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Introduction

- 1 With its natural and human resources, Yalova is an attention center for a variety of economic activities to be developed and a potential place for agricultural activities. In terms of its socioeconomic status, Yalova ranks 9th among the cities in Turkey. Agriculture (horticulture, kiwi growing, greenhouse cultivation, orcharding) and industry (textile, chemistry, and paper industry) constitute the main sources of income for Yalova. When we look at the shares of the sectors within the economy of the city, we realize that agriculture has 7.3%, industry 37.6% and service sector has 55.1% of shares¹. The agricultural activities in Yalova are intensive.
- 2 The development of organic agriculture and great increase in the demand for organic products in the world in recent years caused the organic agriculture to become an important agricultural method that has to be taken into consideration for rural development in the regions and countries where agricultural activities are important and the geography potential is suitable. A number of fields in Turkey primarily in İzmir, Aydın and Muğla are suitable for organic agriculture. A majority of the fields in Yalova are suitable for these agricultural activities and are selected as organic agricultural regions.

Location of Research Field

- 3 Yalova is located in northwestern Turkey, within Marmara Region, on the south eastern coast of The Sea of Marmara. The city of Yalova with its 847 square kilometer occupies an extensive area of Armutlu Peninsula. The Gulf of İzmit as an extension of The Sea of Marmara is located on the north, The Sea of Marmara on west, The Gulf of Gemlik and the city of Bursa on south, the city of Kocaeli on the east of Yalova.

Scope - Method

4 The following are used as the work method:

- Field works (interviews in the field, local written and verbal resources, observations etc.),
- Bibliographic works
- Procurement and use of statistical data form the basis of the work. A field work is carried out in order to determine the geographical features, agricultural potential and especially the organic agricultural potential of the field and interviews are performed with the people living in the rural area about some socio-economic problems such as unemployment, market and price of the grown products. Upon the evaluation of the data acquired from field works, bibliographic works and statistics;
- The organic agriculture and the development of organic agriculture in the World and Turkey, the geographical potential of Yalova in terms of agricultural activities, the development process, features, current situation of organic agriculture in Yalova and its benefits to farmers.

Organic Agriculture in the world

- 5 There are many definitions of organic agriculture. At its simplest, organic agriculture is a production system every phase -from production to consumption- of which is controlled and certified. No chemical input is applied in organic agriculture. The best production systems which do not cause any damages to the environment therefore increasing the quality of life and improving human health are performed. The balance between humanity and nature in the past was disintegrated due to industrialization, a rapid increase in urbanization and world population with a parallel increase in demands for food to satisfy the needs of increasing population. Conventional production was realized to provide much more food for this rapidly increasing population. In 1950s, conventional production became widespread and the uses of chemical fertilizers, additives, chemical drugs and agricultural mechanization increased. Therefore remarkable increases in production and efficiency were provided. Since it has always been aimed to provide efficiency as much as possible in a unit of area with an economic outcome, ecological balance and health criteria related with product quality are ignored in conventional production. These production based problems which increasingly continue today threaten human health and bring along the seeking of possible resolutions. Since 1979, the uses of DDT and similar pesticides in so many countries, particularly in USA, have been abolished.
- 6 Studies related with organic agriculture which could date back to 1910s transformed into an organized movement with 1970s. In 1991, the first comprehensive regulation for organic agriculture was promulgated and the parts related with animal products were annexed to it in 1999 with a variety of amendments. IFOAM (International Federation of Organic Agriculture Movement) was the first institution to define and write the principles of organic agriculture out.
- 7 In 154 countries today, in an area of 35 million hectares, controlled and certified organic agriculture is performed by 1.4 million producers. On a global level, the organic agricultural land area increased in all regions, in total by almost three million hectares, or nine percent, compared to the data from 2007. Organic agriculture which was

realized within an area of 4 million hectares in developing countries in 2000, reached 12.2 million hectares in 2008². Five countries with most organic agricultural lands are as follows: Australia (2007) 12.02 million hectares, Argentina 4.01 million hectares, China 1.85 million hectares, United States of America 1.82 million hectares, Brazil (2007) 1.77 million hectare³.

- 8 Organic agriculture is carried out by 1.4 million producers around the world today. 34% of them is in Africa, 29% in Asia, 10% in Latin America, 16% in Europe, 1% North America and 1% in Oceania⁴. Although Oceania has the largest area for production, it has the lowest number of producers. It is seen from the data that the lands for organic agriculture are also small in first 3 continents. Within these regions, organic agriculture is a sustainable production model for small-scale producers. This is a characteristic feature of our country as well.
- 9 With areas certified for apiculture involved, there is a land of 35 million hectares for organic agriculture. Organic aquaculture is on the other hand carried out in an area of 0.4 million hectares. In conclusion, lands certified for organic agriculture in the world reached 66.5 million hectares⁵.

