

A Study on the Determination of Socio-Economic Status and Their Problems of Grape Producers in Nevşehir Province

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Abstract

Vitis vinifera L. is the most common species of vines, which is spread over a wide area and the widely cultivated in the world. Viticulture in Nevşehir province dates back to ancient times. The aim of this study is to analyze the socio-economic status of the grape producers in Nevşehir province, to determine their problems and to suggest solutions. For this purpose, a survey study was applied to 165 grape producers in Nevşehir province. According to the results of the survey study, it was determined that producers dealing with viticulture were old, young people were not interested in viticulture, the education level of the producers was low, the input costs of viticulture were high, especially the wine industry couldn't be developed, the income of viticulture was low compared to tourism or other sectors.

Keywords: Nevşehir, viticulture, socio-economic status, grape producer

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INTRODUCTION

The vine belongs to the *Vitis* genus of the *Vitaceae* family. *Vitis vinifera L.* is the most cultivated species in the *Vitis* genus, which is spread over a wide area in the world (Celik et al., 1998; Winkler, 1974).

Viticulture had an important place in human history from past to present. When the history of the vine is examined, it coincides with the first beginning of civilization in Anatolia (Lloyd, 1989; Deliorman et al., 2011). Nevşehir province is one of the oldest viticulture centers of Anatolia, where viticulture has been practiced for centuries (Fidan, 1985; Gülyaz, 1997; Özgül Katlav et al., 2019; Türkben and Sivritepe, 2000).

According to TUIK 2020 year data, total grape production in Turkey is 4.208.908 tons, table grape production is 2.218.056 tons, raisin production is 1.534.499 tons, and wine grape production is 456.353 tons. The provinces with the highest grape production in Turkey are respectively Manisa, Mersin, Denizli, Mardin and Nevşehir provinces.

Total grape production is 1.498.287 tons in the Manisa province, 382.857 tons in Mersin province, 371.603 tons in the Denizli province, 161.930 tons in Mardin province and 101.024 tons in Nevşehir province. Nevşehir province constitutes 2.40% of Turkey's total grape production. In Nevşehir province, table grape production is 28.997 tons, wine grape production is 42.623 tons, and raisin production is 29.404 tons (TUIK, 2020).

Nevşehir province has an important potential in terms of viticulture culture therefore very valuable grape varieties are still produced. The most well-known local wine grape variety of Nevşehir province is Emir variety. The most common local table grape variety of the province is Parmak Üzüm variety. Another important variety of province is the Dimrit variety; this grape variety is used as table and raisins and also used in making grape molasses. In addition, Dimrit is a grape variety that is consumed abundantly and with pleasure by the local people due to its high sugar content (Uysal and Yaşasın, 2017).

It is known that vineyards in Nevşehir province are mostly grown with a conventional system. The most important reasons for this are that the transition to modern agriculture system is expensive, the grape producers are not open to innovations due to their old age and their income levels are low, and they do not seek innovation in viticulture because they consume the products obtained from grapes in local markets.

Viticulture culture in Nevşehir Province dates back to ancient times. However, due to the rapid development of tourism in the Cappadocia region in recent years and the development of the wine industry as parallel with tourism, the desired or expected production and potential in viticulture could not be reached. There is no reason why Nevşehir province should not compete with Bordeaux city in France. With good planning and production discipline, wine grapes production can be made easily. Cappadocia region soils have extremely suitable conditions for viticulture because they are volcanic tuff, have a porous structure, high water holding capacity and pH value close to neutral (Öztürk et al., 2019).

Revealing the soil characteristics of the vineyards will also stimulate yield increase. There are many research studies that show the distribution of large soil groups in agricultural lands, land use capability classes, slope conditions, areal distribution of soil depths and soil erosion by using digital soil maps. These studies will make significant contributions to agricultural production (Bağdatlı and Arslan, 2020; Bağdatlı and Arslan, 2021; Bağdatlı and Ballı, 2021; Bağdatlı and Can, 2021).

Considering the global climate change, in which we will have a drier climate in 2050 years with the increasing population, the per person amount water in Turkey is expected to decrease to 700 m³ (Bağdatlı and Bellitürk, 2016). In a study conducted to evaluate temperature changes in Nevşehir province for many years (1970-2019), it was determined that the maximum temperature average in summer months was 33.5°C. It has been determined that there is an increasing trend in temperature changes especially in spring, winter, autumn, and summer months (Bağdatlı and Arıkan, 2020).

Studies have shown that the minimum number of rainy days in Nevşehir province for many years (1986-2019) is 77 days, the maximum number of rainy days is 142 days, and the average number of rainy days is 109 days (Bağdatlı and Arslan, 2019).

