

AN ANALYSIS OF ORGANIC AGRICULTURE IN TURKEY: THE CURRENT SITUATION AND BASIC CONSTRAINTS

Zeynep ÖZBİLGE*

*Graduate of Marmara University, European Community Institute, Department of European Union Economics, 34722. Istanbul – Turkey.

E-mail: ozbilgez[a]yahoo.com

ABSTRACT

This article gives information about the current situation of Turkish organic agriculture, especially by comparing the official recognition for organic farming in the European Union with that of Turkey and summarizes the existing constraints. The analysis indicates that the further development of Turkish organic agriculture depends upon the development of the domestic organic market and Turkey has to fulfil a number of conditions to provide it. It is needed that the Turkish state both encourages organic production for the domestic market and supports organic agriculture by all means.

KEY WORDS: Turkey, organic agriculture, domestic organic market, EU

1. INTRODUCTION

Organic agriculture which is characterized by the non-use of artificial fertilizers and synthetic pesticides in crop and fodder production, hormones and antibiotics in livestock and poultry production and the genetically modified organisms is a sustainable type of agricultural production [18]. In other words, organic agriculture not only protects the environment and human health but also it is a high value added economic activity, decreasing the immigration and providing farmers with a higher income opportunity. As a result, these properties altogether cause organic agriculture to receive more worldwide attention every day and be supported by increasing number of people. By the end of 2006, the worldwide land dedicated to organic agriculture has already exceeded 30 millions of hectares. [28]

On the other hand, the organic agriculture in Turkey certainly needs further development. Even though Turkey has important advantages in organic agriculture in terms of unpolluted soils, favourable climate that facilitates the growth of a large variety of crops, great agricultural production capacity [27] which allows Turkey to produce approximately 4 % of the annual, total vegetable and fruit production of the world and Turkey's high contribution to utilised agricultural area, Turkey cannot make use of these advantages and become one of the leading organic producer countries. The ongoing foreign demand, which initiated the organic agriculture in Turkey is responsible for this situation since it is the foreign demand that influences all organic production decisions. Due to the fact that the further development of the organic agriculture in Turkey cannot be realized without the development of the domestic organic market and export-based organic agricultural production is a serious obstacle preventing the domestic organic market development, it is a need that Turkey changes its priorities in organic agriculture.

In this regard, the aim of this article is to give the readers an idea about the present situation of organic agriculture in Turkey by allowing a comparison with the European Union and demonstrate why the domestic organic market development is essential for the development of organic agriculture in Turkey.

For this purpose, qualitative research [13], which is based on small, non-representative samples and non-statistical data analysis, was chosen to examine the Turkish domestic organic market in depth. Two groups of samples, the first group of seven control and certification bodies in Turkey and the second group of eight Turkish organic producer firms were chosen for the interviews. Each group of respondents was asked different questions to put forward the current situation of organic agriculture in Turkey.

Even though the qualitative research [13] is characterized by unstructured data collection where the participants talk freely on a specific issue, this approach was put aside this time and each group of participants was implemented a questionnaire to obtain clear answers and prevent the loss of time. All interviews were analysed by the use of Ethnograph Version 5.

2. RESULTS

The initiation of organic agriculture in Turkey only dates back to the 1980s. Due to the fact that the initiation of organic agriculture in the developing countries –like Turkey- is always realized by the demand coming from foreign countries, organic agriculture in Turkey began with the European demand [3]. However in time, Turkish organic agriculture started to record a fast development. Especially after the adoption of the first regulation of organic agriculture in 1994 by the Turkish Ministry of Agriculture and Rural Affairs, a boost was seen in total organic land, the number of organic producers and product varieties.

Table 1. The Development of Organic Agriculture in Turkey

Year End	Total Organic Land (in hectares)	Number of Organic Producers	Number of Organic Product Varieties
1990	1037	313	8
1992	6077	1780	23
1994	5196	1600	20
1996	15250	4035	37
1998	24042	8199	65
2000	59649	13187	95
2002	89827	12428	150
2004	209573	12806	174
2006	192789	14256	203
2007	174283	16276	201

Source: The number of organic product varieties for the period 1990-2000 is taken from [8] while the rest of the data for the same period are obtained from [26]. The data for the period 2002- 2007 are taken from the Turkish Ministry of Agriculture and Rural Affairs.

However, the organic agriculture in Turkey is still far away from being developed and this situation can be easily understood when the proportion of total organic land inside the total utilised agricultural area for Turkey is compared with that of the selected EU 25 countries.

