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Brazilian pink pepper trade (Schinus terebinthifolius) in Curitiba - Brazil

[1]Anadalvo Juazeiro do Santos, [2]Rodrigo Medeiros Ribeiro, [2]David Alexandre Buratto, [3]Thiago Manoel Sozinho dos Santos

[1]*Forest Engineering, Phd professor, Program in Forest Engineering, Federal University of Paraná- Department of Engineering and Forestry Technology- Av. LothárioMeissner, 631 – JardimBotânico, Campus III – 80210-170 – Curitiba, Paraná – Brazil*
[2]*Forest Engineering, Phd student, Postgraduate Program in Forest Engineering, Federal University of Paraná, Department of Engineering and Forestry Technology - Av. LothárioMeissner, 631 – JardimBotânico, Campus III – 80210-170 – Curitiba, Paraná – Brazil.*
[3]*Forest Engineering, Msc student, Postgraduate Program in Forest Engineering, Federal University of Paraná- Department of Engineering and Forestry Technology- Av. LothárioMeissner, 631 – JardimBotânico, Campus III – 80210-170 – Curitiba, Paraná – Brazil*

Address For Correspondence:
Anadalvo Juazeiro do Santos, Forest Engineering, Phd professor, Program in Forest Engineering, Federal University of Paraná- Department of Engineering and Forestry Technology- Av. LothárioMeissner, 631 – JardimBotânico, Campus III – 80210-170 – Curitiba, Paraná – Brazil.
Tel: +55 55 91331519; E-mail: medeirossss@gmail.com

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ABSTRACT

Background: The pink pepper is well appreciated in our country and abroad, having a moderate flavor**. Objective:** The aim of this research was to analyze the Brazilian pink/rose pepper market (*Shinus Terebinthifolius* Raddi) in retail trade, Curitiba – Brazil, year 2015. **Results:** The main point of product acquisition indicated by consumer was the knowledge of its use, and the quality of the product linked to its flavor. The Brazilian pink pepper was considered moderate fervency, considered the most appreciated by the respondents. Brazilian pink pepper market is still incipient. The commercialization rate is 212 kg / year in the main regional market. In the retail market, the average price per kilo reaches R$ 45.80 (Brazilian money) and the retailer holds an average trading margin of 61.2%. It was observed that a value of 62% for marketing margin and 162% for markup index. **Conclusion:** Brazilian pink pepper market still incipient however will stay important. The low consumption can be related to the lack of information.

INTRODUCTION

The State of Paraná has a prominent role in the non-wood forest products (NWFP), proven for having responded in 2006 by approximately 11% of the production of products extractives non-wood from Brazil (Ibge, 2006). Besides Paraná have just 0.7% of the areas of natural forests in the country, its importance can be relevant.

According to Campbell and Tewari (1996), it has increased the perception that the management and development of non-timber resources are essential for reasons such as: a) Forest management must face the production of non-woods goods that can be ecologically and economically sustainable; b) The fact of non-wood products are vital resources for a large portion of poor residents living in or near forests (mostly in tropical countries) and; c) In addition to subsistence and income potential, these products provide food security for a large part of the population, serving as food for cattle and other domestic animals. This last occurring particularly in drought and scarcity times.

Fleig & Klein (1989) characterize the Brazilian pink pepper as a shrub that usually has 15 m high, with branches usually straight or supporters. The distribution of this is considered wide, with occurrence in Brazil, Paraguay, Uruguay and also in eastern Argentina (Sanchotene, 1989). In Brazil it is possible to find it mainly states such as: Alagoas, Bahia, Distrito Federal, Espírito Santo, Mato Grosso do Sul, Minas Gerais, Paraíba,

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Paraná, Pernambuco, Rio de Janeiro, Rio Grande do Norte, Rio Grande do Sul, Santa Catarina, São Paulo e Sergipe (Carvalho, 2003).

Pink pepper has its fruit used as a product flavor, has a use widespread internationally. According Bertoldi (2006), it has been used in the most demanding world cuisines to flavor white meat, salami and pasta checking all these exotic flavors. Begun in French cuisine under the name of "poivre rose", "pepe rosa" in Italian, "pimienta rosa" in Spanish, "blassroter pfeffer" in German and "pink pepper" or "Brazilian pink peppercorn" in America, having this fruit accompanied a great position on the shelves. The mild flavor and appearance for decorative use, according to the author, are determining factors for this success.