Organic Agriculture in the Turkey

- 10 The initiation of organic agriculture in Turkey stemmed from foreign demands which were made by the firms in Europe rather than domestic demands. In the year of 1984-1985 it started with the production of dried figs and grapes for exportation and the range of products got widen in time. ETO was found in 1992 for a wholesome progress of organic agriculture. In 1994 in accordance with the EU norms, "Regulation on Production of Vegetative and Animal Agricultural Products with Ecological Methods" came into force. Studies in this subject continue and constantly updated.
- 11 Geographical potential of our country encourages the growing of many organic products. It is another advantage for our country that most of the lands have not been polluted with chemical substances. In recent years, rapid developments related with organic products have been observed in our country. As it can be seen from the Table 1, the number of product range reached 205 in 2005, 212 in 2009 while it was just 26 in 1994 (the year when legal arrangements were started). In terms of total production area, there was a 9517 % increase. This increase reflected to the quantity of production with 11024% and number of farmers with 1986%.

Table 1 - General Data of Organic Agricultural Production in Turkey (Including the Transition Period)

Years	Type of Products	Number of Farms	The Farming Area (ha)	Wild Collection Area (ha)	Total Production Area (ha)	Total Production (tons)
1994	26	1 705	-	-	5 216	8 843
2002	150	12 428	57 365	32 462	89 827	310 125
2003	179	14 798	73 368	40 253	113 621	323 981

2004	174	12 806	108 598	100 975	209 573	378 803
2005	205	14 401	93 134	110 677	203 811	421 934
2006	203	14 256	100 275	92 514	192 789	458 095
2007	201	16 276	124 263	50 020	174 283	568 128
2008	247	14 926	109 387	57 496	166 883	530 225
2009	212	35 565	325 831	175 810	501 641	983 715

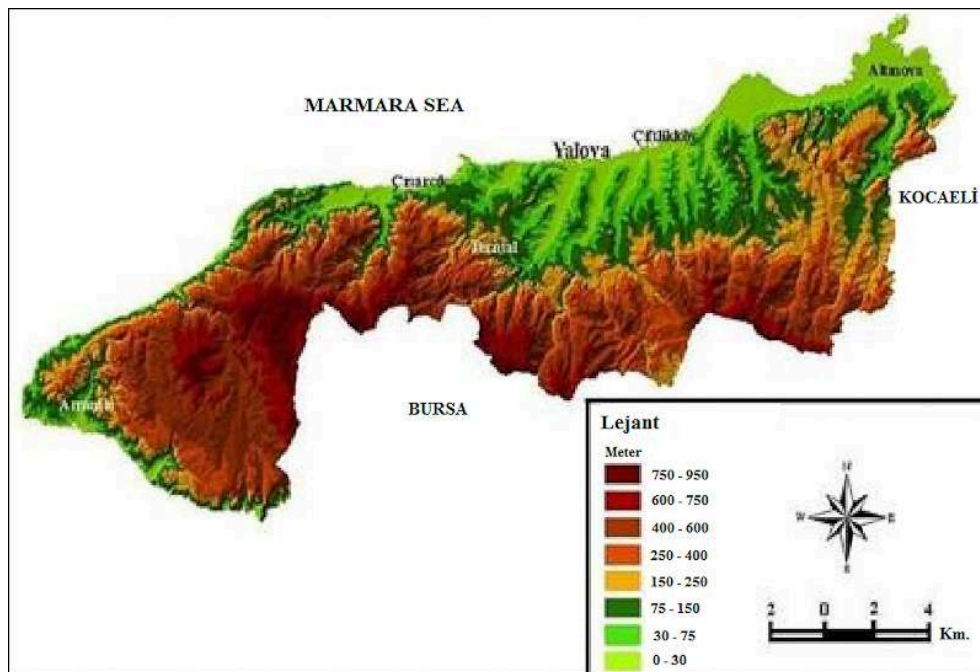
Source: <http://www.tarim.gov.tr> access 14 Ocak 2011

- 12 When we take a look to the exportation based on organic products, 8.6 million kg of products for 19 million dollars in 1998, 13 million kg of products for 23 million dollars in 2000, 7.6 million kg of organic products for 27.5 million dollar in 2009 was exported. Highest figures in terms of quantity and profit were provided in 2003⁶. A decrease thereafter was also observed in the table. On the other hand, there was a 42% increase in the export values of the years 1998-2009. Global market of the organic agricultural products should therefore be evaluated much better.
- 13 Many non-EU Mediterranean countries already have a national law (Tunisia, Turkey, Serbia, Croatia, Macedonia and Montenegro) and a well developed export market (Morocco, Tunisia, Turkey and Serbia), while local markets are still emergent⁷.

Natural and human factors regarding development of agricultural activities in Yalova

- 14 Although Yalova does not have wide flatlands, it is an advantageous area with its other natural and human features. When we evaluate the city in terms of geomorphology we can realize that Samanlı Mountains extend on the south of the region. Flatlands are generally located on the northeast of the region. Coastal plains become narrow in the west extending as a coastline and expand in the region where the settlement of Armutlu is also located. They extend towards the southeast by narrowing there again. It is penetrated with watercourses and plateaus occupy an extensive area in the region.

Illustration 1 - Physical Map of Yalova



Source: Yalova Municipality.

