

A Research on Determining the Education Level of Seasonal Ornamental Plant Growers and Marketing Methods in Kocaeli

Ehlinaz Torun

Kocaeli University, Arslanbey Vocational School, Department of Marketing and Advertising, 41285 Kartepe/KOCAELI/TURKEY

E-mail: ehlinaz@gmail.com; ehlinaz.torun@kocaeli.edu.tr

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Abstract:

The main purpose of this study is to examine the education level of growers working in Kocaeli – a city located in the Marmara region where ornamental plants are grown densely – and to find out if they received any vocational education before. It is also aimed to study the marketing methods for the plants pertaining to those who received vocational education and see what advantages vocational education provides to growers.

The main material of the study is formed by a face to face questionnaire study done with 20 enterprises (growers) that operate in Kocaeli and own trade registers. The questionnaires were conducted on March 28 – April 10, 2015 in Kocaeli. The questionnaire consists of 38 questions prepared to serve various purposes for different researches. The data obtained through the questionnaire was analyzed by the SPSS program.

It was seen that 30 percent of the growers who participated in the research were graduates of a university/college and received vocational education, while 70 percent of them were graduates of a primary, secondary, or high school, but didn't receive any vocational education. It was determined that 80 percent of the growers market and sell their plants, and 90 percent of the growers use new technologies.

Key Words: Growing Seasonal Ornamental Plants, Vocational Education, Ornamental Plant Marketing, Education, Kocaeli.

1. INTRODUCTION

Today, with the industrial and technological developments, a continuous migration has been going on from rural areas to urban areas. As a result of this, people feel exhausted both physically and mentally in the hectic pace of city life. People become urbanized, yet their souls always long for the wonderful beauty of nature. With indoor and outdoor ornamental plants, which are grown in our environment, in the parks and gardens of the city centers, longing for the green is tried to be fulfilled to some extent. Therefore, ornamental plant growing holds a significant place in our country, like it does in the whole world.

Ornamental plant sector gained a commercial importance at the beginning of the 20th century, but especially after world war II, it developed as a significant branch of commercial activities



first in developed countries (the Netherlands, the U.S.A. and in Japan), and later in some developing countries (Colombia, Kenya and Israel) (*DPT 2001:4*, Doldur, 2008). Today, ornamental plant sector is an effective sector which makes commercial contributions to the economy of many countries including Turkey. In the previous years, the production of ornamental plants was being done in 20 cities, and it was a common sector in the Marmara region; but later, because of its climatic advantages, it started to spread to the Mediterranean and Aegean regions as well (AY, 2009, p. 423). Ornamental plants are examined under four headings in Turkey and in the world: cut flowers, indoor (potted) ornamental plants, outdoor ornamental plants and natural flower onions. Cut flowers make 57 percent, live plants (indoor and outdoor plants) make 24 percent, wreaths and mosses make 13 percent, and flower onions make 6percent of the total ornamental plant export (*Anonymous, 2008*).

Today, ornamental plant production is made in 42 cities in Turkey. The cities, where most of the production takes place are Antalya, İzmir, Yalova and İstanbul respectively. Cut flower production in the Marmara and Aegean regions (İstanbul, Yalova, Sakarya, İzmir and Aydın) are generally for the domestic market (Anonymous, 2010a). Turkey is making progress not only in the domestic, but also in the foreign market. Ornamental plant export from Turkey started 20 years ago and since then, it has showed a steady progress. Main product groups in the exports are cut flowers, seedlings, saplings, indoor and outdoor plants, flower onions, mosses and wreaths. Although ornamental plant growing is done in 42 cities in our country, 74.97 percent of the total production area is formed by Sakarya in the first place, and İzmir, Yalova and Antalya (Torun and Aydın Can, 2014, pp. 680-687). According to the data of 2011, when the cities are analyzed according to the size of the production area in the Eastern Marmara region, Sakarya ranks first with 13.074 decares, Yalova ranks second with 1091.6 hectares, Kocaeli ranks third with 73 hectares, Düzce ranks fourth with 8.5 hectares, and Bolu ranks last with 1.5 hectares. Ornamental plant growing area of Kocaeli underwent a serious decrease in 2013, and became 65 hectares (Anonymous, 2013). Plant growers in Turkey have been organized for more than 50 years, and market their products by means of the Horticulture Cooperative. Turkish flowers, especially the ones that are exported from Yalova, Antalya and İzmir, take place among the most demanded ones in the world with their high quality. For, Turkey is one of the most suitable places to grow flowers in terms of climate and soil structure (Demirbas, 2010, pp. 1-60).

