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Tomatoes Production, Marketing Structure and Solution Recommendations for Problems of Farmers: A Case Study

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Abstract: This study focus on production of tomatoes, its marketing structure, problems faced by farmers and solution recommendations for the problems. Data were collected from 90 tomatoes farms via survey. Average tomatoes production area was found as 6.69 decare (1 dacare = 1000 m²). Two-thirds of the farms produces only indeterminate tomatoes. The ratio of farmers growing both determinate and indeterminate tomatoes are 24.44%. The rest (8.89%) produces only determinate tomatoes. The most important production problems faced by growers are high input cost, low product price, pesticides and diseases, marketing and others. The majority of the tomatoes produced by farmers are sold at other city markets or exported to abroad by foreign tradesman.

Key words: Indeterminate tomatoes, marketing structure, Turkey

INTRODUCTION

Ecological conditions of Turkey are suitable for growing of several kinds of vegetable throughout the country. Within the vegetables, tomatoes has important role in terms of raw material for agro-based industry, being an exportable product and supplying vegetable food needs of the society. Turkey's tomatoes production constituted 6.90% of the total world tomatoes production (115.95 million tons) in 2004. With 8 million tons tomatoes production, Turkey is ranked as 3rd in the world following China (30.14 million tons) and USA (12.4 million tons). On the other hand, the amount of tomatoes export and import of Turkey were 650 thousand tons and 3098 tons, respectively in 2002^[1].

As starting second part of the 1990s tomatoes growing area has been expanding quickly in Tokat province due to export possibilities and using it in agro-based industry established in the region^[2]. Farmers have grown indeterminate tomatoes as suitable for crop rotation. Type of rotation used widespread in the region is sugarbeet-cereals-vegetables^[3]. Production area of tomatoes in Tokat province is 8012 ha. The amount of tomatoes produced is 423237 tons. The tomatoes yield per area is higher in Tokat than the average of Turkey due to application of indeterminate tomatoes farming as a new activity in the province. Tomatoes is produced generally to export abroad or sell it in other neighbour cities' markets.

The aim of this study was to determine production and marketing structure of the tomatoes growing, analyse

problems of tomatoes growers and give solution recommendations for their problems. The main beneficiaries of this study are producers, consumers, wholesalers, government organisations and policy makers.

MATERIALS AND METHODS

Data used in the study belong to the production period of the year 2004. Totally 13 villages (Kat, Senyurt, Guryildiz, Buyukyildiz, Kucukyildiz, Derecaqli, Dokmetepe, Songut, Sahinli, Tatar, Borulcek, Degirmenli and Koruluk) were determined as research area. Data were collected from 90 farms via survey. Sample size were determined using Neyman Method at 95% significant level and 10% error^[4].

RESULTS AND DISCUSSION

Educational level of farmers is low because 72.22% of them graduated from primary school. It is followed by secondary school (16.67%), high school (10.00%) and university degree (1.11%).

Farmers had 9.33 year technical experience in tomatoes growing in field but 5 years in indeterminate tomatoes. Nearly 18% of the farmers were engaged in other occupations as well as farming activity.

Cereals, vegetables and industrial crops are dominant activities in the region. While vegetables account for 27.79% of total farm land, ratio of only tomatoes is 16.91% for indeterminate and 4.31% for determinate (Table 1).

Tomatoes production area constitutes 76.37% of total vegetable production area.

Results show that majority (96.53%) of the tomatoes are sold to wholesalers at field or local markets. It is followed by household consumption (2.03%). The rate of tomatoes sold after processed, given to sharecroppers August 6, 2005 and tenant and consumed by labour are 0.90, 0.40 and 0.14%, respectively (Table 2).

Farmers have grown tomatoes in the region due to different reasons. Nearly two-third of the farmers (65.56%) grow tomatoes due to being profitable. Other answers of the respondents were suitable land and climatical conditions (52.22%), easy marketing (46.67%), household consumption (32.22%), using family labour (25.56%), product diversification (25.56%) and others (26.67%).