- 15 Dominant vegetation covers in the region are forests and maquis. Forests are consisted mainly of broad leaved trees. 60% of the region is covered by forests and these dense forests are located in the south of Yalova. Vegetation cover of the forests is composed mainly of oaks, hornbeams, beeches, chestnut trees (*Castanea*), dogwoods and linden trees. While they constitute a remarkable potential for organic agriculture in the region, these forests are also important for Yalova in terms of providing the raw materials like wood and timber.
- 16 Summer season in Yalova is generally dry and hot, while winter is warm and rainy. Mainly the characteristics of Mediterranean climate are observed which therefore leads to diversity in plants. The fact that this region is full of natural and cultivated plants provides a great advantage for organic farming. According to the data from General Directorate of State Meteorology, mean annual temperature in Yalova is 14.6°C. Mean temperature in February is 6.6°C, while it is 23.8°C in July. The number of the frost days in Yalova is 21. Average annual precipitation is 726.5 mm and in the dry period, water requirement is provided with irrigation. Snowy periods are relatively short and average number of snowy days is 10.6. Most of the plants can be grown without a need to irrigation since precipitations occur in four seasons. Due to its climatic features, Yalova is a suitable area for vegetable farming and fruit growing.
- 17 Features of the soil are among the important factors for organic agriculture. These features can be divided as the natural features of the soil and the formation of soil affected by human features.
- 18 There are various types of soil in Yalova. Non calcareous brown forest soil, alluvial soil, colluvial soil and rendzina are primarily observed in this region. Alluvial soil exists in flatlands at the coastlines, in delta plains and valleys, while colluvial soil exists in dip slopes. Non calcareous brown forest soils and brown forest soils exist in the upland forests. The total area of lands suitable for agriculture is 15.484 hectares. However,

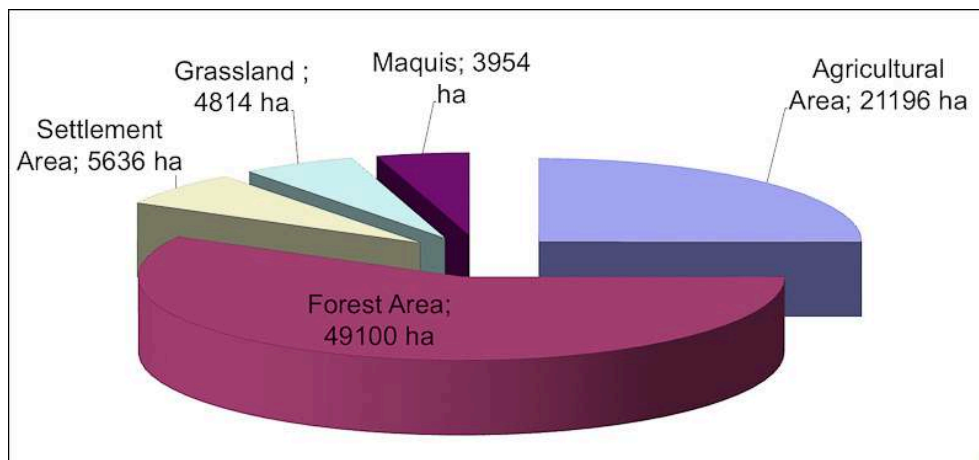
when we consider this situation in terms of organic farming, lands suitable for agriculture are not the only ones having a potential for organic farming. VI. ve VII. class lands have a potential for organic farming as well. A variety of forest products within these regions and beehives which can be positioned to that area are relatively suitable for organic farming. Cranberry, chestnut, linden, medlar, sloe, sorbus, wild pear, rosehip, blackberry and pine nut are among the products that can be primarily used in organic farming.

- 19 In terms of water resources, Yalova has a total of 58.383,5 hm³ water per year⁸. The number of these watercourses is 11 including especially Yalakdere, Selimandere and Safrandere flowing from northern slopes of Samanlı Mountains to the Sea of Marmara. Underground water resources and watercourses are used for irrigation in drillings. 26% of the total agricultural land of Yalova is irrigated and 82.3% of these irrigations are carried out by public while 17.7% of them is carried out by the state.

Land Use and General Features of Agriculture

- 20 Total land area of Yalova is 84 700 hectares. 25% of this area is agricultural. Forestry areas constitute 58%, settlement areas 6%, grasslands another 6% and maquis 5% of the total area.

Graph 1 - The Land Use in the Province of Yalova (Hectare)



Source: Data of Yalova Provincial Agriculture Directorate.

- 21 Agricultural area is consisted of 28% croplands, 30% olive groves and 27% orchards. 11% of this area is used for vegetable growing and 4% of it is consisted of the areas allocated for growing ornamental plants.
- 22 Approximately 4 550 families in Yalova are engaged in agriculture. As it is mentioned hereinabove, the income earned from agricultural activities substantially comes from fruit growing, green housing and horticulture.
- 23 Growing of ornamental plants is relatively important in the area where intensive agriculture is predominant. Over 25% of the cut flowers grown in our country is carried out in Yalova, in an area of 4.696 decares. City has an important place in terms of the export revenues gained from the production of cut flowers. Olive, apple, peach, cherry, kiwi, pear in fruit growing, cabbage, tomato, lettuce, romaine lettuce, cucumber and

bean in vegetable growing, wheat, barley, common vetch (*vicia sativa*) in farming, outdoor ornamental plants, indoor ornamental plants and cut-flowers are prominent products in the sector of ornamental plants. In recent years, production of cultivated mushrooms, greenhouse vegetable production, kiwi growing and growing of ornamental plants have made a remarkable progress. For instance, kiwi growing reached 6956 tons in 2009 with approximately a ten-fold increase while it was just 651 tons in 2002.