Flowers are the plants which give the joy of living, hold people onto life, and bring pleasure. Flowers can be classified as annual and perennial. As grown seasonally, annual flowers can also be classified as summer and winter flowers. Some of the seasonal annual flowers (grown in the summer and winter) and herbaceous plants that are grown in the Marmara region and Kocaeli are given in **Table 1**.



Table 1. Some of the Seasonal Flowers and Herbaceous Plants Grown in the Marmara Region and Kocaeli

Latin Name	Latin Name				
Achimines hybrid	Gaillardia aristata				
Anemone apennia	Gazania hybrid				
Antirrhinum majus	Gazania rigens				
Aubretia deltoidea	Gomphrena globosa				
Alyssum saxatile	Helxine soleirolii				
Aptenia lancifolia	Hyacinthus orientalis				
Arabis albida	Hydrangea anomola				
Aquilegia sp	Impatiens walleriana 'New Guinea'				
Aster varieties	İmpatiens walleriana				
Ageratum hybrid	Iris laevigata				
Ageratum-houstonianum	Kniphofia hybrid				
Antirrhinum majus	Lobelia tenuior				
Bellis perennis	Mathiola incana				
Begonia sp.	Mesembryantheum roseus				
Brassica oleracea	Myosotis alpestris				
Calendula officinalis	Narcissus				
Carpobrotus edulis	Oxalis sp				
Celosia argentea	Petunia sp				
Celosia plumosa	Portuluca grandiflora				
Cerastium tomentosum	Primula acaulis				
Chrysanthemum sp	Primula vulgaris				
Convollaria majalis	Salvia splendes				
Dahlia dwarf hybrid	Sedum acre				
Delphinium hybrid	Tagates erecta				
Dianthus alpinus	Tulipa sp.				
Dianthus barbatus	Verbena x hybrida				
Dianthus deltoides	Vinca rosea				
Dicondra repens	Viola hybrıda				
Eschscholzia californica	Zinnia elegans				

Source: Besalet Pamay, Plant Materials III, 1994.

Ornamental plant production and trade has been growing rapidly in Turkey. However, scientific studies in this field are quite superficial. More particularly, this study is important for the scientific circles since there hasn't been any detailed and original research in our country on whether ornamental plant growers have vocational education or not. Education level of ornamental plant growers plays an important role in terms of determining their target audience by analyzing what ornamental plant consumers need and how these needs arise, and guessing what plants the consumers would prefer. In addition to these, growers must also carry out a market analysis while choosing plant types that they are going to put on the market.



2. MATERIAL AND METHOD

For the research subject, "Determining the Education Level of Seasonal Ornamental Plant Growers and Marketing Methods in Kocaeli", articles, leaflets, books, internet resources and the reports of institutions and organizations were benefited regarding the subject. Also, the most significant material of the research is formed by the questionnaires conducted on Seasonal Ornamental Plant Growers.

As for the method, a face to face questionnaire study was conducted on all of the 20 enterprises (growers) which have trade registers and carry on businesses in Kocaeli. The purpose of choosing Kocaeli is that it has a dense population besides being an industrial city. The data obtained from the questionnaires conducted on the growers who participated was analyzed by various statistical methods and programs. At this part, a variety of comparisons were made by doing crosstabs table, frequency and chi-square analyses (with 95 percent confidence limits and 5 percent margin of error) by SPSS 16.0 statistical program, and the data obtained was evaluated. In the Chi-square analysis, Ho hypothesis signifies that the correlation among the variables is significant and it is acceptable, while H₁ hypothesis shows that there is no correlation among the variables and it is disprovable.

3. RESEARCH FINDINGS

3.1. Gender, Age and Education Level

Gender identity creates differences regarding business depending on being a woman or a man (Torun and Şener, 2009, pp. 344-353). In addition, women come across with several obstacles in the working life both at the beginning and during the process. These obstacles stem from the fact that the traditional roles of women and the relevant social expectations from these roles are not compatible with the working life (Torun, 2010, pp. 1154-1161).

