

Distribution channel structure of greenhouse capia peppers (*Capia piperis*) production and analysis of its problems: The case of Kaş district of Antalya province

Sümeyye Özenç¹, Mevlüt Gül^{2*}

¹Isparta University of Applied Sciences, Faculty of Agriculture, Department of Agricultural Economics, Isparta, Turkey

Abstract

This study was carried out in order to determine the distribution channel structure, problems and solution proposals for capia pepper produced in greenhouses at the level of producers and intermediaries in Kaş town of Antalya. Kaş is an important location in capia pepper production in Antalya province. Data were collected from 77 producers, 10 brokers, 5 merchants and 2 exporters from the region. The data was withdrawn in 2016 production period. The most important sales channel of farmers was determined as commissioners. Commissioners sell their products to traders. The marketing margin ranges from 22% to 25%. Issues such as farm-scale in the region, ineffectiveness of producer unions and logistics were appeared as the fields to be developed in capia pepper production.

Key words: Marketing margin, SWOT, capia pepper, Kaş

Introduction

Pepper is an important vegetable consumed mostly as fresh. It is also consumed as canned paste as well. In 2017, 36 million tons of pepper were produced in the world. Approximately 49.3% of that was produced in China, 9.13% in Mexico, 7.23% in Turkey, 6.54% in Indonesia, 3.54% in Spain, 2.67's% in the USA, 2.07% in Nigeria and 1.73% in Egypt consecutively (FAOSTAT, 2019).

Turkey produced about 2.61 million tons of pepper in 2017. Of this 42.47% was capia, 36.25% was green, 16.14% was a bell, 5.15% was banana pepper variety. The 78.74% of Turkey's pepper was produced under open field conditions, and 21.26% of production took place in greenhouse conditions. Greenhouse areas constitute 8.2% of pepper cultivated areas (TURKSTAT, 2019).

The greenhouse vegetable production area of Antalya was 305310 decares as of 2017. In the same year, greenhouse vegetable production was about 3.61 million tons. Pepper was produced in 37014 decares of greenhouse fields. Total pepper production was 394874 tonnes. Thus, 12.12% of the vegetable

area was devoted to pepper production and 10.94% of the total vegetable production constituted pepper production greenhouses in Antalya. Being the main subject of this study, the capia pepper production was 79058 tons in 7436 decares of greenhouse fields in Antalya. The capia pepper production areas accounted for 20.09% of the total pepper production areas and 20.02% of its production took place in greenhouses (TURKSTAT, 2019).

In the Kaş district, capia pepper was produced in 4194 decares of greenhouse area, and it consisted of 53.05% of the Antalya and 32.89% of Turkey's capia pepper area in 2018. Capia pepper production of Kaş was 41940 tonnes in 2018, and this accounted for 49.71% of Antalya, and 30.78% of Turkey (Figure 1).

This study aimed to investigate the marketing structure of capia pepper produced in greenhouses in Kaş. It was aimed to analyze the marketing structure, marketing channels and problems in these channels and to determine the factors that cause these problems and to offer solutions.

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*Corresponding author e-mail: mevlutgul@isparta.edu.tr