Table 2. Total Organic Land as a Share of the Total Utilised Agricultural Area in 2005

Countries	Total Organic Land* in 2005 (ha)	Total Utilised Agricultural Area** in 2005 ¹	The Proportion of Total Organic Land in the Total UAA (%)
Austria	360.369	3.276.082	11
Italy	1.069.462	12.731.690	8,4
Czech Republic	254.982	3.541.417	7,2
Portugal	233.458	3.705.683	6,3
Germany	807.406	17.178.851	4,7
Spain	807.569	25.236.531	3,2
France	560.838	28.041.900	2
Ireland	34.912	4.364.000	0,8
Poland	82.730	13.788.333	0,6
Malta	14	14.000	0,1
Turkey	203.811	26.027.240	0,8
* Total Organic Land is the sum of fully converted and under conversion areas.			
** Total Utilised Agricultural Area refers to the area taken up by arable land, permanent grassland, permanent crops and kitchen gardens.			
¹ Own calculations			

Source: The data of all EU countries are obtained from [9] and the data of Turkey is obtained from [19].

According to Table 2, Austria is the EU country that has the highest share of total organic land inside the total UAA while Malta has the smallest share. Further examining the table, the total utilised agricultural area of Turkey is comparable to those of France and Spain, which are the two EU countries with the highest contribution to total utilised agricultural area. Despite this fact, Turkey does organic production only on 0,8 % of its total utilised agricultural area and this situation causes Turkey to be compared to Ireland, Poland and Malta which are the three countries with the lowest shares in the EU 25.

2.1. Official Recognition for Organic Agriculture in Turkey

It is a fact that the agricultural policy is always a good indicator of the state recognition for organic agriculture and the financial aid is a crucial instrument of the support given to organic agriculture. However in Turkey, the level of state recognition and the financial support for organic agriculture are really insufficient. From the perspective of the Turkish agricultural policy, organic agriculture is not an important goal and this situation is more visible when Turkey is compared with the EU.

Table 3. Examples of National Targets for Organic Agriculture in Selected Countries

Target	Share of Organic Area	Target Year
Netherlands	10 %	2010
Germany: Organic Farming Scheme	20 %	2010
Portugal	7 %	2008
Turkey	3 %	2013

Source: Information for EU countries are obtained from [20] while information for Turkey is taken from [5]

Even though a union- wide action plan already exists in the EU since 2004 and some of the union members have all determined national targets to expand their organic production, Turkey does not even have a national action plan designed to develop its organic agriculture. Furthermore, Turkey's target of 3 % of the total agricultural area to be organic is really modest and the year 2013 is a rather late date to achieve it.

In the meantime, the financial support paid for organic agriculture in Turkey is also limited. There are three types of financial support to be used by the organic producers in Turkey. The former, which entered into force in 2004, is the main support. According to this, all the registered entrepreneurs doing the production of organic agricultural products and inputs, collecting them, packaging them, making their trade or who are in the conversion period can use enterprise and investment loans with a 60% discount from the Turkish Agricultural Bank [6]. Nevertheless, the number of entrepreneurs to benefit from this support is low as shown in Table 4.

Table 4. Number of Entrepreneurs Benefiting from Organic Agriculture Credits in Turkey

Years	Total number of entrepreneurs using organic agriculture credits	Total number of organic producers*	Proportion of entrepreneurs in the total number of org. producers (%)
2004	116	13075	0,9
2005	222	14777	1,5
2006	545	14456	3,8
2007	681	16452	4,1
* Total number of organic producers includes the producers in the conversion period in addition to organic farmers, the producers of organic livestock and honey.			

Source: Turkish Ministry of Agriculture and Rural Affairs

Moreover, Turkish organic producers can also make use of additional direct income support payments since 2005. Nonetheless, an organic producer must be registered in the Organic Agricultural Information System and cultivated organic area of the producer must not be less than a decare in order to benefit from these payments [22].

Finally, there is a new practice called “Implementation Project of the Agricultural Reform” (IPAR) which also brought some support for organic agriculture. As it is demonstrated in Table 5, the highest level of support will be paid to the second category, which includes organic agriculture.

However, this support will not only be implemented solely in four environmentally-sensitive regions, which are of key importance in the protection of birdlife, but also be paid only once a year for three years, beginning from 2006 [25]. As a consequence, the effect of this support will remain limited.