According to the data obtained in the research, the distribution of growers according to age and gender was analyzed and given in **Table 2**. Also, as a result of the chi-square analysis it can be said that age and gender has a significant correlation, and gender is effective in parallel with age in growing plants. These results show us that most of the growers mainly consist of men, therefore it can be said that gender has influence on acquiring a profession in the field of plant growing, which requires hard work. 85 percent of the growers take place in middle age or older age group, so it can be said that age factor is effective in order to have capital accumulation and undertake risks in commercial businesses.



Table 2. The Correlation between the Distribution of Growers According to Gender and Age

Distributio	Age									
n	25-3	4	35-44		45-54		55 and Over		TOTAL	
According	Number	%	Number	%	Number	%	Number	%	Number	%
to Gender										
Man	3	100	2	75	5	55.5	4	75	14	70
Woman	0	0.0	1	25	4	44.5	1	25	6	30
Total	3	100	3	10	9	100	5	10	20	10
				0				0		0

Chi-Square: 2.434 Df: 3 P: 0.487 Because P< 0.05, Ho Hypothesis is Accepted. (The Correlation is Significant).

What schools ornamental plant growers graduated from regarding the vocational field was researched and given in **Table 3**. According to **Table 3**, it was determined that 45 percent of the growers have vocational education, while 55percent do not. When the distribution according to gender was analyzed, it was determined that all of the women who received higher education (50 percent) are Landscape Architects, while 7.1 percent of the men are Landscape Architects, 7.1 percent are Agricultural Engineers, 7.1 percent are Forest Engineers and 21.5 percent are Landscape technicians. It was determined that there is a significant correlation between gender and occupational field preference. It can be said that some of the professions are gender-based, and gender is effective in occupational choices.

Table 3. The Distribution of Growers According to Gender and the Study Fields on Which the Vocational Education was Received

		Ge				
Vocational Field	Man		Wor	man	TOTAL	
	Number	%	Number	%	Number	%
Unanswered	8	57.2	3	50	11	55
Landscape Architect	1	7.1	3	50	4	20
Forest Engineer	1	7.1	0	0.0	1	5
Agricultural Engineer	1	7.1	0	0.0	1	5
Landscape Technician	3	21.5	0	0.0	3	15
Total	14	100	6	100	20	100

Chi-Square:6.039 df: 4 P: 0.024 Because P < 0.196 Ho Hypothesis is Accepted. (The Correlation is Significant.)

According to Gender Schema Theory, individuals display behaviors, attitudes and characteristics that are compatible with their gender identities. The gender identity class adopted by individuals may affect their information processing (Yağcı and İlarslan, 2010, pp. 138-155). Socio-cultural factors are determinant in patriarchal cultural values and gender-based division



of labor in terms of women's participation in the labor market and their position in it (Anker and Hein, 1986:11; Harttman, 2006, pp. 1-71; Özçatal, 2009, pp. 51-60).

When it is analyzed according to gender; it is seen that the ratio of the ones who graduated from a vocational field is 43 percent for men and 50 percent for women. Therefore, the growers who did not receive any vocational education (55 percent) need staff that has vocational knowledge in production in their enterprises.

3.2. Education Levels and the Choice of the Enterprise Organization

In this sense, the correlation between the enterprise organizations of the growers, who participated in the research in Kocaeli, and their education levels were analyzed and the results are given in **Table 4**. According to **Table 4**, operation of sole proprietorship increases as the education level decreases, while the rate of incorporation increases as the education level increases. Also, when the results of the research were analyzed, Partnership, Co-operation and Contract Production Model business types were not encountered. This may stem from the fact that the number of growers in Kocaeli is not many, and their production areas are small. According to the chi-square analysis between the education level and incorporation, it is found out that there is a significant correlation between the two variables. It can be said that education plays an effective role in adjusting to developing world order, legal arrangements and marketing. It was determined that 12 enterprises (60 percent) that produce seasonal ornamental plants for large scale national and international markets are structured as corporations. These corporations provide advantages both for performing enterprise functions efficiently and national and international customer relations management.