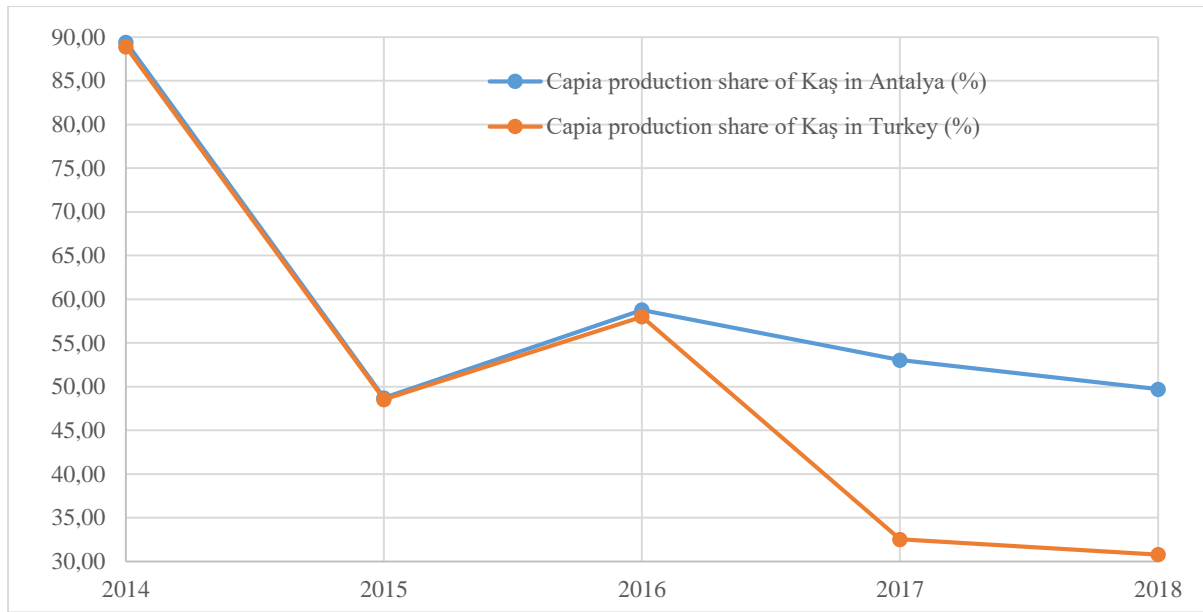


Figure 1. Kaş capia pepper production share in Antalya and Turkey

Materials and Methods

The data was obtained from 77 farmers, 10 brokers, 5 merchants and 2 exporters in Kaş, Antalya. The questionnaire forms used for collecting data from the units were arranged in accordance with the purpose of the research. The data belongs to 2016 production period. The farmers were distributed into three groups due to amount of production land. The production area was lower than 2,51 decaras for the first group, between 2,51 and 5,00 decaras for the second group and above 2,50 decaras for the third group.

Based on the data obtained from the relevant stakeholders, the capia pepper distribution channel structure and marketing margin of the region were calculated.

SWOT (strengths, weakness, opportunities, threats) analysis of capia pepper cultivation was also performed for the region. This analysis is a method of examining environmental factors, investigating opportunities, understanding threats, identifying strengths, admitting weaknesses (Yumuk and Inan, 2005; Aslan and Gül, 2017; Gül and Öktem, 2017; Bayraklı and Gül, 2018).

Results and Discussion

Findings for Farmers (Producers)

The average age of the farmers interviewed in the region was 45, and the majority of these farmers were primary school graduates. Capia pepper yield was calculated as 7756 kg per decare on average.

The capia pepper production experience of the interviewed farmers was 4.4 years on average. The most common problem in the region was the diseases and pests.

Farmers had sold capia pepper mostly to brokers in their area. The marketing cost was 523 TRY per decare. The share of this cost element in production costs was found to be 5.28% (Table 1).

Table 1. General characteristics of farmers

	Average
Education level	Primary school
Age (year)	45
Capia pepper farming activity period (years)	5
Capia pepper yield per unit area (decare) (kg)	7756
Marketing costs for capia pepper (decaras) in the unit field (TRY)	523
Share of marketing cost in total production cost (%)	5.28
Capia pepper sale price (kg, TRY)	1.99
Sales channel	Brokers

At the farmer level in the region, the selling price of capia pepper per kg was determined as 1.99 TRY, and the cost per kg was 1.28 TRY.

Marketing margin was found as 55%. This value was 18% in the first group of farmers, 34% in the second group and it was calculated as 83% for the third group (Figure 2).

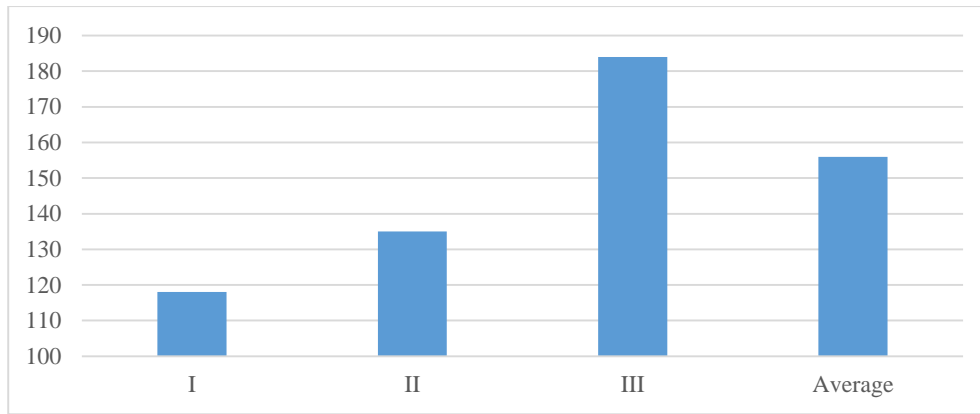


Figure 2. Capia pepper marketing margin of the farmers

Findings for Brokers

A face-to-face interview was held with ten brokers. As a result of the data obtained, it was determined that all of the brokers received the products in their own name, they immediately sold the product after receiving it. The capia pepper variety that they purchased was a “diyar”.