Considering climate change and global warming in recent years, it is obvious that viticulture is still a very important agricultural sector in Nevşehir province. In this context, since the vine is drought resistant, viticulture is a more suitable production model for drought management compared with other agricultural production sectors (such as potato production, corn production). In addition, the provinces with the most viticulture cultivate in Turkey; Çanakkale, İzmir, Nevşehir, Tekirdağ, Denizli, Balıkesir, Bursa are regions with high potential in terms of agricultural tourism (Agro Tourism). In recent years, the increase in wine consumption in parallel with the increasing domestic and foreign tourism has led to the creation of new vineyard areas and the cultivation of new grape varieties. Vineyard tourism should be encouraged in these regions. It has been reported that management and planning should be done for development of viticulture and wine production in parallel with agricultural tourism in similar regions of our country. (Türkben et al., 2012). In recent years, it is possible to see many abandoned vineyard areas in Nevşehir Center, Gülşehir, and Ürgüp districts and villages. The agricultural generation is getting older day by day in Turkey. The rapid growth of cities, the fascinating charm of urban life and uncontrolled urbanization encourage the migration of especially young people from rural areas to the cities. In addition, as in the whole agricultural sector, unplanned grape production and high input costs discouraged the production enthusiasm of the producers in agricultural production, and they lost their hope from this sector and needed to work in other fields. The aim of this study was to analyse the socio-economic status of the grape producers in Nevşehir province, to evaluate the problems of the producers by conducting a face-to-face survey with the producers, to find solutions to their production-related problems and to make suggestions.

MATERIAL and METHODS

The face to face survey study made with 165 grape producers in Nevşehir province was main material of the research. The informations acquired from the Nevşehir Directorate of Provincial Agriculture and Forestry and Turkish Statistical Institute were secondary materials of the research (TUIK, 2020). In this research, all data were evaluated by percentage calculations in the Excel program, and results were presented in tables. The number of enterprises studied in the research was determined according to the "Proportional Sampling Method". For a finite population, the sample volume according to the known or predicted proportion of those with a particular trait was given in the formula below. The p-value is the number of parts in the population with a certain characteristic, and the p-value can be obtained from previous studies or can be estimated intuitively. To achieve the maximum sample volume, p value = 0.5 should be taken. In cases which p value is unknown, p value = 0.5 should be taken because working with the maximum sample volume will reduce the possible error (Miran, 2003; Aksoy and Yavuz, 2012). The survey study was conducted with 165 producers contacted face-to-face in the research area with a 95% confidence interval and 5% deviation.

$$n = \frac{(N * p * (1 - p))}{(N - 1) * \alpha^2 p + p * (1 - p)}$$

In the formula;

n: Sample size,

N: Number of businesses in the population,

α^2_p : The variance of the ratio: (0.0346),

p: Ratio of grape producers to the population,

The districts and villages where the study was conducted are given in Table 1.

Table 1. The districts and villages where the study was conducted

No	District	Village	No	District	Village
1	Gülşehir	Eski Yaylacık	6	Nevşehir	Sulusaray
2	Gülşehir	Karacaşar	7	Nevşehir	Merkez
3	Gülşehir	Merkez	8	Ürgüp	Çökek
4	Gülşehir	Oğulkaya	9	Ürgüp	Sarıhıdır
5	Nevşehir	Çat Town	10	Ürgüp	Ulaş

RESULTS and DISCUSSION

This study was conducted by evaluating surveys made with producers in Nevşehir Center, Gülşehir and Ürgüp. Face to face surveys were conducted with 42 grape producers in Gülşehir, with 59 grape producers in Nevşehir Center, and with 64 grape producers in Ürgüp. The socio-economic status and problems of the producers participated in the survey are given in Table 2,3,4,5,6,7,8,9 and 10.

Table 2. Age of grape producer

Age of grape producers	Number	Percentage (%)
30-45	42	25.45
50-70	107	64.85
74 and above	16	9.70
Total	165	100

In our study, it was determined that 25.45% of producers (42 producers) were 30-45 age range, 64.85% of them (107 producers) were 50-70 age range, 9.70% of them (16 producers) were 74 years and above (Table 2). In another study named potential and current status of viticulture undertaking in Savur (Mardin) District. It was determined as 54% of the producers surveyed (between 40 and 60 years old) and the average age of the surveyed manufacturers were found to be 47. 1% of the bond is determined as under 20. In another study, the average age of the producers participating in the survey was found to be 52, and it was determined that 29% were between the ages of 30-40, 25% between the ages of 41-50, and 17% between the ages of 51-60 (Çakır ve ark., 2017a). These studies show similarities with our study.