This mentioned pepper planting emerging as an alternative for agricultural diversification, mainly because it is an organic product. These days the exploration of its fruits is limited to manual collection in natural populations, mainly present in shoal areas of the Brazilian coast, especially in the state of Espirito Santo.

According to Santos *et al* (2003) today there is a great lack of information regarding the market for non-wood products. The author cites about the need for greater attention and studies of this industry that has proven to have a representative space.

Based on these premises, this study aimed to analyze the pink pepper (Shinus terebinthifolius Raddi) in the city of Curitiba – Paraná state, in retail trade. It was intended to quantify the volume sold of pink pepper in Municipal Market of Curitiba, the price for kilogram of product (to determine the retailer's marketing margin) and perform a comparative analysis of taste and preference by consumers in various types of pepper

MATERIAL AND METHODS

Study area:

This research was conducted in the Municipal Market of Curitiba (MMC), configured as the primary retail point of horticultural products and other kinds of spices to the region.

Database:

The database analyzed consists of information taken from literature and collecting data from field research, consisting of interviews with traders and consumers. The information collected in the field stage were the quantity, origin and prices of pink pepper in the MMC. Also at this stage, data based on the consumer profile regarding the product.

There are no official records on the number of business establishments that sell the pink pepper in Curitiba. Thus, were interviewed seven traders of spices and 33 Brazilian pink pepper consumers, respectively, to quantify the marketing margin and characterization of the consumer profile.

Methodology:

The characteristics relating to the trading Brazilian pink pepper was performed by applying a questionnaire adapted Castro, Lima and Hoeflich (2000). In this questionnaire were addressed aspects such as performance period on the market, quantities purchased and sold monthly increase in quantity purchased in previous years, the purchase price and sale of the product, destination market and perspective of the trader in relation to the pink pepper market.

To quantify the value added at the last link in the production chain, was used as a tool with the concept of margin and "mark-up" marketing, as Mendes (1998).

The Table 1 shows the formula of margin trading Gross, measured by the price difference in the different agencies involved in the marketing process.

Table 1: Commercialization margin formulas.

Margin	Absolute value	Relative value
Retail (Mv)	Pv - Pa	[(Pv – Pa) / Pv] 100

Adapted from Mendes (1998).
Where: Pa: price at wholesale level, ie selling price to retail;
Pv: price at retail level, ie, the price paid by the consumer.

The Table 2 presents, in turn, the formula used in the calculation of the marketing Markup.

Table 2: Commercialization markup formulas.

Margin	Absolute value	Relative value
Retail (Mv)	Pv - Pa	[(Pv – Pa) / Pa] 100

Adapted from Mendes (1998).
Where: Pa: price at wholesale level, ie selling price to retail;
Pv: price at retail level, ie, the price paid by the consumer.

To obtain information about the taste and preference of consumers has been applied an adapted structured questionnaire the model proposed by Corso (2003) used in his research to determine consumer preference for different types of palm. The questionnaire directed to consumers was prepared with multiple choice questions, to obtain: information on the factors that determine the time of pepper purchase, the main aspects that determine the quality of the product for consumption, where they buy pepper, the frequency of consumption as well as a the opinion about tastes and preferences among consumers of Brazilian pink pepper, white and black.

The profile characterization, taste and consumer preference has been established from some factors such as income level, education level, product purchase location, which is important when buying pepper, quality aspects, frequency of purchase and finally, the tasting, in which respondents were able to express their preferences about the fervency of peppers. This tasting part was conducted concurrently with the questionnaire, being served a sauce with red meat and prepared with different peppers. Respondents were unaware of the type of pepper that were proving and pointing your preferences. To point out the pepper flavor was also added to the tasting test a cheese type “minas”. The choice of this type of cheese tasting will justified by its neutral taste, not influencing the flavor of peppers, which helped the differentiation by consumers.

Results:

Product Origin:

The pink pepper, despite being a native species that occurs throughout Brazil, is little explored in the State of Paraná. From the interviews, it was proven it’s still have small interest of farmers by the product in the state. Knowing that the cultivation requires a series of treatments, we can infer a absence of an appropriate technique for producers in Paraná to produce this condiment. Thus, due to this fact, it was observed that pepper sold in Curitiba originates in other states such as São Paulo and Espírito Santo. A possible consequence of the distant acquisition is the rise of pink pepper price for consumers from Curitiba due to the cost of shipping.

Brazilian pink pepper Trade Characterization:

From the data obtained through questionnaires applied to retailers and consumers it’s possible to characterize the retail market for pink pepper as a promising market. The data showed a small monthly demand for the product at the regional level. A general knowledge by traders pointed to the fact that the condiment have high appreciation in other countries. In Brazil, the lack of knowledge is seen as the main villain responsible for preventing the product to be established in the domestic market, lowering its price and enriching the Brazilian cuisine.