Table 5. The Financial Support to be Paid by IPAR in Selected Categories

Categories	Inclusion of Support	Amount of Financial Support *
First Category	Fight with erosion Improvement of land Drainage	40 US \$
Second Category	The use of appropriate watering techniques The controlled use of fertilizers, hormones, pesticides The use of organic fertilizers Implementation of organic agricultural practices Implementation of good agricultural practices	90 US \$
Third Category	Prevention of overgrazing Cultivation of fodder crops Improvement of pastures and/or establishment of new pastures	40 US \$
* The amount of financial support will be paid for each acre and will be the equivalent of US dollars in the Turkish currency.		

Source: TUGEM

2.1.1. Legal Framework of Turkish Organic Agriculture

The regulation and law of organic agriculture make up the legal framework of Turkish organic agriculture by establishing the basic principles of activities related to organic agriculture.

The first Turkish regulation of organic agriculture entered into force in 1994. It not only set up the rules for the organic production of plants and animals, but also established two committees [14]; the Committee of Organic Agriculture and the National Orientation Committee of Organic Agriculture. While the former committee is responsible for the activities to develop organic agriculture and the controlling of certification and control bodies, entrepreneurs, etc, the latter determines the necessary strategies for the trade, recognition and research of organic products. The regulation, which was revised from time to time, came into force on its final form on June 10th, 2005.

On the other hand, there is the law of organic agriculture, which came into force on December 3rd, 2004 [14]. The law regulates the activities of the two committees, control and certification bodies, entrepreneurs and also other issues such as; the external trade and advertisements of organic products and inputs, the supervision of responsible authorities and the penalties.

2.1.2. The Control and Certification Bodies in Turkey

The total number of control and certification bodies working in Turkey is thirteen. Going into further details, there are a few important points about these bodies.

Table 6. The Control and Certification Bodies in Turkey

Name of Control and Certification Body	Origin	Location¹
OR-SER ²	Turkey	Ankara
IMC	Italy	Ankara
NISSERT	Turkey	Ankara
IMO GmbH	Switzerland	Izmir
ECOCERT	France	Izmir
ETKO ⁵	Turkey	Izmir
CONTROL UNION	Holland	Izmir
BCS	Germany	Izmir
ICEA	Italy	Izmir
CERES GmbH	Germany	Izmir
EKOTAR ^{3,4}	Turkey	Mersin
TURKGAP	Turkey	Mersin
ANADOLU	Turkey	Yalova

¹ Turkey is divided into seven geographical regions. The distribution of the control and certification bodies among the regions is as follows: Ankara (Central Anatolia Region), Izmir (Aegean Region), Mersin (Mediterranean Region), Yalova (Marmara Region).
² OR-SER has a branch office in Samsun (Black Sea Region).
³ EKOTAR has a branch office in Ankara.
⁴ EKOTAR works together with their Italian partner, Bioagricert.
⁵ ETKO works together with a German partner, Lacon.

Source: The Turkish Ministry of Agriculture and Rural Affairs

The first point that is worthy of notice is their origins. As it is clearly seen from Table 6, most of these bodies are the Turkish branches of foreign, international control and certification bodies. This is certainly an important finding because the international control and certification bodies generally prefer to open new branches in countries with the emerging stage of domestic

organic market development.

Moreover, the costs of inspections by these bodies range from 250 to 500 Euros per control [15]. When comparing these costs of inspections with those of Austria [2], which are 110-150 Euros per control, the inspections in Turkey are really expensive. In this connection, the uneven distribution of the control and certification bodies among the geographical regions of Turkey and the costs of laboratory analysis are responsible for the high prices of inspections. Dealing with the former, seven of these bodies are located in Izmir since most of the organic products are exported from the port of Izmir. Furthermore, there are recent developments in the laboratory analysis of pesticides in Turkey. The samples of analysis which were all sent abroad before can now be analyzed in Turkey due to Turkey's progress in the laboratories' accreditation. In addition to an increase in the number of accredited laboratories, there is also an increase in the total number of pesticides that these laboratories can analyze. However, the prices of laboratory analysis in Turkey are variable and therefore, an analysis may sometimes cost more in Turkey than abroad [16].

2.1.3. Data Collection in Turkey

It is a fact that the collection of statistics related to organic agriculture is essential in the preparation of the good agricultural policy to support organic agriculture. Despite this fact, the data collected in Turkey are limited to organic production, processing and exports. While the producer level data include the number of producers, the type of crops, the quantities, the geographical distribution of the producers and products; the processor level data consist of the types and quantities of processed organic foods [21]. However, the data of organic consumers and retailers which are necessary to follow the development of domestic organic market are not yet collected in Turkey and a database containing all kinds of organic data does not exist at the moment [21].