None of the brokers in the area were identified as having a pepper processing facility and they reported no storage facilities. They stated that they did not experience product loss because they buy and sell the product immediately.

All of the agents reported that did not receive service for market research. They said they made market research themselves. During transportation, it was found that 30x50 standard plastic crates were used and the transportation was carried out on the highway.

The average period of activity of the brokers in the research area was 10.6 years. Most of the brokers (managers) had high school degree, and most of their employees was determined as middle school graduates.

The operating period of the brokers in season (month) was 9.6 months.

The number of permanent workers in the interviewed brokers was 6.4 on average, and the number of temporary workers was 1.6.

In the season, the amount of purchased pepper was 3760 tons. The purchasing price was 2.1 TRY. The calculated marketing margin was 24% in brokers (Table 2).

Brokers were selling the capia pepper bought from producers to the merchant or exporter merchant. Sales patterns were generally futures (Figure 3).

Table 2. General characteristics of brokers

	Average
Broker education level	High school
The education level of employees	Secondary school
Activity duration (months)	9.6
Number of permanent workers (person)	6.4
Number of temporary workers (person)	1.6
Amount of purchase (ton)	3760
Purchase Price (TRY per kg)	2.1
Broker activity period (year)	10.6
Marketing margin (%)	124



- Merchants
- Export merchants

Figure 3. Capia pepper distribution channel on broker level

Findings for Export Merchants

Interviewed export merchants were determined to have duration of operation for 16 years on average.

Most of the exporters (managers) was secondary school graduates and the employees were middle school graduates.

The trading time of exporters was 9.5 months. The number of workers working for exporters was 17.5, and the number of temporary workers was 76.5 on average.

According to the data obtained from exporters, the amount purchased in the season was 300000 tons. The marketing margin was 25% (Table 3).

Table 3. General characteristics of export merchant

	Average
The education level of export merchant	High school
The education level of employees	Secondary school
Activity duration (months)	9.5
Number of permanent workers (person)	17.5
Number of temporary workers (person)	76.5
Amount of purchase (ton)	300000
Activity period (year)	16
Marketing margin (%)	125

In the region, export merchants were able to buy capia pepper directly from farmers. Besides, capia was also provided by

brokers and merchants. It was also found out that export merchants sold to local and domestic retailers (Figure 4).

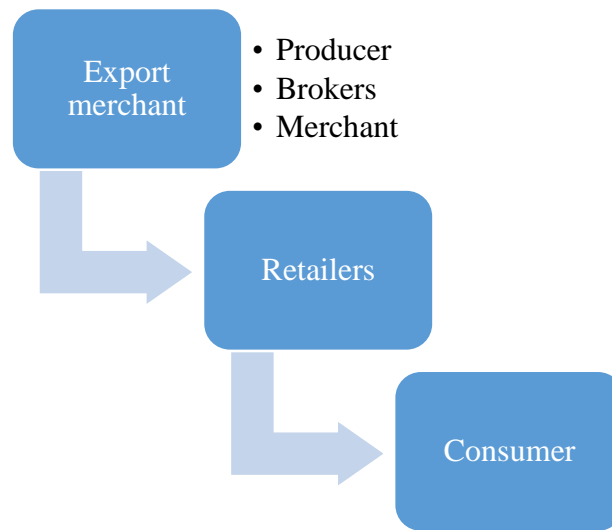


Figure 4. Capia pepper distribution channel in the export merchant level

It was determined that the interviewed traders who were middle school graduates while their employees were primary school graduates.

Seasonal activity period of merchants was ten months. The number of permanent workers was 3-4, and the number of temporary workers was 4-5 on average.

At the level of traders, the marketing margin for capia pepper was 22%. In the season, the amount purchased was 150000 tons. Traders were found to be in this activity for 4.6 years on average (Table 4).

Table 4. General characteristics of merchants

	Average
The education level of merchants	Secondary school
The education level of employees	Primary school
Activity duration (months)	10
Number of permanent workers (person)	3.8
Number of temporary workers (person)	4.6
Amount of purchase (ton)	150000
Activity period of merchants (year)	4.6
Marketing margin (%)	122

Capia Pepper SWOT Analysis and Distribution Channel

SWOT analysis is one of the methods used to analyse the internal state of any organisation, public institution or private sector firm and the external factors surrounding it (Bilen and Kabukcuoğlu, 2002).

