Journal of New Results in Science (JNRS)

ISSN: 1304-7981
http://dergipark.gov.tr/en/pub/jnrs
Research Article
Open Access

Volume: 8
Issue: 2
Year: 2019
Pages: 17-25

***Received*:** 10.12.2019 ***Accepted*:** 24.12.2019 ***Published*:** 27.12.2019

Producers of Vineyards in Central District Villages of Tokat Province Current Situation (Tokat Province of Kazova Region)

Bilge Gözener*, Nurgül Karadoğan

Department of Agricultural Economics, Faculty of Agriculture, Tokat Gaziosmanpaşa University, Tokat, Turkey
**Corresponding author, bilge.gozener@gop.edu.tr*

Abstract: U.S. viticulture in the world in general, Chile, South Africa, Australia, Turkey, Greece and are made in Iran. Situated on the most favorable climate for viticulture in the world, Turkey has a very old and rich aquaculture potential with a deep-rooted culture of viticulture. the vineyard area and production values are among the top six countries in the world Turkey, viticulture and core seedless raisins in the first degree and second degree is characterized by the production of table grapes. Tokat province is one of the most important wine-growing areas in Turkey. Viticulture is successfully done in areas between 230 m and 1000 m altitude. Total vineyard area in Tokat province is 6084 hectares. Tokat, in terms of vineyard area in Turkey, ranks 31. In terms of production. 39.8% of the vineyard areas in the Center, Market and Turhal; 33.2% in Erbaa and Niksar; 26.7% are in Zile. Approximately 50% of the grapes produced in Tokat region are evaluated as table, 25% molasses, 20% alcoholic beverages and 5% as keme. In this study carried out in order to reveal the current status of viticulture producers in the central district of Tokat province; The main population of the study consisted of 3 villages (Emirseyit, Güryıldız, Büyükyıldız) in Kazova Region, which were selected as the research region. In these villages, 95 farmers were interviewed considering the vineyard areas. According to the results of the survey, it was determined that the producers had an average of 6.01 da vineyard area. It has been found that the producers have been holding bonds for about 16 years and that 35% of them have no problems in marketing.

Keywords: *Viticulture, Producer, Kazova Region*

1. Introduction

Viticulture has a quite long history in Anatolian soils. There are several archeological remains indicating the significance of viticulture in Hittites long civilized on Anatolian geography. Existance of grape and wine figures on cave paintings and scapltures of that era and placement of special provisions about preservation of vineyards and products in Hittite laws, mensioning of dry rasins in Boğazköy writings are among the other documents or evidences indicating social and economic significance of viticulture in Anatolia. Turkey is located within the most available climate zone for viticulture, thus the country is the gen center of grapevine and had an extremely old and deep-rooted viticulture (Oraman, 1965).

Grape is consumed in various forms; therefore, it is included in cropping patterns in various parts of Turkey. Viticulture is a source of income for several farmer households and has great contributions to country economy (Yavaş and Fidan, 1986).

Turkey with an old and deep-rooted culture in plant production has an important share in world viticulture. Since grape cultivation is not so selective in climate and soil conditions

and grapes are used for various purposes in different forms, viticulture is quite common in world and Turkish agriculture (Semerci et al., 2015).

The viticulture production quantity of Tukey was about 4 million tons and viticulture area was 417 thousand hectares in 2018. Total viticulture production quantity of Tokat province alone is about 56 thousand tons and viticulture area is around 61 thousand decares (TÜİK, 2019).

Tokat province has been an important viticulture site of Turkey since old times. Of the grapes produced in Tokat province, 50% is used as table grapes, 25% is used in grape melosses production, 20% is used as alcoholic beverage and 5% is used in churchkhela production (Kılıç et al., 2007). The present study was conducted to assess the current conditions of the growers practicing viticulture in Central town of Tokat province.

2. Material and Methods

A pre-meeting was held with the officials of Tokat Provincial Directorate of Agriculture and Forestry and 3 villages (Emirseyit, Güryıldız and Büyükyıldız) with intensive viticulture practices in Kazova region of the province were selected as the main population of the research. In these villages, 25% of 380 farmers with a vineyard size of greater than 5 da constituted the sample volume. Questtionnaries were applied to 95 farmers and resultant data were assessed through frequency and percentalies. A 5-point Likert scale was also used to assess participant respons to some specific questions.