The Table 3 shows the quantities sold annually of pink pepper in the Municipal Market of Curitiba.

Table 3 - Quantities pink pepper traded annually.

Wholesaler	Marketed Quantity (kg / year)
1	1,2
2	120
3	12
4	18
5	60
Total	211,20

Table 3 shows five traders working with the product in Curitiba Municipal Market annually selling only 211 kg of the product with an average of 42.2 kg per trader. Among these retailers, the quantities marketed are quite different.

The Table 4 shows the average selling prices in wholesale and retail Municipal Market of Curitiba.

Table 4: Average sales price of pink pepper at “Mercado Municipal de Curitiba” in R$/kg.

Specie	Price Average (R$)	
	Retail	Wholesaler
Pink Pepper	17,64	45,80

Margin and commercialization Markup:

The Table 5 shows the buying and selling prices in retail trade of the Municipal Market of Curitiba.

Table 5: Wholesale and retail price, margin and mark-up marketing of pink pepper at “Mercado Municipal de Curitiba”.

Wholesaler (R$)	Retail (R$)	Margin (%)	Markup (R$)
16,20	54,00	70,00	233,33
16,00	40,00	60,00	150,00
16,00	40,00	60,00	150,00
18,00	45,00	60,00	150,00
22,00	50,00	56,00	127,27
Average		61,20	162,10

Table 5, shows that retailer is mainly responsible for the pepper price changes, achieving a margin of 61.2%, and a markup of 162% of the price paid to the wholesaler.

In a field, a research done in CEASA-PR (Central State Supply) in the metropolitan region of Curitiba found the lack of information on monthly exact amount of the condiment consumption in Curitiba. This visit provided a very general view of Curitiba consumption of peppers and shows a lack of Paraná producers of Brazilian pink pepper, as the interviewed retailers buy pepper from São Paulo producers, justified by a possible lack of fruit processing technology, thus providing a low quality Paraná product.

Consumer Profile Characterization:

Income range:

The Figure 1 shows the income range pink pepper consumers in the Municipal Market of Curitiba.

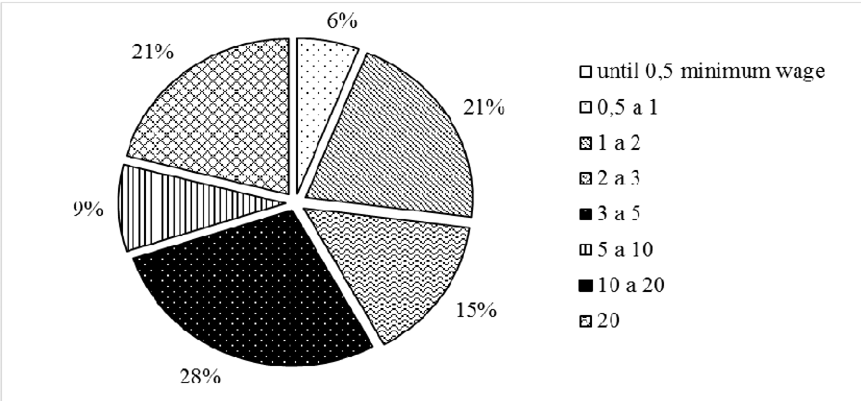

Fig. 1: Income range consumers of pink pepper at “Mercado Municipal de Curitiba”.

Figure 1 shows the total respondents, 36% have salary range between 1 and 3 minimum wages belonging to low-income class (D). Class C (between 3 and 5 minimum wages) is represented by 28% of respondents, the class B (between 5 and 10 minimum wages) by 9% and a (more than 20 minimum wages) by 21%. The last three described groups comprise 58% of respondents, which allows us to state that the main consumers of seasoning peppers belong to the middle and upper income classes. A portion of 6% of consumers perceive monthly earnings of up to 1 minimum wage which is below the lower middle class (D).

Education:

A Figure 2 shows the degree of education pink pepper consumer in Curitiba municipal market.

