Development of organic animal production in Turkey

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Introduction

Turkey is located at a point where the three continents are making up the old world. Europe, Asia and Africa are close to each other thus, making it is a pre-eminent centre of commerce for centuries. Turkey's surface area is 814,578 sq km of which 790,200 sq km are in Asia (Anatolia) and 24.378 sq km are in Europe. Turkey is divided into seven regions (Ege, Marmara, Blacksea, Mediterranean, Central Anatolia, East Anatolia and South East Anatolia Regions). The prevailing climate in Turkey is hot dry summers with mild, wet winters; harsher in interior. Terrain is composed of mostly mountains, narrow coastal plains and high central plateau. Because of its geographical conditions, the mainland of Anatolia has been found as favourable location for settlement throughout history.

Turkey has a suitable position for organic agriculture because of its different ecosystems and rich biodiversity. In addition to this, about 40 % population are engaged in agriculture. Total cultivated agricultural area is estimated to be 22,156,234 hectares. Currently, only 103,190 hectares of total agricultural area is in use for organic farming (~0.5% of agricultural land). The aim of this paper is to show the development of organic farming and to determine the possibilities for the future development of organic animal production in Turkey.

Development of organic farming in Turkey

Organic agriculture in Turkey was structured according to the demands that came from the exporters, traders or farmers from Europe. Organic agriculture started with dried fruits and nuts (fig, grape, apricot, and hazelnut) and was limited to eight products in 1984-1990. Due to increasing demand, after 1990, the number of farmers and products increased steadily in organic plant production (Aksoy *et al*, 2002). Organic animal production started to develop in the last 2-3 years, except beekeeping that has a longer history. The reasons for the slow start in animal production lies in the traditional structure of Turkish agriculture: an exporter and a large scale producer of dried products in the world, plant production is not integrated with animal production like in many other Mediterranean countries and there are general problems even in conventional animal production.

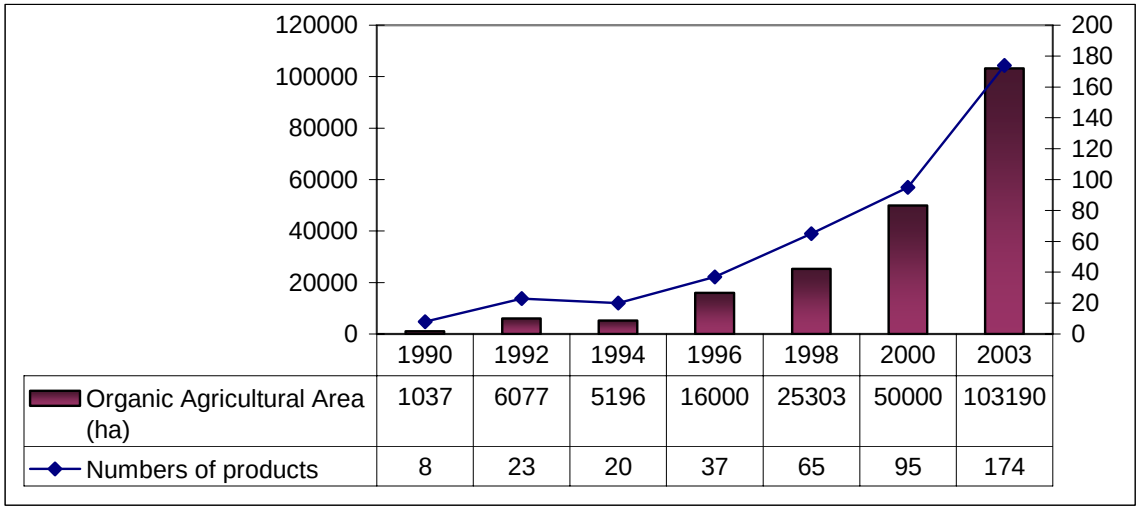
Statistics

According to the statistics given by the Turkish Republic, Ministry of Agriculture and Rural Affairs (MARA), total organic agricultural area was 1,037 hectares (ha), and the number of products was 8 in 1990. In 2003, total organic agricultural area was 103,190 ha, and the number of products was 174. Total organic agricultural area had increased 100 %, and the number of products had increased by 42 % between these years (Figure 1).