3. Results and Discussion

Participant farmers were totally composed of male farmers. Average age of present growers was 57.16 years. Average number of household individuals was 3. Of the participant growers, 57.89% had primary school education, 25.56% had secondary school, 14.74% had high school, 1.05% had vocational collage and 1.05% had university education.

In a previous study conducted in Tokat province, Topcu Altıncı et al. (2017) reported the average age of growers as 47.77 years and indicated that more than half (58%) of the participants had primary school education. In another similar study conducted in Diyarbakır province, Çakır et al., (2014) reported the average age of participant farmers as 50.7 years and indicated that 26.0% of them had primary school education and 31% did not have any formal education.

About 67.37% of the participant growers indicated that they had other sources of income apart from agriculture. The ratio of agriculture income in annual total incomes of the present growers is provided in Table 1.

Table 1. The ratio of agricultural income in annual total income of the growers

%	Frequency	%
<10	19	20.00
10-25	14	14.74
26-50	18	18.95
51-75	18	18.95
≥76	3	3.15
All	23	24.21
TOTAL	95	100.00

While the ratio of participants with all their annual income from agriculture was 24.21%, there were other groups of farmers with different occupations and different income ratios from agricultural practices. The ratio of farmers with less than 10% of total annual income from agriculture was 20%. The ratio of viticulture income in annual total agricultural incomes of the growers is provided in Table 2.

Table 2. The ratio of viticulture income in annual total agricultural incomes of the growers

%	Frequency	%
<10	27	28.42
10-25	28	29.47
26-50	23	24.21
51-75	8	8.42
≥76	2	2.11
All	7	7.37
TOTAL	95	100.00

While a portion of present growers (7%) was dealing only with viticulture as an agricultural practice, there were farmers dealing with different agricultural activities. The ratio of the growers gaining all of their agricultural incomes from viticulture was 7.37%. But there were other farmers with different ratios of viticulture income in their total agricultural incomes.

Average years of experience in agriculture was 38 years and average years of experience in viticulture was 34.06 years. Average land size of the growers was 46.21 da. In a previous study conducted in Erbaa town of Tokat province, average years of experience in agriculture was reported as 36 years and average years of experience in viticulture was reported as 31 years (Kızılaslan and Somak, 2013).

Majority of the participant farmers indicated that they were a member of a producer organization. The producer organizations of which they become a member are provided in Table 3.

Of the participant growers, 70.53% were members of chamber of agriculture, 42.11% were members of agricultural credit cooperatives, 24.21% were members of irrigation cooperatives, 3.16% were members of agricultural sales cooperatives and 2.11% were members of agricultural development cooperatives.

Table 3. Membership of growers to producer organizations *

	Frequency	%
Chamber of Agriculture	67	70.53
Agricultural Development Cooperatives	2	2.11
Irrigation Cooperatives	23	24.21
Agricultural Credit Cooperatives	40	42.11
Agricultural Sales Cooperatives	3	3.16

*More than one choice was selected

The reasons of participant growers of the present research to deal with viticulture are provided in Table 4.

Table 4. The reasons of growers to deal with viticulture

	Significance Score
I do it compulsory to maintain the family-owned vineyards	3.55
I do it for household consumption	2.84
I like viticulture, I started to gain extra income at retirement	2.25
I like viticulture, I started willingly to gain income for living	2.23
It is an additional activity besides the other agricultural activities	2.22
I like viticulture, I do it for extra income besides non-agricultural occupation	2.18
I do it wholly as a hobby	1.84

(1: Not at all effective, 2: Slightly effective, 3: Moderately effective, 4: Effective, 5: Highly effective)

Significance scores were determined for potential reasons to deal with viticulture. The most important reason was indicated as "Do it compulsory to maintain the family-owned vineyards" and the least important reason was indicated as "I do it wholly as a hobby".

Some of the participant growers indicated that they made changes in vineyard sites in time. The reasons of such changes are provided in Table 5.