2.1.4. Research, Advice and Farmer Education in Turkey

Research, advice and farmer education are the three issues that are of key importance in organic agriculture because organic agriculture is an applied branch of science, which requires intensive research. On the other hand, each of these issues is in fact a source of constraint in Turkey.

From the perspective of research, organic agriculture is taught only in the agricultural faculties of some Turkish universities and there is a unique, professional high school where university students can learn organic agriculture as a profession. However, even this school is limited in effect since the training period lasts for two years and the students can also be trained for other professions.

Besides, the inadequacy of the Turkish advisory system for organic agriculture is another problem. When Turkey's current situation in advice is compared with that of Germany, the great differences in the point of view towards organic agriculture are clearly seen. While the advisory services in Germany [8] are provided both by the state and the producer organisations, such a structure unfortunately does not exist in Turkey. According to the current regulation [23], which came into force on September 8th, 2006, the agricultural advisory services in Turkey can only be provided by the private agricultural advisors who either work independently or are employed by agricultural institutions, such as the agricultural advisory companies and the producer organisations. In this case, only the Turkish organic farmers who are members of a producer organisation or have production with contract or are able to afford an advisor can receive advice.

Considering the insufficient knowledge of Turkish organic farmers about organic agricultural practices and combining this situation with the inadequacy of advice in organic agriculture, it is possible to encounter some frequently discovered problems in Turkey. For example, a Turkish organic farmer who organically grows figs or apricots can easily apply synthetic pesticides to other products, which he grows in the same plot with the organic products just because he thinks that he will only sell figs and apricots as organic [7].

2.2. The Constraints that impede the Further Development of Turkish Organic Agriculture

When examining the main constraints of Turkish organic agriculture, it will be logical to classify them into two groups; namely the production and the consumption constraints.

Regarding to the production constraints, the unfavourable Turkish agricultural policy is the most serious problem. In addition to the inexistence of a national action plan defined for organic agriculture, the main financial support of the sixty per cent discount on agricultural loans is also insufficient. Moreover, the Turkish regulation of organic agriculture, which establishes the principles of starting organic agricultural activities, is another problem because it requires too much bureaucracy and paperwork. For instance, a farmer who wishes to start organic agriculture must present the necessary documents to prove that the ownership or the right of use of land belongs to him [24]. In the meantime, the expensive costs of inspections, the inadequacy of the advisory system in organic agriculture and the insufficient knowledge about organic practices are also among the production constraints that Turkish organic farmers struggle with.

On the other hand, there are the constraints related to consumption. From the small field study carried out with the participation of eight organic producers from different regions of Turkey, interesting outcomes were obtained. The basic constraints in consumption are the lack of consumer recognition and the high retail prices of organic products in Turkey. Dealing with the first part of the problem, many of the Turkish consumers do not know the distinctive properties of organic products and have the wrong belief that natural products are superior to organic and “organic” and “ecological” are two separate terms [17]. Since the organic products in Turkey are preferred by university graduates or people who are open to learning, families with children and people whose ages are 40 or over with the main purchasing motives of health & food safety, taste and children; it is only a small part of Turkish consumers who really recognize these products. Besides, the organic products sold in the Turkish domestic organic market are 10-100 % more expensive than their conventional substitutes with the existence of two price sub-groups, which are 15-25 % and 40-70 %. While organic products can be sold with prices which are 10-25 % more expensive than the conventional, price differences exceeding 25 % impede the sales of organic products [17]. Meanwhile, the small number of sales channels is another constraint. The results of the field study demonstrated that organic products in Turkey are generally marketed

through the conventional market chains and the own organic stores of participant producers. Nonetheless, both sales channels are limited in number. In addition, Turkish consumers are unable to find a broad variety of organic products. Considering the fact that organic agriculture in Turkey began with the aim of exports, the organic products that the Turkish consumers can often encounter in the domestic market are dried fruits and vegetables, snacks, pulses; namely the products demanded by foreign countries.

3. DISCUSSION

Having reviewed the existing situation of organic agriculture in Turkey, a number of solutions can be proposed to Turkey.