Table 4. The Correlation between the Education Level of the Growers and the Choice of Enterprise Organization Type

Education Level of the Growers	Limite	ed	Corporation Private (Sole Proprietorship)				TOTAL	
	Numbe	%	Numbe				Numbe	%
	r		r				r	
Primary School	0	0.0	1	11. 1	3	37.5	4	20
Secondary School	1	33. 3	1	11. 1	3	37.5	5	25
High School	1	33. 3	3	33. 3	2	25	6	30
University	1	33. 4	3	33. 4	0	0.0	4	20
Ph.D./Master's Degree	0	0.0	1	11. 1	0	0.0	1	5
Total	3	100	9	100	8	100	20	100

Chi-Square:16.331 df:16 P: 0.430 Because P < 0.05, Ho Hypothesis is Accepted. (The Correlation is Significant.)



3.3. The Correlation between Education Level of the Growers and Marketing and Sale

In the research, the data regarding the condition of having vocational education and being in the national and international market is given in **Table 5**. According to **Table 5**, the sales of the growers who have vocational education are for the international market. The correlation between the vocational education and sales condition in the chi-square analysis was found to be significant. It can be said that vocational education is an important criteria in ornamental plant growing, which requires specialization. Also, it can be said that vocational education is effective in marketing and sales, and it increases the size of the market.

Table 5. The Correlation Between Vocational Education and Sales Condition

Sales Condition	Ye	es	N	TOTAL			
	Number	%	Number	%	Number	%	
Domestic	7	77.8	9	81.8	16	80	
Overseas	1	11.1	0	0.0	1	5	
Domestic and Overseas	1	11.1	2	22.2	3	15	
Total	9	100	11	100	20	100	
Chi-Square:4.375 df:3 P: 0.224 Because P < 0.05, Ho Hypothesis is Accepted (The							

Chi-Square:4.375 df:3 P: 0.224 Because P < 0.05, Ho Hypothesis is Accepted (The Correlation is significant.)

Cut flowers, taking place among seasonal ornamental plants, are produced and marketed more in Kocaeli. In marketing these plants, cooperatives have quite a big effect. The marketing and sales of cut flowers in Turkey can be done by means of cooperatives. The marketing channels used in this sense are given in **Figure 1**. "S.S. Flower Growing and Sales Cooperative" and "Flora Horticulture Production and Marketing Cooperative" play an active role both in providing the production inputs and sales organization of cut flower growers.

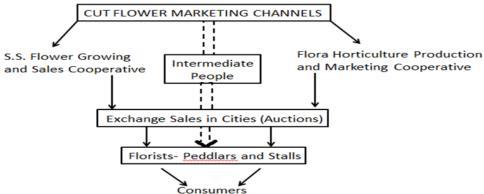


Figure 1. The Channels Used in Marketing Cut Flowers (Source: Samilfidancilik.com).

There are two cooperatives in Turkey which have their main branches in İstanbul. Nearly 6000 flowers of flower growers are sold to florists in 20 flower auctions of flower cooperatives which



take place in 14 cities. There are more than 10 thousand florists and nearly half of them operate in Istanbul (*Anonymous*, 2010 b).

3.4. The Correlation between Vocational Education and Membership in a Vocational Institution or Organization

In the research, the data regarding the membership of ornamental plant growers' in an institution or organization related to their vocational education was analyzed and given in **Table 6**. According to **Table 6**, 55.6 percent of the growers who have vocational education, and 27.3 percent (40 percent) who do not, did not answer the question which questioned their membership status in an institution or organization. 60 percent of the growers stated that they are members of a vocational institution or organization. The correlation between vocational education and a vocational institution or organization was found to be significant between the two variables according to the chi-square analysis. It can be said that individuals those who received vocational education feel the need to become members of an institution or organization related to their profession in order to gain a place in the social domain and an occupational identity.

Table 6. The Correlation between Vocational Education and Membership in a Vocational Institution or Organization

motitation of organization								
The Membership Status	Voca	ational Ec						
in a Vocational	Yes	5	N	No		TOTAL		
Institution or	Number % Number %				Number	%		
Organization								
Unanswered	5	55.6	3	27.3	8	40		
Professional Chambers	3	33.3	5	45.4	8	40		
Associations	1	11.1	3	27.3	4	20		
Total	9	100	11	100	20	100		

Chi-Square:3.110 df:3 P: 0.375 Because P < 0.05, Ho Hypothesis is Accepted (The Correlation is Significant).