Although tomatoes growing has a long background in Tokat province, in recent years farmers prefer growing indeterminate tomatoes instead of determinate tomatoes. The reasons for this are high product price during the marketing, suitable for the export standards, transportation strength and high yield per area.

Farmers use different types of tomatoes seed and seedling. In order to understand the answer of this difference following question "what are your criteria while buying tomatoes seed and seedling?". The answers of the respondents were having certificate and suitable for standards (78.89%), known type (74.44%), yield (65.56%), suitability to the region (64.44%), being cheap (26.67%) and other reasons (12.22%). The most common tomatoes variety grown in the region is Elif 190. The producers have faced some problems in the obtaining of tomatoes seed and seedling. These are high price (90.00%), not founding wanted variety (3.33%) and others (6.67%). Generally farmers choose the type and amount of fertiliser to be used in tomatoes farming according to their own experience (80.00%), advice of neighbours and friends (20.00%), asking the agent selling fertiliser (14.44%), advice of extension agent (13.33%), results of soil analysis (11.11%). Some farmers explain that they have decided the type and amount of fertiliser to be applied in tomatoes growing themselves.

Farmers have faced some problems in the obtaining and use of pesticides and insecticides. These are high input price (91.11%), lack of knowledge about chemical pesticides (52.22%), not founding the pesticides or insectices at the time they want (20.00%). As far as pest management, only 43.33% of the tomatoes growers have used chemical pesticides and insecticides according to their own experience. Nearly three-fourth of the farmers have obtained needed information from private agents. Other information sources are extension staff (33.33%), neighbour and friend (27.78%) and leader farmer (5.55%).

Table 1: Agricultural products grown by farms

Field crops and horticulture	Average of farms (90)		
	Decare/Farm	%	
Cereals	12.57	39.88	
Industrial crops	6.06	19.23	
Vegetables	Indeterminate tomatoes	5.33	16.91
	Determinate tomatoes	1.36	4.31
	Other vegetables	2.07	6.57
	Total	8.76	27.79
Tuber crops	1.67	5.30	
Fruits	1.28	4.06	
Fodder crops	0.59	1.87	
Viticulture	0.18	0.57	
Fallow land	0.41	1.30	
Total farm land	31.52	100.00	

Table 2: Usage types of tomatoes at farms

	Average of farms (90)	
	kg/Farm	%
Household consumption	829.45	2.03
Consumed by labour	58.33	0.14
Given to sharecroppers and tenants	163.89	0.40
Sold after processed	368.33	0.90
Sold after harvesting	39442.22	96.53
Total	40862.22	100.00

Majority of the growers use traditional irrigation system in tomatoes farming. The ratio of producers using drip and sprinkle irrigation systems are 8.89 and 4.44%, respectively. There is a tendency towards using drip irrigation system by farmers having enough financial source due to easy control of exotic plants and high yield per area.

Nearly half of the producers state that they have reached at all information related to tomatoes farming whenever they want. Although majority of the producers have not attended any meeting focusing on tomatoes farming, 97.78% of them have explained that they need information.

Majority of the tomatoes growers willing to be knowledgeable on pest management (84.09%). This is followed by marketing (71.59%), fertilisation (50.00%) and cultivation (31.82%) are other issues to be learned by producers. Only 2.22% of the respondents explained that they did not need any knowledge on tomatoes production (Table 3).

Although 8.89% of the respondents do not make any classification for tomatoes, the rest (91.11%) have classified the tomatoes after harvesting. All farmers have classified tomatoes according to size before marketing. Other criteria taken into consideration are colour (17.07%) and hardness (3.66%) of the product.