- 24 Atatürk Central Horticultural Research Institute and provincial directorate of agriculture in Yalova considerably support the farmers of Yalova in terms of agricultural development and related issues. There are so many researches carried out in Yalova related with agriculture (agricultural methods and etc.). Yalova stands as a city with a high potential of agricultural methods thanks to the support provided by specialization in the production of cut flowers, fruit and vegetable growing, advanced marketing strategies and trade, human factors as well as natural features of the area.
- 25 When comparing the agricultural features of Yalova with the general agricultural features of Turkey, intensive agriculture is generally dominant in the region as we tried to explain above.

Population

- 26 Population as a whole in Yalova was 135 121 in 1990, while it reached 202 531 in 2009. Annual population growth rate in Yalova was 2.560% and it was relatively higher with comparison to the population growth of Turkey which stands at 1.450%. Urban population decreased to the level of 58% while rural population increased to reach 42% in the census data of 2000 since urban population moved to the rural areas as a result of the destruction caused by a natural disaster- Marmara Earthquake- in the city in 1999⁹. Within the years thereafter, the population of the city moved again to the urban areas thanks to reconstruction of the city and reinforcement of buildings. It was therefore confirmed within the census data of 2009 that urban population had somewhat an increase.
- 27 There are so many second homes in the coastlines of Yalova used for tourism purposes. The population of the city therefore increases in summer period due to the summer house vacationists during the tourism season. Today, 66% of the population in Yalova is urban and 34% is rural. Urban population had an increase by 53% between the years of 1990-2009. Cities like Yalova, Bursa and İstanbul attract the rural population of other cities to their areas. Rural areas of Yalova, especially Armutlu and its surrounding are the places with relatively lower populations. Young population is nearly extinct within these areas where a dense vegetation cover and limited agricultural land exist. Therefore it is very important to make good use of the rural areas in the city and provide optimum income from a unit of area without a damage in natural resources. The principle of sustainability in natural resources, quality of life and the population coincide with organic agriculture applications.

Table 2 - Distribution of Population in Yalova and its Districts with the Density of Population (2009)

District	Area (km ²)	Total Population (2009)	Km ² per Population	Urban Population 2009 %	Rural Population 2009 %
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MERKEZ İLÇE	164	114 054	695	80,8	19,2
ALTINOVA	95	23 235	244	21,3	78,7
ARMUTLU	238	8 025	34	65,1	34,9
ÇINARCIK	188	25 892	138	42,8	57,2
ÇİFTLİKKÖY	117	26 239	224	65,0	35,0
TERMAL	45	5 086	113	46,0	54,0
TOTAL	847	202.531	239	65,6	34,4

Source: The Results of Turkish Statistical Institute Address-Based Population Registration System, 2009

Organic agriculture in Yalova

- 28 Excessive uses of chemical inputs in conventional farming for increasing the production today caused environmental pollution to reach serious levels. Agricultural pollution today can disturb natural balance, effect living organisms through environmental pollution and food chain which constitutes a life-threatening situation today. Therefore, utmost attention should be paid with any material and moral supports to determine the suitable areas for organic agriculture.
- 29 Agriculture's being in an important place in Yalova, fruit growing, vegetable farming and cultivation of ornamental plants being carried out with intensive methods, region's being suitable for organic agriculture in terms of climate, soil, geomorphology and water resources are the factors that provide the basis for organic agriculture in the region. As it is stated hereinbefore, agricultural activities in Yalova intensify in delta and coastal plains, valley floors and mountain slopes. Natural vegetation cover exists in highlands predominantly. Villages in the region have the characteristics of forest villages. Agricultural activities in these villages can be carried out limited. Forestry products, fruit growing and plants used for perfumery are important potentials that can not be availed. It will be very beneficial for the agriculture and economy of the region and of the country as well to adopt organic agriculture in these flatlands where conventional or half-conventional methods are carried out. Human and physical potential of Yalova is convenient for such adoption. However, this potential can not be benefited well enough.
- 30 In terms of socio-economics, benefiting from these opportunities will increase the income and life quality of the population. Young population hardly exists in the rural areas of Yalova. Since there are limited job opportunities in that region, young population migrate to the cities like Bursa, Yalova and İstanbul. In fact, organic agricultural applications form a basis for retaining the population in rural areas. The organic agricultural applications in the UK are a good example in this regard. In the last 50 years there has been a 79% drop in the number of farm workers and a 40% drop in the actual number of farms in the UK farming population that, in general, is getting

smaller, older and is attracting fewer young people who are, instead, choosing alternative careers in towns and cities. Research published by the Soil Association shows that¹⁰ organic farming is creating more jobs, revitalising rural economies and encouraging younger, more optimistic people into agriculture in the UK. In general, organic farming provides 32% more jobs than non-organic farming in the UK. On average, organic farmers are seven years younger than their non organic counterparts. These findings demonstrate that that in organic farming there is an alternative that increases employment, as well as being economically productive and socially and environmentally sustainable. On average, organic farmers are seven years younger than their non organic counterparts¹¹.

