevated level of information and that knows the meaning of a certificate. Even so, the hypothesis that the certification replaces the brand name for alternative products was not confirmed.

The third attribute in the scale of importance to the consumer was price. This shows that the consumer is less sensitive to price, being willing to pay a price premium for a differentiated product. Table 1 shows that more than half the interviewees were willing to pay more than R$ 3,00 per kilo of natural chicken and approximately a third were will to pay up to R$ 5,00 per kilo, while its price, in supermarkets, is on average R$ 2,85 per

[4] The minimum salary in Brazil, at the time of the survey (2001), was R$ 180,00.
[5] Data from the National Household Sample Survey (PNAD).

kilo. One of the problems that arose was that the concept of reserve price is difficult to measure. Furthermore, some people were reluctant to answer, because they felt that if they gave a price higher than the market price, supermarkets would increase the price.

Table 1. Reserve Prices

	2,00 R$/Kg	3,00 R$/Kg	4,00 R$/Kg	5,00 R$/Kg
Free-Range	13,1%	36,9%	17,9%	32,1%
Natural	18,5%	27,2%	19,8%	34,6%

Finally, on the scale of importance, type of chicken had 21,21%. The interpretation of this result is that two of the three types, free-range and natural, are indifferent in the consumer's perception. This indifference can be attributed to the fact that most of the interviewees state that they consume natural and free-range chicken, because they contain no antibiotics or steroids, as shown in Table 2. Hence, they can be indifferent to which they eat, free-range or natural, but prefer these two over conventional. Perhaps if the levels of this attribute were only conventional or alternative, its coefficient of importance would have been greater.

a) Results of the questionnaire

In Europe and the United States, consumers have a strong concern for the preservation of the environment and animal welfare. In Brazil, this concern is becoming noticeable, though not with the same intensity yet. Most consumers state they eat alternative chicken because its production does not harm the environment. However, most consumers denied the fact that they eat this kind of chicken due to animal welfare, as shown in Table 2.

Table 2. Reasons for Consuming Alternative Chicken.

Reasons for Consuming	Agree (%)		Indifferent (%)		Disagree (%)	
	Free-range	Natural	Free-range	Natural	Free-range	Natural
Healthy	95,2	95,1	2,4	3,7	2,4	1,2
Taste	96,4	79,0	3,6	11,1	0,0	9,9
Respect for Environment	78,3	80,3	10,8	11,1	10,8	8,6
Animal Welfare	49,4	45,6	10,8	10,0	39,7	44,4
Absence of Antibiotics and	92,8	98,8	4,8	1,2	2,4	0,0

Steroids						
Cholesterol	33,7	46,9	18,1	13,6	48,2	89,5
Yellow color*	22,9	-	6,0	-	71,1	-
Consistency of meat*	57,8	-	10,8	-	31,3	-

* These questions were only asked in relation to free-range chicken

The table above consolidates the main results of the questionnaire concerning the reasons for alternative chicken consumption.

It is interesting to note that one of the great concerns of alternative chicken consumers is the presence of growth hormones in conventional chicken. However, chicken producers do not utilize this hormone for a simple reason: it is too expensive. What are utilized in production, in reality, are growth-promoting antibiotics. This shows that there is still very little information on this product in the market, since one of the main reasons that leads the consumers to pay a price premium for alternative chicken does not even exist.

During the interview, we asked why people ate alternative chicken. Most consumers agreed at least partially that one of the reasons for eating alternative chicken is that it is considered healthier, as shown in Table 2. In the perception of consumers, being healthy is associated to the issue of the presence of steroids and antibiotics. When asked if there were concerns about cholesterol, there was no consensus among the interviewees as to whether free-range chicken had less cholesterol than other kinds. Furthermore, the consumer does not take into account the food-safety problems present in alternative production, such as the greater possibility of contracting salmonella.

It was noted that one of the major problems of the alternative chicken market, and organic products in general, is the lack of information between the agents of the chain and the still deficient institutional environment. Consumers do not have an exact idea of the product they are consuming. There is no well-defined standard for each product in the mind of consumers who make a great confusion about the types of alternative chickens available in the market. Of the interviewees, only one third answered correctly that free-range and natural chickens are not organic.

What makes consumer comprehension even harder in relation to the concept of organic is the lack of harmony of international norms. Moreover, the formalization of the rules, even in countries in which organic production has been around longer, only occurred in the last decade. Another complicating factor for the differentiation of the various types of alternative chicken is that the characteristics that differentiate one from the other are not physically observable, but are in the process standard of each one. So, as stressed in item 2.2, certification appears as an important tool to ensure that the organic, natural, and free-range product has been produced according to its respective norm. (Unctad et al, 1999).

The consumer of differentiated products has already recognized the importance of certification. Among the interviewees, the vast majority declared that they were willing to pay more for a certified product. It was noted that there was a distinct preference for an independent certifying body over self-certification. Practically everyone interviewed was willing to pay more for an independent certifier seal. Of the people that answered that they would pay more for a certified product, 23% did not know if the chicken they consumed had any type of seal or not. This shows that, despite the acknowledgement of the need for certification, the interviewees do not know how to utilized this tool yet.

4. Conclusions

It was noted that the consumer of alternative chicken is part of the elite of society, both in terms of education and in terms of income. This consumer is less sensitive to price and is more concerned with attributes of quality. It was observed that the consumer of alternative chicken does not have strong preferences between natural and free-range, what he desires is a chicken free from antibiotics and growth promoters.
A major problem in this market is the asymmetry of information: the consumer cannot distinguish exactly one type from the other and has no guarantee that the product he or she is acquiring was produced according to its standard. For this reason, certification has played an increasingly important role in the decision to buy alternative products. It was also noted that, in addition to not managing to differentiate one type from another, consumers do not worry about the problems that can emerge in the production of alternative chicken and that do not appear in the conventional, such as salmonella. Though this is a problem that should be monitored by the Brazilian system of sanitary defense, it is a widely recognized fact that this system is run badly and has a terrible reputation in the eyes of the consumer. The problem of this negligence is that if there is a recurrence in cases of contamination by alternative products, they could suffer a loss of reputation, even before the market is consolidated. As was concluded from the empirical research performed, the consumer pays a premium for a product he believes is healthy and this includes food safety.

Certainly, more studies of this nature, with a broader scope, are necessary. Nevertheless, this is a contribution that provides some notions about the preferences of the consumer of alternative chickens and confirms other similar studies that have been conducted.

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