The number of farmers also increased from 133 in 1990 to 16,000 in 2000. It then decreased to 13,044 in 2003 (Figure 2). While the organic agricultural area increased, the number of farmers decreased in 2003, because exporters preferred big land owners in organic production instead of too many small farmers (Anonymous, 2004a). Total organic production is

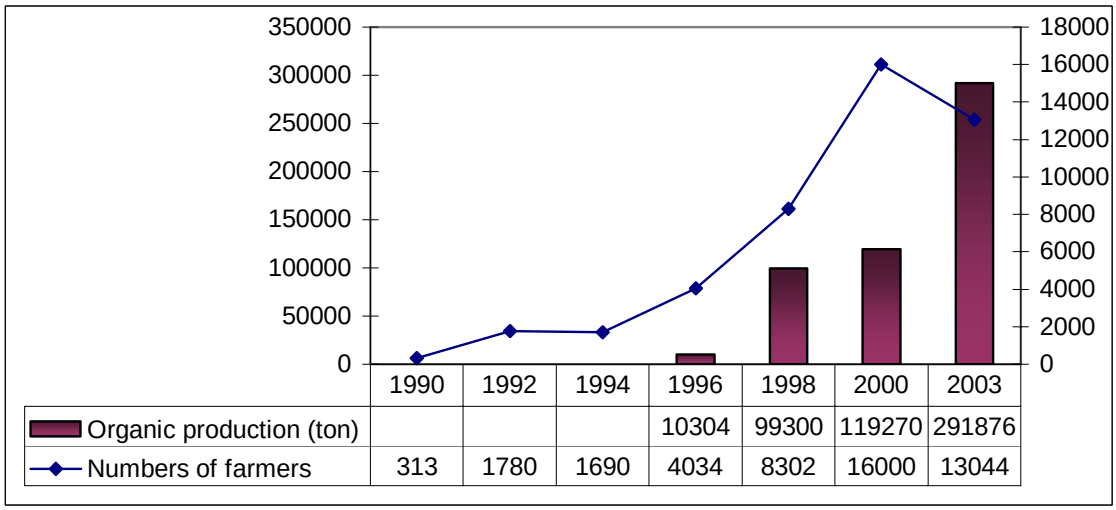
calculated as 291,876 tons in 2003, of which 15,275 ton is consumed in Turkey, mostly as conventional products.

Figure 1: The organic agricultural area and the number of products in Turkey in 1990-2003.



	1990	1992	1994	1996	1998	2000	2003
Organic Agricultural Area (ha)	1037	6077	5196	16000	25303	50000	103190
Numbers of products	8	23	20	37	65	95	174

Figure 2: Organic production and the number of farmers in Turkey in 1990-2003.

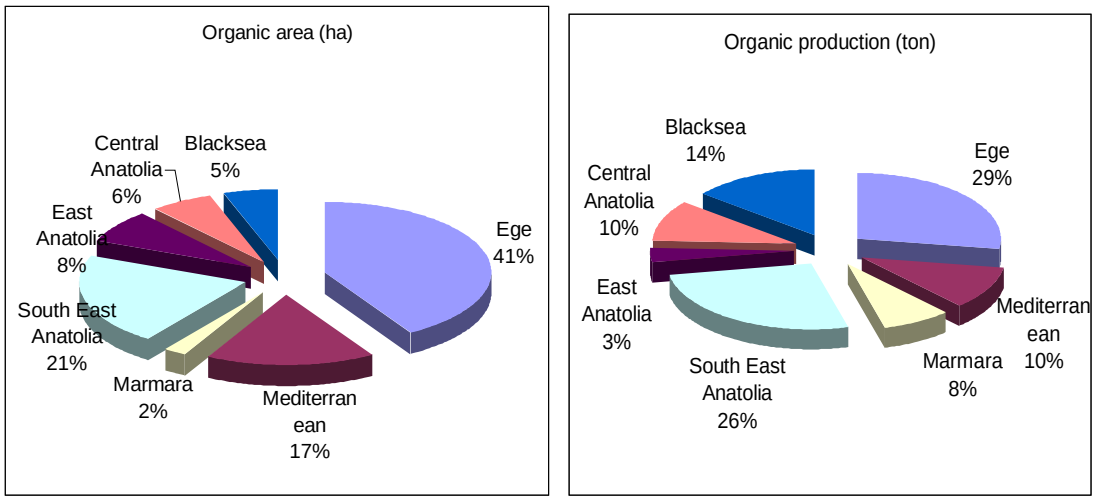


	1990	1992	1994	1996	1998	2000	2003
Organic production (ton)				10304	99300	119270	291876
Numbers of farmers	313	1780	1690	4034	8302	16000	13044