- 31 Encouraging and developing organic agriculture and eco-tourism related with it will retain the population in rural areas and prevent the migrations to the cities. Use of eco-tourism will provide a major contribution to the development of rural regions. That is because the local economy will become diversified with the initiation of tourism activities and a mutual interaction and cooperation may arise as it will be possible to compare and benchmark the values of the regions the visitors come from and the unique local values. This may be considered as the initial stage of rural development process¹². Dynamics for rural developments should be put into action especially in the regions such as Yalova which are rich in natural resources. In this way, there will be a balance between the rural areas and the city. Overpopulation, socioeconomic and cultural problems resulting from migrations to the cities will be prevented. A proper development in rural areas and the city will provide the basis of a wholesome regional development.

Development Process of Organic Agriculture in Yalova

- 32 Training and publishing activities related with organic agriculture started in 2004. As a result of these studies, under Armutlu- Çınarcık Organic Agriculture Basin Project organic agriculture was started in the region by including 21 farmers with an area of 300 decares into the control and certification system in June, 2005. Within the scope of this project, 11 farmers from Çınarcık-şenköy were included to the system to produce cranberry in an area of 74 decares. 9 farmers from Armutlu Mecidiyeköy village and one from Selimiye village was also included to produce olive, vegetables and fruits organically in an area of 300 decares. In 2006, 4 farmers from the villages of Kirazlı and Güneyköy were included in the control and certification system to produce vegetables and fruits in an area of 70 decares.
- 33 In 2007, the application area of this project was expanded. Armutlu- Çınarcık Organic Agriculture Basin Project” was renamed as Yalova Organic Agriculture Project” to embrace the whole Yalova. Within this process, 33 farmers from the villages of Altınova-Sermayecik were included in the control and certification system to produce fruits (primarily strawberry and cherry) in an area of 378 decares. 75 farmers from the village of Armutlu-Fıstıklı was also included to produce olive in an area of 762 decares. 7 beekeepers with 515 hives also participated in the project. In 2007, 6 producers received the “Master Certificate” in the production of olive, walnut, black cherry, cherry with vegetables as intermediate product while 22 producers received their transition product certificate for strawberry¹³.

Table 3 - Production Areas and The Number of Producers Registered to the System of Organic Agriculture Certification

Years	Certification of organic farming system of registered farmer	Organic farming area (dekar)	Beekeeper registered certification of organic farming system	Number of organic beehive
2005	21	300		
2006	4	70		
2007	108	1 140	7	515
2008	3	77	1	50
2009	33	785,4	9	800
2010	30	708.89	9	800

Source:Data of Yalova Provincial Agricultural Directorate-2011

- 34 2 farmers from Armutlu-Mecidiyeköy and 1 farmer from the village of Selimiye who were incorporated to the certification system in 2005 were excluded from the certification system in June, 2007 due to the fact that they could not carry out the transition to the organic farming methods because of the deficiencies in labor force, equipments and resources. On the other hand 4 producers from Çınarcık-şenköy who were included in the certification system in 2005 received their certificates for producing 30 tons of cranberries in an area of 29 decares. 6 farmers from Armutlu-Mecidiyeköy also received their certificates for producing olive, walnut, black cherry, cherry and vegetables as intermediate products in an area of 27 decares.
- 35 130 tons of strawberries which were produced by 22 farmers from Altınova-Sermayecik (incorporated to the certification programme in 2007) in an area of 55 decares were certified and put on the market.
- 36 18 strawberry producers received master certificate for 120 tons of products in an area of 44 decares and 10 cherry producers received transition product certificate for approximately 40 tons of products in an area of 18 decares. Moreover, Organic Cherry Plantation in Armutlu Hayriye and Selimiye with 4800 cherry saplings in an area of 120 decares, Organic Blackberry Plantation in Altınova Sermayecik with 2000 saplings in an area of 5 decares were established. In 2008, 2 farmers in an area of 48 decares and 1 beehiver with 50 hives participated in the system
- 37 In the first half of 2009, 9 producers received their master certificates for 70 tons of products. In the same year, within the region of Çınarcık and Armutlu, (in the villages of Ortaburun, Teşvikiye, Kocadere, Esenköy, Fıstıklı, Mecidiye, Hayriye and Selimiye) necessary formal permissions were granted for certification of forestry by-products and the firm for control and certification process was applied.