Table 3. Educational situations of grape producers

Educational situations of grape producer	Number	Percentage (%)
Primary school	52	31.51
Secondary school	35	21.21
High school	62	37.58
University	16	9.70
Total	165	100

In our study, it was found that 31.51% of producers (52 producers) were primary school graduates, 21.21% of them (35 producers) were secondary school graduates, 37.58% of them (62 producers) were high school graduates, 9.70% of them (16 producers) were university graduates (Table 3).

In a study that examined the present status of viticulture in the Dicle district of Diyarbakır province, its primary problems and possible solutions in Dicle district; In this study, when the educational status of the producers participating in the survey was evaluated, it was determined that 41% had a primary school, 10% had secondary school and 9% had a high school education. According to the data obtained, it was determined that a significant part of the producers (35%) did not receive training from any educational institution (Çakır et al., 2017b). In another study named potential and current status of viticulture undertaking in Savur (Mardin) District, According to the results of the questionnaire, it was determined that the level of education for producers dealing with viticulture in that district was low, 75.0% primary school (Çakır ve ark., 2015). In another study, it was determined that the education level of the producers was very low and 69% of the producers participating in the survey were primary school graduates and 14% were not educated (Çakır et al., 2017a). The results of this study are similar to the findings obtained from our study. According to all these studies, it has been understood that the education levels of the producers dealing with viticulture are mostly primary school graduates or literate.

Table 4. Number of individuals in the families of grape producers

Number of individuals in the family	Number	Percentage (%)
2-3 individual	17	10.30
4 individual	63	38.18
5 individual and above	85	51.52
Total	165	100

It was determined that 10.30% of the producers (17 producers) have a family of 2-3 individuals, 38.18% of them (63 producers) have a family of 4 individuals, 51.52% of them (85 producers) have a family of 5 individuals and above (Table 4). In a study conducted to examine socio-economic situations of potato producers in Nevşehir province, 48.7% of producers participated in survey declared that they have a family of 5 individuals and 30.8% of them have a family of 7 individuals (Yücel and Oğuz, 2019). The results of this study are similar to the findings obtained from our study.

Table 5. Grape producers' time dealing with grape cultivation

Producers' time dealing with grape cultivation	Number	Percentage (%)
20 years	37	22.42
30 years	26	15.75
40 years	38	23.04
50 years and above	64	38.79
Total	165	100

It was determined that all of the grape producers continued the traditional viticulture inherited from their families. Producers interested with viticulture from a young age, have shown how important this sector is for their livelihoods. It was found that 22.42% of the producers (37 producers) have dealt with grape cultivation for 20 years, 15.75% of them (26 producers) have dealt with grape cultivation for 30 years, 23.04% of them (38 producers) have dealt with grape cultivation for 40 years and 38.79% of them (64 producers) have dealt with grape cultivation for 50 years and above (Table 5).

In the Dicle district of Diyarbakir was carried in a study, it was determined that the producers were interested in both viticulture and agricultural production for at least 10 years, however, 23% of them were engaged in viticulture for 10-20 years and 15% for 41-50 years (Çakır ve ark., 2017b). The results of this study are similar to the findings obtained from our study.

Table 6. Record-keeping situations of grape producers

Do you keep a record of input and output?	Number	Percentage (%)
Yes	42	25.45
No	123	74.55
Total	165	100

In our study, it was determined that the rate of producers keeping records from the beginning of production to harvest were 25.45% (42 producers), and the rate of those who do not keep records were 74.55% (123 producers) (Table 6).

Table 7. Cooperative situations of grape producers

Did you register the Farmer Registration System?	Number	Percentage (%)
Yes	103	62.42
No	62	37.58
Total	165	100
Are you a member of any agricultural cooperative or producer association?	Number	Percentage (%)
Yes	50	30.30
No	115	69.70
Total	165	100
If your answer is yes, which one are you a member of?	Number	Percentage (%)
Agricultural Credit Cooperative	46	92
Producer Association	4	8
Total	50	100

In our study, it was determined that the rate of producers registering in the Farmer Registration System were 62.42% (103 producers), the rate of those who do not register were 37.58% (62 producers), the rate of producers becoming member in the cooperative or association were 30.30% (50 producers), the rate of those who do not become were 69.70% (115 producers) in addition to 92% of producers (46 producers) becoming member in the cooperative or association were member in Agricultural Credit Cooperative and 8% of them (4 producers) were member in Producer Associations (Table 7). In a study named the current situation of viticulture, its main problems and solution proposals in Diyarbakir Dicle district; It has been determined that the majority of the producers participating in the survey (98%) are not members of cooperatives or unions and do not plan to become members. This study shows parallelism with our study (Çakır et al., 2017b).