Beginning with the solutions to production constraints, the first measure to be implemented by Turkey must be the conversion of organic agricultural production from export-based to domestic market based. Since it is still the foreign demand that continues to determine the organic products and their quantities [1], this situation seriously prevents further development of Turkish organic agriculture. Secondly, the preparation of an agricultural policy which will really support Turkish organic agriculture should be another measure. The Turkish state must support organic agriculture not only by giving financial credits for enterprise and investment, but also by providing financial aid for the inspections and advice. Besides, decreasing bureaucracy that is required to begin organic agriculture should also be a priority of the state. Thirdly, the state should start to collect and publish all statistics related to organic agriculture. In this respect, the statistics of organic consumption and retailing should also be collected, as well as an organic databank is established. Finally, the state must bring a solution to the insufficient knowledge of Turkish organic farmers. In this regard, the establishment of an “university of agricultural sciences” that will examine organic agriculture along with other agricultural branches, the research institutes which are solely dedicated to teaching and examining organic agriculture and a national advisory system which is composed of a

central advisory centre and smaller, local advisory centres as it is in Denmark [4]. These examples will all be appropriate for Turkey.

Continuing with the solutions to consumption constraints, the state must in the first place launch a nation-wide campaign through the media to improve the poor recognition of organic products by the Turkish consumers. However, it should not be forgotten to clearly emphasize the differences between the terms “organic” and “natural” in such promotions and schools should be involved in all promotions. Respecting the fact that the Turkish consumers of organic products are the middle-aged people and the families with small children whose main purchasing motives are health & food safety, taste and children, all promotions must directly target these people and the increase in the sales of organic products must be realized by the emphasis of these motives. In the meantime, the purchasing habits of Turkish consumers should also be taken into consideration when the further development of Turkish organic agriculture is planned. Since most of the ordinary Turkish consumers prefer to purchase fresh vegetables and fruit from the weekly markets [11], organic production for the domestic market should consist of these products and the weekly markets can be evaluated as a successful sales channel in increasing the organic sales.

On the other hand, the Turkish state should fulfil the conditions necessary to decrease the high retail prices of organic products. Considering the fact that the uneven geographical distribution of the thirteen control and certification bodies in Turkey, the costs of laboratory analysis and the lack of necessary, organic inputs and additives are responsible from increasing the retail prices of organic products to a large extent, these problems must be worked out. As regards the uneven geographical distribution of the control and certification bodies, the Turkish state should either permit the opening of new control and certification bodies only in regions without such bodies or encourage the existing control and certification bodies to open branches in regions where such bodies do not exist. Besides, the prices of the laboratory analysis of pesticides in Turkey should not be higher than those abroad.

REFERENCES

- [1] Akkaya, F.& H.,Tokgoz & B.Sayın.& B.Ozkan (2001). Turkiye’de Ekolojik Urun Uretimi ve Pazarlaması. Turkiye Ikinci Ekolojik Tarim Sempozyumu. July 7, 2004.
http://www.tarim.gov.tr/arayuz/9/icerik.asp?efl=uretim/organiktarim/organic_tarim.htm&curdir=/uretim/organiktarim&fl=EkTarSmpKi
- [2] Austria Country Report. January 5, 2006.
http://www.organic-europe.net/country_reports/austria/default.asp
- [3] Baydır, Fatma.(2004). Bakanlığımızda Dunden Bugune Organik Tarım. Turktarım 156 (March-April), 26-29.