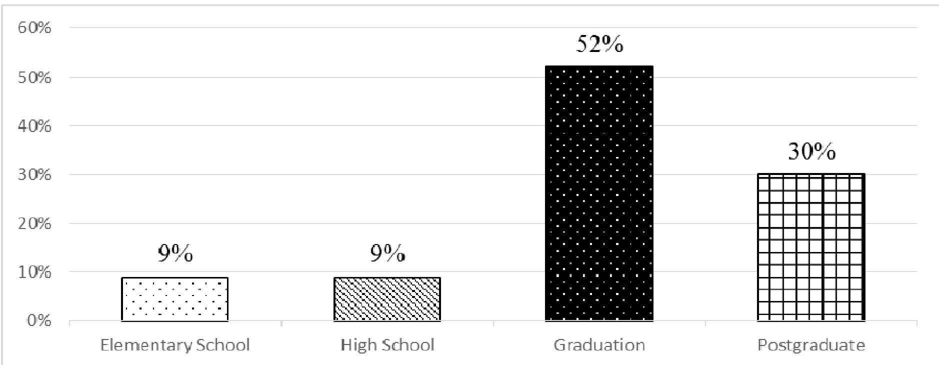

Fig. 2: Level of education of the consumer of pink pepper “Mercado Municipal de Curitiba”.

In the Figure 2 it appears that 52% of respondents have higher education and 30% have training in post-graduate courses. Still, 9% of respondents had training only elementary school and another 9% said they have only high school.

It is observed that for a high level of education, the class of income was also at higher levels. Information on income and education are important for market segmentation, since the pink pepper consumption is more evident in consumers with incomes above 3 minimum wages.

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Place of purchase:

The consumers said that 91% acquire pink pepper in small markets, traditional markets (municipal market of Curitiba) as well as in large hypermarket chain. Only 9% said they get the pink pepper in fairs, curious fact, since the target of these fairs are just natural products.

Determining factors in the purchase decision:

The Figure 3 shows the main factors in the purchase of pink pepper by consumers.

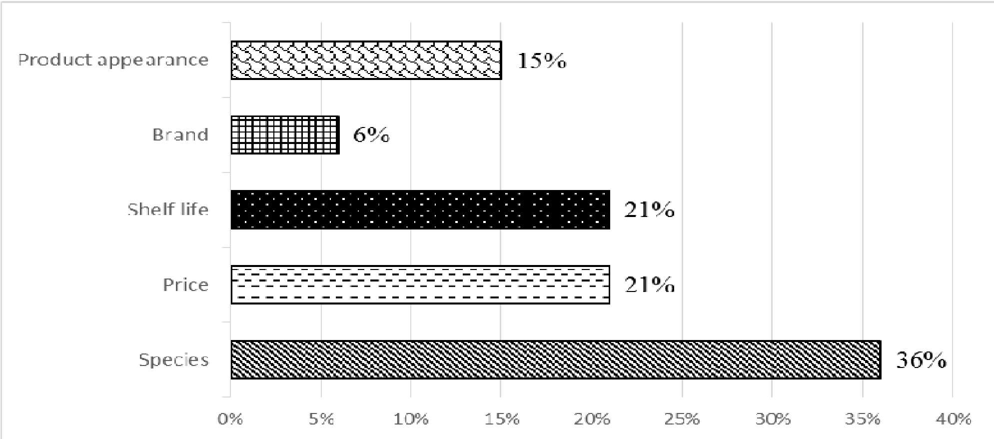

Fig. 3: Important factors that consumers consider when buying peppers.

When the consumer was asked the consumer what is more material in the time to buy the product, there was great heterogeneity. Figure 4 shows that the highlighter factor (36%) was the knowledge of the species. This means that the consumer reasonably know the pepper species and their culinary uses and so does not have the custom to replace a specific product.

For 21% of consumers the price factor and validity were identified as well important at the time of purchase. The price factor is important as it indicates the portion of consumers surveyed who are willing to pay the lowest price for the product, regardless of other related factors.

The appearance of the product, understood as the appearance of the package, represented 15% of respondents. In general, brands of condiments are not well known and not observed a high amount of media advertising, thus, the pepper trade mark represented only 6% when in choosing the product.

Product quality:

The Figure 4 shows the factors perceived by consumers as product quality indicators.