Table 8. Do you have additional income?

Do you have additional income?	Number	Percentage (%)
Yes	147	89.10
No	18	10.90
Total	165	100

Do you have additional income? Survey question, while 147 producers have answered yes, 18 producers have answered no. Among 147 producers, it was determined that 13 producers worked in other sectors, 4 producers were potato producers, 12 producers were interested in trade, 15 producers worked in the agricultural sector and 103 producers were pension. According to the results, it was found that 89.10% of the producers have additional income, and 10.90% them don't have additional income (Table 8). In a study carried out to determine the problems of viticulture, as the land ownership of the producers and the presence of vineyard land were compared, determining 29% of the producers were engaged in viticulture in all of their agricultural lands (Çakır et al., 2017b). In the study we conducted, it has been observed that viticulture is done as an additional income or to continue a traditional production model.

Table 9. Evaluation and profitability of grapes after harvest

Where do you value the grapes after the harvest?	Number	Percentage (%)
Sell in the market	11	6.67
Making grape molasses	21	12.73
Sell to the wine distillery	99	60
Sell to the traders	34	20.60
Total	165	100
Is viticulture profitable in your province?	Number	Percentage (%)
Yes	69	41.81
No	96	58.19
Total	165	100

It was determined that rate of producers selling to the market was 6.67% (11 producers), rate of producers making grape mollases was 12.73% (21 producers), rate of producers selling to the wine distillery was 60% (99 producers), rate of producers selling to the trades was 20.60% (34 producers). Is viticulture profitable in your province? Survey question, while 41.81% of producers (69 producers) have answered yes, 58.19% of them (96 producers) have answered no (Table 9). In a study conducted in Diyarbakir in the Dicle; It has been stated that a significant part of the producers (91%) produce for both table and must use (Çakır ve ark., 2017b), in addition to, in another study conducted in Mardin, the production rate of wine grapes in the region where wine grape production is not realized was determined as 41% (Çakır et al., 2015). In our study, producers consume their products in local markets

Table 10. General problems of viticulture

What are the general problems of viticulture?	Number	Percentage (%)
Marketing problems	67	40.60
Deterioration of the agricultural sector	8	4.84
Insufficient government support	14	8.48
High costs	19	11.51
Low selling prices	13	7.88
Climate conditions	25	15.15
Diseases and pests	15	9.10
There is no problem	4	2.42
Total	165	100

It was understood that rate of producers stating marketing problems was 40.60% (67 producers), rate of producers stating deterioration of the agricultural sector was 4.84% (8 producers), rate of producers stating insufficient government support was 8.48% (14 producers), rate of producers stating high costs was 11.51% (19 producers), rate of producers stating low selling prices was 7.88% (13 producers), rate of producers stating climate conditions was 15.15% (25 producers), rate of producers stating diseases and pests was 9.10% (15 producers), rate of producers stating any problems was 2.42% (4 producers) (Table 10).

CONCLUSION

In this study, the current situation, problems and suggestions of viticulture in terms of grape producers in Nevşehir province were evaluated. In the survey study, it was determined that the age range of grape producers was mostly between 50 and 70 years old, the young people were not interested in viticulture, the majority of the producers were high school graduates, the number of university graduates was low, the families were generally a family member of 5 individuals, producers have grown grapes for over 50 years, the majority of producers didn't keep input and output records in their vineyards, viticulture was not very profitable, producers continued to traditional viticulture as a family inheritance and the biggest problem of viticulture was the marketing problem. The most important reasons of decrease in interest being viticulture in the province are that the producers dealing with viticulture are old, young people are not interested in viticulture, the education level of the producers is low, the input costs of viticulture are high, especially the wine industry cannot be developed, the income of viticulture is low compared to tourism or other sectors. Besides, It is concluded that the old vineyard areas are abandoned.

The following recommendations can be made as a result of this study.

In order to revive the viticulture culture in Nevşehir province, the preservation and development of local varieties should be given to the importance, standard table and wine grape varieties suitable for the province with adaptation studies should be determined, modern viticulture techniques should be applied, modern viticulture techniques and alternative evaluation methods of the product should be taught to the producers, and the wine sector should be developed in the province. Considering the tourism sector in marketing, organic vineyard products can be diversified with wine, grape juice, molasses, vinegar, köfter, raisins and grape leaves for domestic consumption (Anonymous, 2016). We believe that in Nevşehir province, the geographical indications of local grape products should be determined, preservation and evaluation methods should be developed and the sustainability of viticulture should be ensured. Besides, this study will contribute to more detailed studies in the future.

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