- [4] Denmark Country Report. January 5, 2006
http://www.organic-europe.net/country_reports/denmark/default.asp
- [5] Dokuzuncu Kalkınma Planı. August 8, 2006
<http://ekutup.dpt.gov.tr/plan/ix/9kalkinmaplani.pdf>
- [6] Ekolojik Tarıma Devletten Büyük Destek (2004). December 10, 2004.
<http://www.bugday.org>
- [7] Eryılmaz, Vahap (2004). Ekolojik Tarım. Kırsal Kalkınmaya Çağrı (2), Düzce Kalkınma Dernegi S.S. Arabacı Koyu Tarımsal Kalkınma Kooperatifi
- [8] ETO. Türkiye’de Ekolojik Tarım. August 15, 2007.
<http://www.eto.org.tr/tureko.asp>
- [9] Eurostat News Release. September 13, 2007.
http://epp.eurostat.ec.europa.eu/pls/portal/docs/Page/PGP_PRD_CAT_PREREL/PGE_CAT_PREREL_YEAR_2007/PGE_CAT_PREREL_YEAR_2007_MONTH_06/5_12062007-EN-BP.PDF
- [10] Germany Country Report. January 5, 2006
http://www.organic-europe.net/country_reports/germany/default.asp
- [11] Kayahan, Serpil H.(2001).Ekolojik Tarımda İç Pazarın Gelişimi. Türkiye İkinci Ekolojik Tarım Sempozyumu. July 7, 2004
http://www.tarim.gov.tr/arayuz/9/icerik.asp?efl=uretim/organiktarim/organic_tarim.htm&curdir=/uretim/organiktarim&fl=EkTarSmpKi
- [12] Kirazlar, Namık.(2001).Ekolojik Tarım Mevzuatı. Türkiye İkinci Ekolojik Tarım Sempozyumu. July 7, 2004
http://www.tarim.gov.tr/arayuz/9/icerik.asp?efl=uretim/organiktarim/organic_tarim.htm&curdir=/uretim/organiktarim&fl=EkTarSmpKi
- [13] Malhotra, K. Naresh.(2002). Basic Marketing Research (Applications to Contemporary Issues). Upper Saddle River, NJ: Prentice Hall
- [14] Organik Tarımın Kanunu Var.(2004). December 12, 2004
<http://www.bugday.org>
- [15] Personal communications with the control and certification bodies in Turkey
- [16] Personal communication with Salih Gecikmis from Control Union
- [17] Personal communications with the Turkish organic producers
- [18] Scialabba El-Hage Nadia & Caroline Hattam (2002).Organic Agriculture, Environment and Food Security. FAO. December 25, 2004
http://www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/005/y4137e/Y4137E00.htm
- [19] Statistical Yearbook of Turkey 2004. State Institute of Statistics Prime Ministry Republic of Turkey. Ankara. October 19, 2005
http://www.die.gov.tr/yillik/yillik_2004.pdf

- [20] Stolze, Matthias (2005). The Current Agri- Policy Context: The European Action Plan for Organic Farming and the Current CAP Reform, Organic Farming in Europe 2005: Market, Production, Policy & Research. July 17, 2005
<http://www.fibl.org>English>news>
- [21] Sungu, Erdal.(2004).Data Collecting and Evaluation of The Organic Agriculture System in Turkey. Proceedings of the First EISfOM European Seminar, (87-90). February 10, 2005
<http://orgprints.org /2935/01/ recke-et-al-2004.eisfom-oe.pdf>
- [22] The Turkish Ministry of Agriculture and Rural Affairs. Tarımsal Üretim Yönelik Düşük Faizli Yatırım ve İşletme Kredisi Kullanılmasına İlişkin Uygulama Esasları Tebliği (No: 2007/12). September 12, 2007.
http://www.tarim.gov.tr/arayuz/10/icerik.asp?efl=org_tarim_destekler.htm&curdir = / uretim/organiktarim& fl=Tebliğ_2007-12.doc
- [23] The Turkish Ministry of Agriculture and Rural Affairs. Tarımsal Yayım ve Danışmanlık Hizmetlerinin Düzenlenmesine Dair Yönetmelik. September 16, 2007.
http://www.tarim.gov.tr/mevzuat/yonetmelik_son/Tarimsal_yayin_danismanlik_hiz_Duzen_Dair_Yonetmelik.doc
- [24] The Turkish Ministry of Agriculture and Rural Affairs. The Regulation of Organic Agriculture (2005). December 28, 2005
http://www.tarim.gov.tr/arayuz/9/icerik.asp?efl=uretim/organiktarim/organic_tarim.htm&curdir=/uretim/organiktarim&fl=organik.zi
- [25] TUGEM. Tarımsal Destekler, Tarım Reformu Uygulama Projesi. May 13, 2006. <http://www.tugem.gov.tr>
- [26] Türkiye İkinci Ekolojik Tarım Sempozyumu. July 5, 2004
http://www.tarim.gov.tr/arayuz/9/icerik.asp?efl=uretim/organiktarim/organic_tarim.htm&curdir=/uretim/organiktarim&fl=EkTarSmpKi
- [27] Türkiye Ziraatçılar Derneği. Sebze - Meyve Raporu (2006). June 7, 2006
<http://www.tzd.org.tr>
- [28] Willer, Helga & Minou, Yusefi-Menzler & Neil, Sorensen (Editors). (2008): The World of Organic Agriculture: Statistics and Emerging Trends 2008. IFOAM. May 9, 2008.
<http://www.orgprints.org/13123/02/willer-yusefi-sorensen-2008-finaltables.pdf>