Table 5. The reasons to make changes in vineyard sites

	Frequency	%
Increased because I bought a new vineyard	12	12.63
Decrease because I demolished low-yield vineyard	4	4.21
No change	79	83.16
TOTAL	95	100

Majority of the growers (83.16%) indicated that they haven't made any changes in vineyard sites and 16.84% indicated that they reduced the vineyard sites. Considering the changes made by the growers, it was observed that they mostly increased their vineyard sites through purchasing new vineyards (12.63%). On the other hand, some (4.21%) reduced their vineyard sites through demolishing low-yield vineyards.

Desires of participant growers of the present research to establish new vineyards are provided in Table 6.

Table 6. New vineyard establishment desires of the growers

	Frequency	%
Yes	72	75.79
No	19	20.00
Undecided	4	4.21
TOTAL	95	100

Majority of the growers (75.79%) indicated that they wish to establish new vineyards, 20% indicated that they did not want to establish new vineyards and 4.21% indicated that they were undecided about establishing new vineyards.

Some of the participant growers indicated that they will not keep viticulture because of yields and thus income form this activity and the rest indicated that they will keep doing viticulture again because of the same reasons (Table 7).

Table 7. Grower desires to keep doing viticulture

	Frequency	%
Never	3	3.16
Low probability	4	4.21
Probably	2	2.11
I will keep doing	51	53.68
I will definitely keep doing	35	36.84
TOTAL	95	100.00

Of the participant growers, 53.68% indicated that they will keep doing viticulture, 36.84% indicated that they will definitely keep doing viticulture, 4.21% indicated quite low probability to keep doing viticulture, 3.16% indicated that they will never keep doing viticulture and 2.11% indicated that they will probably keep doing viticulture.

Grower opinions about the adoption of innovations were also questioned in this study and the results are provided in Table 8.

Majority of the growers (31.58%) indicated that they initially will try the innovation in a small area, then apply it fully based on the outcomes of initial trials, 28.42% indicated that they will apply an innovation when they were fully satisfied with the success and benefits of the innovation, 24.21% indicated that they will take the outcomes of previously applied ones into consideration, 6.32% indicated that they will apply it if there are model growers among the applying ones and 9.47% indicated that they will take a risk and become the first implementer.

Table 8. Grower opinions about adoption of innovations

	Frequency	%
I initially try in a small area and then apply it over larger areas	30	31.58
I apply an innovation when I fully convinced about the success and benefit of the	27	28.42
I apply it based on the outcomes of previously applied ones	23	24.21
I take a risk, wish to first applier and apply it right a way	9	9.47
If there is a model viticulturalists among the appliers, I apply it together with them	6	6.32
TOTAL	95	100

The implementations adopted by the participant growers within the last 5 years are provided in Table 9.

Table 9. Implementations adopted the be growers within the last 5 years*

	Frequency	%
I applied integrated management methods in my vineyards	17	17.89
I planted a new grape cultivar	15	15.79
I used “certificated” standard saplings in my new vineyard establishments	14	14.74
I applied a new training system	13	13.68
I used drip irrigation in my vineyards	12	12.63
I applied good agricultural practices	11	11.58
I did organic viticulture	11	11.58
I purchased a new chemical or soil tillage equipment	10	10.53
I used a new plant growth regulator	9	9.47
I had soil analyses done	6	6.32
I used potted saplings in my vineyards	5	5.26

*More than one choice was selected

Present participants indicated the implementations adopted within the last 5 years as: application of integrated management methods (17.89%), plantation of a new grape cultivar (15.79%), use of certificated standard sapling in new vineyards (14.74%), use of a new training system (13.68%), use drip irrigation in vineyards (12.635), application of good agricultural practices (11.58%), performance of organic viticulture (11.58%), purchase of a new chemical or soil tillage equipment (10.53%), use of a new plant growth regulator (9.47%), have soil analyses done (6.32%) and use of potted saplings in vineyards (5.26%).

The source of information of the participant growers about the viticulture are provided in Table 10.

The sources of information of growers about viticulture were investigated and it was observed that growers did not have many sources of information. They mostly rely upon their own experiences. The mostly applied source of information was identified as Provincial and Town Directorate of Agriculture and Forestry (2.53) and the least applied source of information was identified as producer organizations (1.01).