In this study, the opinions of stakeholders of capia pepper production were assessed by SWOT analysis. In this context, the strengths, weaknesses, opportunities and threats of capia pepper production were presented in the context of

information obtained from producers, intermediaries, traders, publishers and processors.

The strengths of the region were determined by the high-quality capia pepper production, the suitability of the region's soil structure and climatic conditions, the length of the production period in the region. Besides, capia pepper production provided good income to farmers and intermediaries, and there was a potential for cheap rural labour.

The weaknesses in the region were determined as high input costs, production fluctuations over the years, insufficiency of struggle against diseases and pests, difficulties in adapting to quality and standards, insufficient capital and financial resources, marketing of district products and insufficiency of producer unions.

Opportunities in the region were classified as marketing opportunities in place, capia pepper sales in cash, rising selling opportunities. Due to high-quality capia pepper production, rising export potential appeared as an opportunity.

The threats in the region were determined as climatic changes, fluctuations in capia pepper price, low irrigation water and risks of diseases.

When the marketing channels of the region were examined, it was determined that farmers generally ship their products to

brokers, or to exporter companies. Brokers sell the products they purchase to merchants, export merchants or retailers. It was found that the products do not reach to the consumer from the producer directly. The products reach to consumers from the retail points through the merchant.

Capia pepper, distribution channel is generally used by farmers, brokers and export merchants. Brokers sell merchant and export merchant goods. The merchant and export merchants can deliver their goods to the consumer through the retailer (Figure 5).

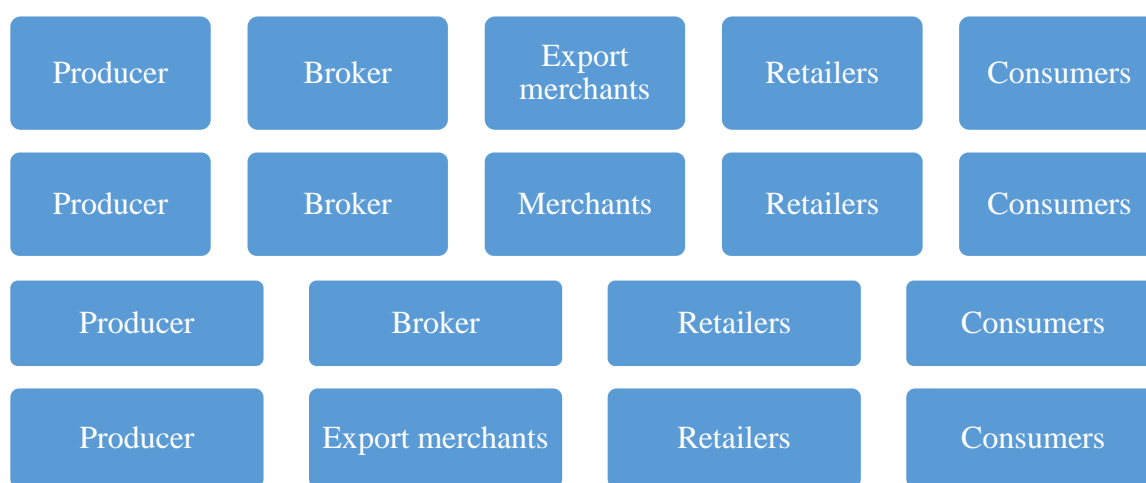


Figure 5. Capia pepper marketing structure

Conclusion

This study aimed to improve the marketing system of capia pepper production in the greenhouse. Kaş district of Antalya province was included in the study. In this context, 77 farmers, 10 brokers, 5 merchants and 2 export merchants were interviewed via face-to-face survey. Environmental conditions were found as suitable for production of capia pepper in the region.

At the farmers' level in the region, the marketing margin was of 5.28%, it was 24% for brokers, 22% for traders, and 25% for export merchants. A significant portion of farmers was selling capia pepper to the broker. The most important factor for farmers in the region to maintain capia pepper production was the good income expectations. For this reason, capia pepper production in the region had risen very rapidly. The average duration of operations of intermediaries interviewed in the region was over ten years. Cooperatives/producer associations are essential for stability in input and product prices. There may be more a success in the case of the effective operation of the cooperative/union structures. So these sort of organisations should be established and maintained.

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Conflicts of Interest

The authors declare no conflict of interest.

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