Table 4 -Distribution of the Lands for Organic Agricultural Production under the Project in Yalova (2009)

DISTRICT	VILLAGE	NUMBER OF FARMS	PRODUCTION AREA (DEKAR)
YALOVA MERKEZ	Güney	1	33,33
	Kirazlı	3	40,14
	Kadıköy	2	67,682
	Hacımehmet	1	8,852
	Kazımiye	1	8,4
	Kurtköy	1	11,47
ARMUTLU	Mecidiye	6	69,165
	Hayriye	9	137,325
	Selimiye	1	194,216
	Fıstıklı	1	17,364
TERMAL	Akköy	1	49,54
ÇİFTLİKKÖY	Gacık	1	25,95
ÇINARCIK	Ortaburun	4	74,845
ALTINOVA	Sermayecik	1	47,121
TOTAL		33	785,4

Source:Data of Yalova Provincial Agricultural Directorate-2011

- 38 When we evaluate the data of 2009 and onwards, 9 farmers from the villages (Güneyköy, Kirazlı, Kadıköy, Hacımehmet, Kazımiye ve Kurtköy) in Merkez district with an area of 169,874 decares, 17 farmers from the villages (Mecidiye, Hayriye, Selimiye, Fıstıklı) in Armutlu district with an area of 418,07 decares , 1 farmer from Akköy in Termal district with an area of 49.54 decares,1 farmer in Gacık in Çiftlikköy district with an area of 29.95 decares, 4 farmers in Ortaburun of Çınarcık district with an area of 74.845 decares, 1 farmer in Sermayecik of Altınova district with an area of 47.121 decares are engaged in agriculture and their lands for agriculture are generally small.
- 39 If we mention to the production in terms of quantity, 72.359 kg of fruits were produced under the scope of this project.Fruit production out of the scope of this project was 6473 kg. As to the production of vegetables, 45.775 kg under the scope of this project, 86.555 kg out of the project were produced. In terms of field fodder crops, 64.800 kg was produced under the scope of this project and 64.800 out of this project. Spice and tea productions were realized with 1066.5 under the scope of this Project and 40 kg out of the Project. In terms of fruit production, grape, strawberry and olive ranked at top places. As to the vegetables, green pea, tomato, pepper and cabbage had the highest quantity while it was corn in field fodder crops, linden and parsley for the group of spices and tea.

Table 5 - Growing Organic Products in Yalova

VARIETY	Scope of the Project Produced (kg)	Project Non-Production (kg)	VARIETY	Scope of the Project Produced (kg)	Project Non-Production (kg)
FRUIT GROUP			VEGETABLE GROUP		
Pear	1530		Broad bean	1650	
Quince	2600	50	Pea	7925	
Walnut	4147	150	Paprika	3650	3070
Pine nut	1050		Broccoli	2500	460
Strawberry	16250		Tomato	6500	32600
Mulberry	330		Artichoke	2200	
Apple	884	20	Bean	3900	900
Plum	1989	30	Carrot	300	
Hazelnut	400		Cucumber	500	17800
Grapefruit	100		Spinach	1000	100
Fructus jujubae	100		Zucchini	1675	150
Elcagmus	10		Brassica oleracea	2200	1000
Fig	1391	250	Watermelon	1000	
Prunus laurocerasus	120		Apium graveolens	550	75
Apricot	190		Cabbage	3500	1525
Cornus	70		Lettuce	1050	7150
Cherry	4802	50	Aubergine	1580	20100
Kiwi	1000	4988	Chard		50
Rosehip		30	Leek	800	50
Mandarin	50		Rucola	195	
Mespilus Germanica	415		Garlic	700	
Pomegranate	441		Purslane	100	
Orange	20		Onion	1950	25
Peach	1237	20	Lepidium sativum	50	
Japanese persimmon	205		Radish	300	1500
Grape	20070	300			
Black cherry	980		TOTAL	45775	86555
Eriobotrya japonica	80		SPICES AND TEA GROUP		
Olive	11898	585	Rosemary		5
TOTAL	72359	6473	Daphne	10	10
FORAGE CROPS			Dill	120	
Vicia sativa	4100	4100	Basil	129	
Trefoil	7700	7700	Tilia	410	
Corn	49000	49000	Parsley	245	10
Avena	4000	4000	Melissa	37.5	
TOTAL	64800	64800	Mint	115	10
			Matricaria		5
			TOTAL	1066.5	40

Source: Data of Yalova Provincial Agricultural Directorate – 2011.

- 40 Wild Collection are common in Armutlu and Çınarcık districts. Peanut cone, mushroom, arbutus, rosehip, chestnut, linden and daphne constitute these products that are gathered. Organic apiculture is carried out from a beehive in the villages of Sermayecik, Teşvikiye, Esenköy, Kocadere, Kadıköy, Geyikdere, Güneyköy, Elmalık, and Sugören. The villages with a number of hives over 100 are respectively Kadıköy, Elmalık, Sermayecik and Geyikdere.
- 41 Out of Special Provincial Administration of Yalova, Atatürk Central Horticultural Research Institute (60 decares), hamlet farm (21 decares) Thuya (15.83 decares) and Elite Agr-05 in şenköy realize organic agriculture within an area of 170.15 decares.