Table 10. Source of information about viticulture

	Significance Score
Staff of Provincial and Town Directorate of Agriculture and Forestry	2.53
Chemical, fertilizer, seed and sapling dealers	2.41
Private consultants	1.55
Expert personnel of research institutions	1.07
University academics	1.02
Producer organizations	1.01

*Ordered in 5-point Likert scale (1: Never, 2: Rarely, 3: Sometimes, 4: Generally, 5: Always)

As it was in every production activity, growers are faced to various problems in viticulture. Potential problems of present growers experienced throughout the growing season are provided in Table 11.

Table 11. Potential problems of the growers throughout the growing season*

	Frequency	**%**
Summer pruning	63	66.32
Chemical applications	17	17.89
Irrigation	10	10.53
Winter pruning	10	10.53
Soil tillage	8	8.42
Training systems	8	8.42
Grape variety selection	7	7.37
Support systems	7	7.37
Vine and similar production material supply	4	4.21
Fertilization and plant nutrition	4	4.21

* More than one choice was selected

More than half of the growers (66.32%) indicated that they had several problems during the summer pruning. Besides summer pruning, they indicated various other problems, but they were not as serious as summer pruning. Of the participant growers, 17.89% indicated problems in chemical applications, 10.53% in irrigation, 10.53% in winter pruning, 8.42% in soil tillage, 8.42% in training systems, 7.37% in grape variety selection, 7.37% in support

systems, 4.21% vine and similar production material supply and 4.21% in fertilization and plant nutrition.

Korkutal et al. (2019) conducted a study in Edirne province of Turkey and indicated the most significant problem of the majority of local growers as high prices of grafted-rooted vine saplings.

In present study, the individuals and institutions or organizations to which the growers apply to solve their problems are provided in Table 12.

Table 12. Individuals/organizations applied for the solution of problems

	Frequency	**%**
Agro-chemical dealers	69	72.63
Provincial/Town Directorate of Agriculture and Forestry	61	64.21
Grape buyer individuals and companies	11	11.58
Sapling dealers	3	3.16
Research institutes	2	2.11
Chamber of Agriculture	1	1.05
Producer organizations	1	1.05
Private consultants	1	1.05

* More than one choice was selected

Table 13. Frequency of need for different viticulture topics

	Significance Score
Control of vine pests	3.69
Control of vine diseases	3.55
Vineyard fertilization	3.42
Summer pruning	3.27
Foliar fertilizers and growth regulators	3.26
Vineyard establishment costs and production economy	3.22
Economic issues to be considered in variety selection	3.09
Proper rootstock selection	3.00
Proper tool and equipment selection in viticulture	2.98
Weed control in vineyards	2.92
Irrigation methods, timing and quantity in vineyards	2.92
Leaf sampling for analyses	2.85
Preservation of table grapes	2.84
Cleft-grafting in vineyards	2.75
Shape-pruning in vineyards	2.72
Soil sampling for analyses	2.61
Winter pruning in vineyards	2.56
Maturity follow up and significance in wine grapes	2.56
Chip budding in vineyards	2.52
Advantages of grape varieties for food industry	2.48
The issues to be considered in soil tillage of vineyards	2.43
Grape characteristics for export	2.37
The issues to be considered in chemical applications in vineyards	2.36
Packaging and marketing of table grapes	2.35
GA3 (hormone) use in vineyards	2.32
Climate and soil conditions to be considered in vineyard site selection	2.30
Proper transportation methods for grapes	2.25
Preparation of vineyard site for establishment	2.14
Introduction of proper varieties and the issues to be considered in variety selection	1.55

* Ordered in 5-point Likert scale (1: Never, 2: Rarely, 3: Sometimes, 4: Generally, 5: Always)

The individuals and institutions or organizations to which the growers apply to solve their problems included agro-chemical dealers (72.63%), Provincial/Town Directorate of Agriculture and Forestry (64.21%), grape buyer individuals and companies (11.58%), sapling dealers (3.16%), research institutions (2.11%), chamber of agriculture (1.05%), producer organizations (1.05%) and private consultants (1.05%). It was observed that majority of the growers (85.26%) participated in a training program about viticulture. But they indicated they still have a need for further training programs. The training topics they indicated are provided in Table 13.