Farmers have faced some difficulties especially during the marketing of tomatoes. Low price (81.11%) for tomatoes and not having a tomatoes producers union (76.67%) are the most important two problems. Other

Table 3: Issues that farmers willing to learn about input use in tomatoes growing and marketing of the product

		Average of farms (90)	
		Number	%
Farmers need knowledge on tomatoes growing		88	97.78
	Pest management	74	84.09
	Marketing	63	71.59
Issues to be learned by producers	Fertilisation	44	50.00
	Land cultivation	28	31.82
Farmers do not need knowledge on tomatoes growing		2	2.22

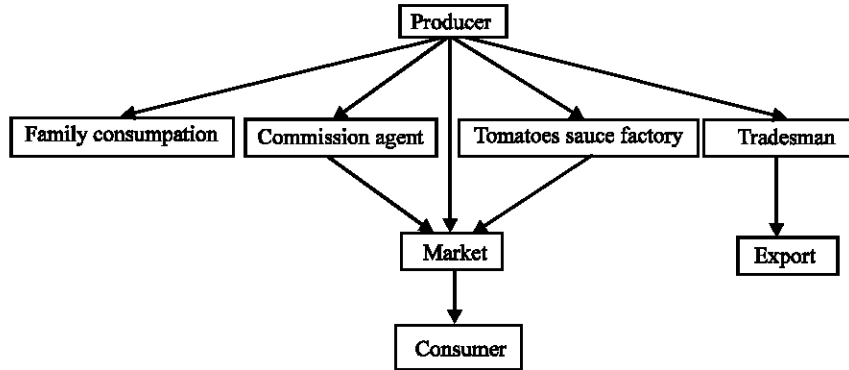


Fig. 1: Marketing channel of tomatoes in Tokat province of Turkey

problems can be summarised as follows: inadequate tomatoes processing unit (68.89%), irregular market structure (63.33%), not cash down selling of product (58.89), lack of storage facility (48.89%), not being sold the product at the time whenever producers willing (44.44%), weak institutional structure (38.89%), short of harvesting time (24.44%), loss of crop during the harvesting and transporting (21.11%) and high commission cost during the marketing of tomatoes (21.11%). 35.56% of the producers was sold their products at farm gate. This is followed by product collecting centre (34.44%), central vegetable-market (27.78%), local market (8.89%) and tomatoes sauce factory (5.56%). Marketing channel of tomatoes is given in Fig. 1.

Nearly 90% of the tomatoes produced in Tokat province are sold in other city markets or exported to abroad by tradesman. The rest is consumed by households, processed by tomatoes sauce factory or sold at central vegetable-market by middleman. Consumers buy the product (fresh or processed) from supermarkets or local markets. There are three tomatoes factories in the region. They sign a contract with farmers to produce tomatoes having desired type, quality and quantity.

CONCLUSIONS

It is a fact that there is no certain, stable and regular marketing structure in tomatoes growing in real world due to the characteristics of agricultural products. Therefore, farmers can face some risk and uncertainties during the

tomatoes growing. When bottleneck happened in the export of tomatoes, producers are under control of middlemen in the determination of tomatoes price. This causes not selling of tomatoes at desirable price and decrease in the income of the farmers. As a result, some farmers give up tomatoes production in next years. This situation is explained with the cob-web theorem.

RECOMMENDATIONS

The issues to be applied for better tomatoes growing and marketing can be summarised as follows:

- Encouragement of selling tomatoes after processing because it creates added value.
- Organise farmers to activate under umbrella of a producer union.
- Reduce the role of middlemen in the marketing of tomatoes.
- Active use of internet to introduce, advertise and sell the tomatoes.
- Development of cooling chain.
- Increase the number of scientific studies related to tomatoes type suitable for the region and having Europgap standards.
- Introduce contract farming between producers and factories.

To sum up tomatoes growing is one of the most important activities generating high income to rural

dwellers in the region. Solution of the problems emerged in the production and marketing stages of the tomatoes is very important for both local producers and country economy.

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