Table 6 - Wild Collection in Organic Agriculture in Yalova (2009)

DISTRICT	VILLAGE	PRODUCT	AREA (da)
Armutlu	Mecidiye	Peanut cone, Mushrooms, Arbutus, Rosehip	23 679
	Hayriye	Peanut cone, Mushrooms, Arbutus, Rosehip	14 779
	Selimiye	Mushrooms	21 586
	Fıstıklı	Peanut cone, Mushrooms	25 057
Çınarcık	Esenköy	Chestnut, Arbutus , Daphne , Rosehip, Linden	14 910
	Kocadere	Chestnut, Arbutus , Daphne, Rosehip, Linden	14 960
	Teşvikiye	Chestnut, Arbutus , Daphne , Rosehip, Linden	24 440
	Ortaburun	Peanut cone, Chestnut, Arbutus, Daphne, Rosehip, Linden	8 420
TOTAL			147 850

Source: Data of Yalova Provincial Agricultural Directorate – 2011.

Table 7- Organic Apiculture in Yalova

District	Village	Number of Beekeeper	Beehive Number	Honey produced (kg)
Altınova	Sermayecik	1	100	1 500
Çınarcık	Teşvikiye	1	50	750
Çınarcık	Esenköy	1	60	900
Çınarcık	Kocadere	1	55	825
Merkez	Kadıköy	1	185	2 775
Altınova	Geyikdere	1	100	1 500
Merkez	Güneyköy	1	50	750
Merkez	Elmalık	1	150	1 500
Merkez	Sugören	1	50	500
TOTAL		9	800	11 000

Source: Data of Yalova Provincial Agricultural Directorate - 2011

Socio-Cultural and Economic Contributions of Organic Agriculture to Farmers from Yalova

- 42 That the organic agricultural applications contribute in great amount to farmers in terms of economic, social and cultural respects is a fact that cannot be ignored. To mention about sociocultural and economic contributions of organic agriculture to the farmers in Yalova; the farmers engaged with organic agriculture started to produce by exploring, observing, comparing and questioning more as compared to those who were engaged with conventional agriculture. The dialogue among farmers improved thanks to the organic agriculture applications and hereby the consciousness of being an organized community was developed. Alternation in agriculture was employed. Post-production wastes and animal wastes taken from the farms and factories were recycled into organic substances after a process of compost. Farmers became much more conscious and sensitive to the effects of chemical inputs on human health and environment. These applications provided farmers the habit of record keeping and improved their abilities in financial analysis and the planning in implementations. Primarily, the farmers launched initiatives aimed at crop processing, packaging, conservation and transportation of the products they grow by being a part of the cooperative. Each positive application encourages the development of the organic agriculture in the region. In our country, it is still a valid approach that upon seeing the positive examples of any work, the others will adopt the same.
- 43 “Yeşil-Mavi Turizm Seyir Yolu (Green-Blue Tourism Route) - Regional Development based on Alternative Tourism and Organic Agriculture”¹⁴ will be a new initiative in the Socio-Cultural and Economic life of Yalova citizens when it is fully implemented.

Major Problems regarding the Use of Existing Potential for Organic Agriculture

- 44 We cannot separate the problems of the region in terms of agriculture and especially agriculture from the agricultural problems of our country. Turkish agriculture is economically unproductive¹⁵ encouraging pre-modern social behaviour and relationship, and lacks of innovations. Agricultural modernization, today, means the

development of sustainable practices, better valorisation of healthy, culturally sound Turkish products and fair relations between the producers and the consumers¹⁶

- 45 The main challenges in the way of using existing opportunities for organic agriculture in Yalova are the intension of farmers particularly in higher regions to produce for their consumption rather than marketing, farmers' lack of consciousness, education and knowledge, small and partial lands, insufficiency in the organizations of producers, being highly foreign- dependent on the supply of organic materials, nonexistence of supportive policies providing the development and expansion of information flow among firms, general inadequacy of incentive policies or the difficulties in the application of them, limited researches in this field, inadequacy of qualified person, lower domestic demand related with income per capita, the existence of tough competitors in foreign markets and the fact that there is still a deficiency in settled markets for organic products, while it was already got over in the marketing of conventional products. In most cases farmers and post-harvest businesses seeking to sell their products in developed countries must hire an organic certification organization to annually inspect and confirm that these farms and businesses adhere to the organic standards established by various trading partners. The cost for this service can be expensive, although it varies in relation to farm size, volume of production, and the efficiency of the certification organization. Governments need to know the potential of organic agriculture to contribute to sustainability in order to direct research and extension efforts¹⁷.
- 46 The following some problems, areas of interest and needs were identified and debated at MAIB Workshop on "Cooperation and Research in Organic Agriculture in the Mediterranean" 2009: lack of ability to foresee challenges; lack of support policies; lack of harmonization; poor organization of small farmers; lack of organic agriculture plan; lack of dialogue between research and policy; insufficient research; not rational funding initiatives; lack of funds; fragmentation of organic organizations; lack of cooperation between farmers and other stakeholders; low representation and organization of organic sector; disorganization of the sector; poor farmers training; lack of advisory services; undefined quality of organic food; organics and local food; organic systems and terroir; lack of definition of organic quality; poor definition of quality indicator for organic food; poor management of soil fertility; lack of organic inputs; lack of knowledge on plant protection; lack of input for organic agriculture; improvement of local varieties and breeds; weed control by agronomic practices; collection of local species to be used in plant protection; need to improve the cultivation of local crops; sustainable management of agricultural resources¹⁸.
- 47 The foregoing findings match the problems we identify for Turkey and Yalova as its sub-field.
- 48 Supposing that existing problems have been overcome or to some extent lessened, farmers in this region will run their agricultural activities to which they are accustomed and they will maintain their lives in better conditions since their income statue will be rising. By this way, it will be possible to preserve natural environment, provide better living conditions for the people in rural areas and supply natural products to the market. Moreover, this will be helpful for the development of region. It will keep the population in rural areas and contribute to the resolution of cities' problems by preventing migrations.