3.5. The Effect of Vocational Education on the Level of Income

Level of income is one of the indicators that determine the socio-economic status of people. To derive income, one needs to have a profession besides working in a job and producing. The most important variable of socio-economic status is the profession that the individual has (Coleman, 1983, pp. 265–280). However, other constituents like vocational education, income status, the capital (fortune) possessed, vocational chambers or associations that individuals become member of, socio-cultural environment and the neighborhood lived in are important factors in determining the socio-economic status as well (Coleman, 1983, pp. 265-280; Kalaycıoğlu et al., 1998, pp. 126–137; Yağcı and İlarslan, 2010, pp. 138-155).

The correlation between vocational education and yearly income status was analyzed and the data obtained is given in **Table 7**. **Table7** shows that the correlation between vocational education and yearly income is significant according to the chi-square analysis. It can be said



that the vocational education received by the growers has a positive influence on their income level. Also, vocational knowledge and skills increase marketing and sales, and therefore have a positive influence on the income growth.

Table 7. The Correlation between Vocational Education and Income Level

Vocabulacement and of the	Vocatio	nal Ed				
Yearly Income Level of the	Yes		No		TOTAL	
Enterprise	Number	%	Number	%	Number	%
Unanswered	1	11.1	0	0.0	1	5
0 – 50.000	1	11.1	3	33.4	4	20
50.000 - 100.000	1	11.1	3	25	4	20
100.000 -250.000	1	11.1	0	0.0	1	5
250.000 - 500.000	3	33.4	1	8.3	4	20
500.000 and over	2	22.2	4	33.4	6	30
Total	9	100	11	100	20	100

Chi-Square:11.458 df:5 P: 0.043 Because P < 0.05, Ho Hypothesis is Accepted (The Correlation is Significant).

4. RESULTS AND SUGGESTIONS

Today, this sector is regarded as an effective sector in Turkey that contributes to the economy as it does in many other countries. Therefore, the education level, vocational knowledge level and vocational education of the ornamental plant growers have started to be important factors. In the research, the effect of education level and vocational education of seasonal ornamental plant growers on their marketing skills and methods were analyzed, and the results obtained are given below.

- 70 percent of seasonal ornamental plant growers are formed by male growers. This result indicates that gender factor is effective in the profession choice.
- 85 percent of the growers belong to middle-aged or older age group. It can be said that
 age factor is effective in having capital accumulation and undertaking risks in
 commercial businesses.
- It was determined that 45 percent of the growers have vocational education,
- 43 percent of men and 50 percent of women are graduates of a vocational study field.
- It was seen that the consciousness for becoming a corporation increases as the education level increases.
- It can be said that domestic and overseas sales increase, and marketing skills are gained as the education level gets higher, and the knowledge in the vocational field increases.
- It can be said that growers who received vocational education are effective in marketing and sales, and this is because they can apply professional techniques in marketing and sales in a better way.



- It was found that vocational education has a positive influence on the increase of income level.
- Vocational knowledge helps growers to be knowledgeable about the choice of plant type to be grown and their growing conditions, which provides a conscious production and helps to grow plants for the market demands.
- Ornamental plant growers are not given special incentives by public institutions and organizations.
- To eliminate this problem and encourage growers, special incentives should be given and exportation should be encouraged.
- Value-added-taxes are high, so this tax should be reduced by 8 percent and lowered to reasonable values.
- Producers are deprived of technical consultancy support.
- To give this support, steps should be taken.
- Producers have difficulties since input prices are high; input prices should be lowered to reasonable values.
- To make production in economic-sized enterprises, the size of the enterprise should be 10 decares in the first phase, and this should be encouraged.
- Producers should know the taste and preferences of the consumers and grow their products accordingly to be able to sell their products.
- To achieve this, they should be a good market researcher or have a high education level.
- The individuals who received vocational education are few and the number is not enough for the sector.
- Production areas are not at the economical size.

Solution Suggestions:

- Determining incentives, increasing encouragement and lowering input costs,
- Resolving value-added-tax inequality,
- Easing import and export procedures, and lowering analysis prices to a reasonable price,
- Standardization in production,
- Looking for SÜSBİR (Ornamental Plant Growers Sub-Association) or Cooperative membership in public procurements,
- Training intermediate staff and extending vocational education and forming expert staff,
- To get the production areas to economic-size, growers should be encouraged and steps should be taken regarding the allocation of suitable public lands to growers that have proper conditions.

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