Control of vineyard pests was the primary training topic needed by the participant growers (3.69). It was respectively followed by control of vineyard diseases (3.55), fertilization in vineyards (3.42), summer pruning (3.27), foliar fertilizer and growth regulators (3.26), vineyard establishment costs and production economy (3.22). The lest significant training topic was indicated as introduction of proper varieties and the issues to be considered in variety selection (1.55).

4. Conclusion

Educational levels of the participant growers were low and average age of the growers was high. Therefore, the primary problem of local viticulture was considered as lack of training and dynamic labor. To overcome such a problem, young population of the local community should be trained on viticulture for adoption of viticulture as an income-generating activity, in this way average age of producers should be reduced throuhg endearing viticulture.

Number of cooperative or association memebers is quite low and member producers are not in frequent contact with these organizations. Such a case then greatly reduce the functionality of the cooperatives. Poor contact with both the cooperatives and the other informatino sources hinders the practice of new techniques and methods in local vineyards and prevents the adoption of modern viticulture by the local growers. Local growers are not sufficient in modern viticulture technologies and growing techniques. Modern viticulture techniques should be adopted through training programs.

Pruning needs of grepe varieties are different from each other, so prunings should be performed accordingly. Growers should be informed or trained about type, date and techniques of pruning. Training programs should also be held and projects sohuld be developed about organic viticulture, good agricultural practices and different growing techniques. There a great lack of information about growing techniques. So, awareness should be raised on these issues. Pilot projects developed in countries with a developed viticulture should be introduced to local growers. Benefits and adventages of producer organizations should be explained. In some cases, the Ministry of Agriculture and Forestry should lead the establishment of such organizations.

Measures should be taken for proper and timely practice of pest and disease control, irrigation, fertilization and soil tillage in newly established vineyards and in the vineyards to be established in the future.

References

Çakır A., Karakaya E., Işıkırık M., Çelik R. M., 2014. Lice (Diyarbakır) İlçesi Üzüm Üreticilerinin Sorunları ve Çözüm Önerileri. Türk Doğa ve Fen Dergisi, 3(2): 14-19.

Kılıç D., Cangi, R., Kaya, C., 2007. Tokat'ta üzümün Değerlendirilmesi ve Üzümden Elde Edilen Ürünler. Türkiye V. Ulusal Bahçe Bitkileri Kongresi, s. 345-348, 4-7 Eylül, Erzurum, Türkiye.

Kızılaslan, N., Somak, E., 2013. Tokat İli Erbaa İlçesinde Bağcılık İşletmelerinde Tarımsal İlaç Kullanımında Üreticilerin Bilinç Düzeyi. Gaziosmanpaşa Üniversitesi. Fen Bilimleri Enstitüsü. Gaziosmanpaşa Bilimsel Araştırma Dergisi, 2013(4): 79-93.

Korkutal, İ., Bahar, E., Dündar, D.G., 2019. Edirne İli Uzun köprü İlçesi Bağcılık Yapısının İncelenmesi. ÇOMÜ Ziraat Fakültesi Dergisi, 7(1): 127-136.

Oraman, M. N., 1965. Arkeolojik Buluntuların Işığı altında Türkiye Bağcılığının Tarihçesi Üzerinde Araştırmaları. Ankara Ün. Ziraat Fak. Yıllığı, 15(2): 96-108.

Semerci, A., Kızıltuğ, T., Çelik, A.D., Kiracı, M.A., 2015 Türkiye Bağcılığının Genel Durumu. Mustafa Kemal Üniversitesi Ziraat Fakultesi Dergisi, 20(2): 42-51.

Topcu Altıncı, N., Cangi, R., Önen, H., 2017. Tokat İli Bağcılık Yapısı ve Yabancı Otlarla Mücadelede Üretici Davranışlarının Belirlenmesi. Türkiye Teknoloji ve Uygulamalı Bilimler Dergisi, 1(1): 17-24.

TUİK, 2019. Türkiye İstatistik Kurumu. http://www.tuik.gov.tr/ Erişim tarihi:06.11.2019

Yavaş İ., Fidan Y., 1986. Üzüm Değerlendirme Şekillerinin İnsan Sağlığı Yönünden Önemi. Gıda Sanayinin Sorunları ve Serbest Bölgenin Gıda Sanayine Beklenen Etkileri Sempozyumu, s. 216-221, 15-17 Ekim, Adana, Türkiye.