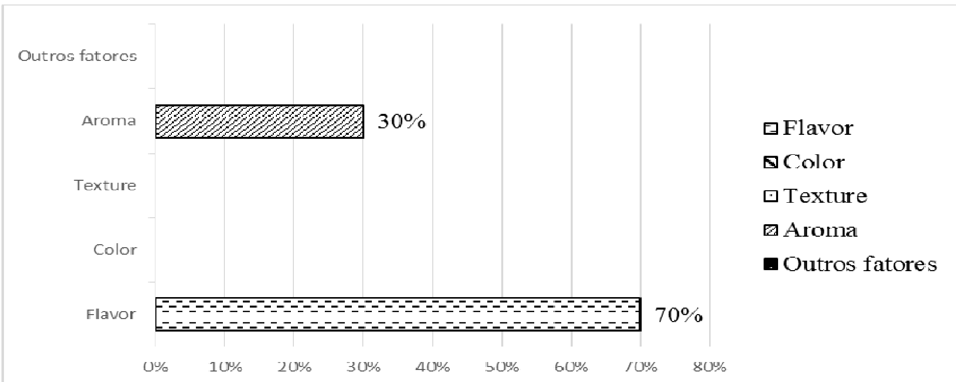

Fig. 4: Factors that indicate the quality of products by consumers of pink pepper.

Most respondents (70%) answered that the taste is the most important attribute to define the quality of the product, followed by flavor (30%). Aspects such as color and texture were not mentioned by respondents.

Frequency of consumption:

Figure 5 shows the frequency of consumption of peppers by respondents.

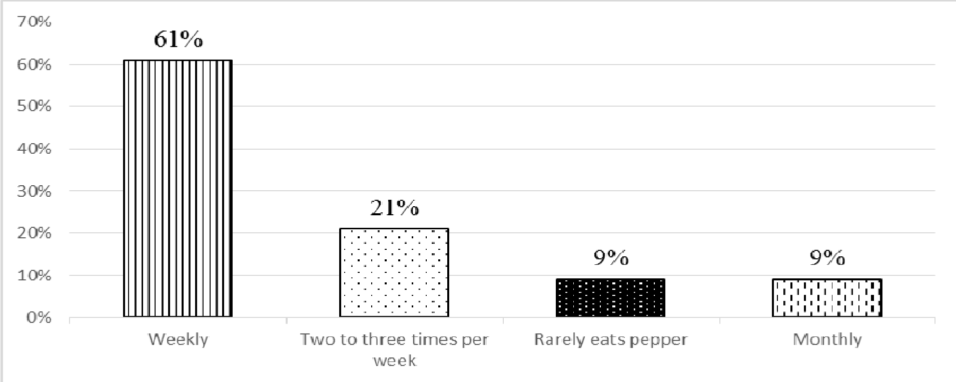

Fig. 5: Frequency of consumption of peppers by consumers.

Analyzing the Figure 5 it is observed that the majority of respondents (61%) claim to consume pepper weekly. A portion of 21% of the total consuming say two to three times per week as those who consume once a month amounted to 9%. A small percentage (9%) reported consuming rarely.

It is observed that most respondents have the habit of consuming pepper; however, as shown in quantities traded in the main retail point of Curitiba, the quantities are still not significant. There is potential consumption for Brazilian pink pepper, but what is missing is a greater dissemination of this product to consumers.

Fervency:

Another important factor to know the tastes of consumers is to check if they differentiate competitor's peppers to pink pepper by the fervency. Just as was done with the frequency of consumption, the taste in relation to the fervency was also very important. Figure 6 shows the classification of peppers according to the degree of fervency.

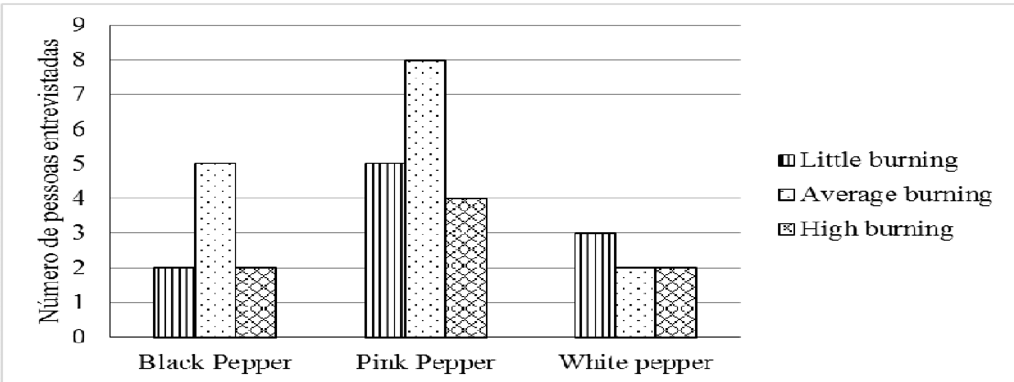

Fig. 6: Classification of peppers as their degree of fervency.