- 49 Families which will be engaged in organic agriculture should be enlightened and supported. In addition, it is very important to build up the relation between production and marketing wholesomely. Products gained with these applications should also be supplied to the markets where demands for organic agricultural products are considerably higher.

Conclusion and Evaluation

- 50 Natural resource abundance of Yalova in terms of climate, soil, water resources and vegetation cover, its diversity of agricultural products with its population sufficient in quantity and quality, the existence of conventional knowledge and experience to support organic agriculture, employment increase in the sector of organic agriculture will ensure organic agriculture to employ more people as it is a labor intensive type of agriculture. The Project of organic agriculture supported by EU being in hand, continuously growing demands for organic products in the world due to increasing consumer awareness, agricultural products having a market with higher prices, the advantage of Yalova in terms of accessing to foreign markets due to its location which is near to the regular markets and finally growing demands for eco-tourism provide the basis for organic agriculture to develop in Yalova.
- 51 The demand for organic products has created new export opportunities for the developing world. While some consumers express a preference for locally-grown organic foods, the demand for a variety of foods year-round makes it impossible for any country to source organic food entirely within its own borders. As a result, many developing countries have begun to export organic products successfully. Typically, organic exports are sold at impressive premiums, often at prices 20 percent higher than identical products produced on non-organic farms¹⁹. The price difference between the organic products and inorganic products in our country is more than 20 %.
- 52 It is therefore so crucial to benefit from these opportunities. These applications for organic agriculture also attract the attention of other regions where a high potential for industry and tourism exist. Providing that these opportunities are benefited well enough, they will contribute economically and socially to local community and be an incentive for tourism activities. In this way ecological environment will be preserved as well. Due to such reasons, it is quite important and necessary to encourage and implement organic agriculture in the region.
- 53 As we evaluate the data obtained in this study, organic agriculture which has a key position in terms of production and consumption within a large number of countries across the globe, does not have a remarkable share in the general agricultural activities of Turkey even though Turkey has a wider area suitable for organic agriculture as compared to many developed countries. In fact, this situation stands for Yalova, too. This circumstance has created awareness in the region. However, what is more important is that the sustainability of this awareness should be provided. While technologies are impairing the nature rapidly in all parts of the world day by day, this pace is relatively slow in the activities aimed to preserve the nature. From this point of view, the lands in which natural resources have not been destroyed should be preserved and supported in accordance with this awareness not only in our country and in areas where researches are carried out but also in the world as well. That is why

a land allocated for organic agriculture is the benefit of not only that landowner but also the whole humanity.

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RÉSUMÉS

La pression qui augmente de jour en jour sur les ressources naturelles et les problèmes de la malnutrition conduisent à porter un intérêt croissant aux produits biologiques. Il est assez important de s'interroger sur les surfaces convenables pour la récolte des produits biologiques et d'évaluer les potentiels d'agriculture de ces surfaces. La ville de Yalova, sujet d'étude de cet article, dispose des conditions convenables pour pratiquer l'agriculture biologique. La pratique des activités agricoles effectuées dans la région adaptée aux bases fondamentales de l'agriculture biologique permettra de valoriser le potentiel d'agriculture biologique de la région. De cette manière, les revenus obtenus augmenteront le niveau de vie des habitants de la région, les ressources naturelles de la région seront conservées et les produits biologiques obtenus seront des ressources de vie saine.

Dans ce travail, on a étudié le potentiel d'agriculture biologique et l'importance de ce type d'agriculture pour la région. On a tout d'abord réfléchi sur le potentiel de la région pour l'agriculture et la situation générale de l'agriculture biologique en Turquie et dans le monde entier. On a ensuite traité du processus du développement et des caractéristiques de l'agriculture biologique à Yalova.

Increasing pressure on natural resources and the problems caused by unhealthy eating habits have brought along an increase in demands for organic products. Therefore, determining the lands suitable for organic farming with an evaluation of their potentials is of great importance. The city of Yalova which constitutes our research sector has convenient conditions for organic farming. After a regulation of current agricultural activities in accordance with the fundamentals of organic farming, remarkable potential of the field would be availed by putting them into practice. Welfare level of the citizens would also be enhanced with incomes earned there from. In addition to these, natural resources would be preserved due to these ecological concerns. Organic food crops provided there from would be the resources of a healthy life.

In this study, the potential for organic agriculture in Yalova and its importance for the region were examined. First of all, agricultural potential of the region was referred and the general outlook of organic farming in Turkey and the world was examined. An evaluation was carried out after development process and its features in the organic farming of Yalova were considered.

INDEX

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