It is observed in Figure 6 that the pink pepper was classified with moderate degree of fervency for 8 people, or 89% of indications. The moderate fervency peppers are the most appreciated to accompany sophisticated dishes where certain peppers are complementary and do not change the taste of food, they only highlight. The Figure 7 shows the pepper classification according to their degree of fervency by respondents.

Analyzing the figure 7, it is observed that 79% of respondents rated the pink pepper as moderate degree of fervency, while 18% rated it as low fervency. Thus, a mix between low and moderate fervency define the Brazilian pink pepper as a smooth pepper, tangy flavor which may become more common in the table of Paraná people.

Preference:

The Figure 8 shows the final opinion of the respondents after tasting the three peppers identifying pepper that suits the taste of them.

Pepper preferred by most respondents was the pink pepper with 49% of indications. The pepper has a moderate fervency and a peculiar aroma that was certainly appreciated by consumers. This indicates that there is good acceptance and that this pepper, little known to the general public certainly has market potential. The black and white peppers had respectively 30% and 21% of preference statements.

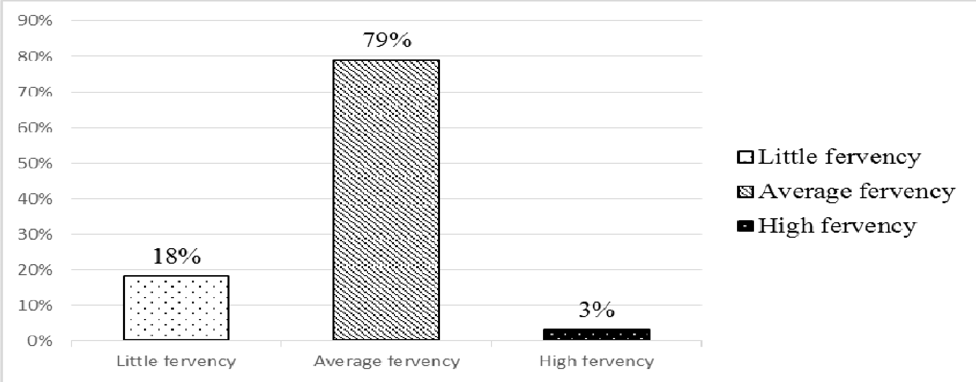

Fig. 7: Classification of pink pepper as the degree of fervency.

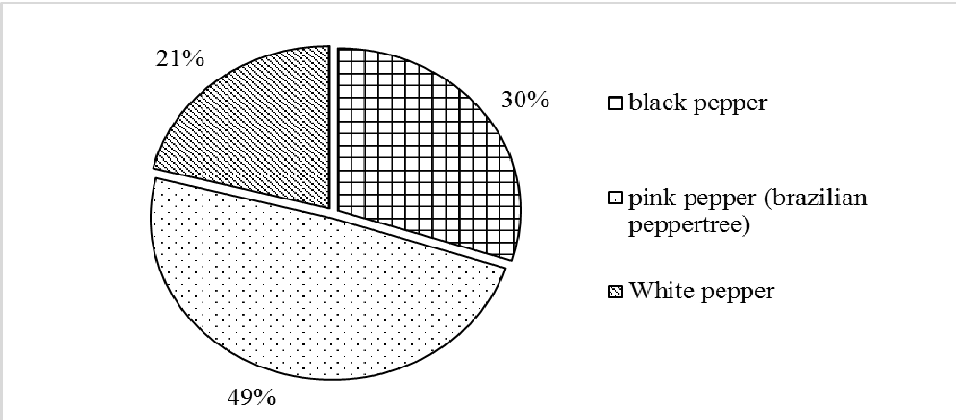

Fig. 8: Consumer preferences for three types of pepper.

Conclusions:

- Brazilian pink pepper market is still incipient in Paraná, given the small volume sold in the main trade channel of Curitiba region.
- The low consumption of the product may be related to lack of information, proven acceptance analysis. On the other hand, the high price is possibly related to the cost of freight for pepper imported from the states of São Paulo and Espírito Santo to Curitiba.
- The margin and the marketing Markup showed that retail is 62% and the 162% respectively.
- Most Brazilian pink pepper consumers belong to upper middle class and have high levels of education. The main pepper shopping sites are small markets, traditional markets or supermarkets, and the main factor that determines the acquisition is the knowledge of the use of flavoring.
- The Brazilian pink pepper product quality is fundamentally related to its flavor. Already due to the consumption frequency in the national cuisine is defined as weekly. The condiment was considered moderate fervency between the peppers, so the more appreciated by the respondents.

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