The distribution of organic farmers, within the Turkish regions, shows that Ege is leading, with 4,894 farmers, followed by Blacksea with 2,907, East Anatolia 2,021, Central Anatolia with 1,374, Marmara with 746, Mediterranean with 729 and lastly South East Anatolia with 373. The distribution of organic agricultural area according to the regions show that the majority is in Ege with 42,609 ha and a 41% share (Figure 3). Regarding the distribution of organic products with respect to the regions, most of the production is in Ege (29 %) with 80,639 tons (Figure 3).

Dried fruits and vegetables are the most common certified organic plant production system. According to the production data of organic animal production, certified organic production is rare and includes 48 tons of milk production, 8 tons of beef production and 4 tons of sheep meat production (Anonymous, 2004a). The number of organic beekeepers was 6 in 1998 and increased to 191 in 2003. Organic honey production was 679 tons in 1998 but, in 2003, increased to 1170 tons (Öztürk, 2004).

Figure 3: Distribution of organic area and organic production according to the regions in Turkey in 2003.



Standards, certification and labelling

Turkey is one of the few countries that has its own national organic regulation among developing countries, because it is an important exporter to the EU. Organic agriculture regulation in Turkey is based on EU regulation (Council Regulation EEC No 2092/91), was prepared by MARA and come into force on 18 December 1994 (No 22145). This regulation was revised and put into force on 11 July 2002 as "Principles and Application of Organic Farming" and animal production was included in this revision and modified according to Council Regulation EC No 1804/1999 (Anonymous, 2002). Alignment of the regulation is important for Turkey to be able to enter to the EU third country list. Equivalency with the EU will bring many advantages for the exportation of these products (Anonymous, 2004c).

Organic inspection and certification is carried out by private agencies authorized by Organic Agriculture Committee (OAC)" in MARA. There are seven independent inspection and certification bodies in Turkey. Five are representatives of European Agencies (IMO from Switzerland, Ecosert-sa from France, SKAL from Holland, BCS from Germany and ICEA from Italy) and two are Turkish Agencies (ETKO and EKO-TAR). Inspection and certification bodies must comply with the criteria of Turkish Accreditation Agency and issue certificates for exportation to the EU, EU quality standards (EU 45011). The farmers are visited and controlled at least once a year by an inspector. (Altındişli, 2002). The national organic label of Turkey is presented in Figure 4. The label is printed by MARA and the authority of this label belongs to OAC.

Figure 4: The national organic label of Turkey

Marketing

Almost all organic farmers in Turkey produce under contracted farming systems. Most of the organic products are exported to the EU countries. Germany is in the first row (about 55-60 % of total sales). The domestic market is much below the expected level but has started to develop since the last 2-3 years, due to the interest of people who are living in big cities. The sales of organic products in domestic market are made in natural product shops or in special sections of hypermarkets. Unfortunately, all products come from plant production, and there are few sales of organic animal products in Turkey.

Education and research

With the aim of providing healthy development of organic farming and to support education and researches in Turkey, Association of Ecological Agricultural Organisation (ETO) was established in 1992. ETO and MARA organize special courses and training, mostly for unemployed agriculture engineers, the extension workers at MARA and, rarely, for farmers. Currently, post-graduate organic farming lessons are given to students in some universities. There is an organic farming department in Kelkit Aydın Doğan Vocational School of Atatürk University in Erzurum. The school was opened in 2003.

Two national conferences were organised recently; next congress is planned for 2005. The first international organic animal production conference was organised in 2004 in İzmir, and 32 presentations were made, of which 17 were from EU countries. The congress was very successful and demonstrated the status of organic animal production in other countries.

The first research in organic farming in Turkey was carried out on organic viticulture. Following this, many research projects were supported by TÜBİTAK (Technical Research Council of Turkey), MARA and GTZ from Germany. In 2004, the research institutes of MARA prepared five projects on organic animal production. These projects were presented to the Agriculture Research and Development Directorate of MARA for support. Two of the projects are about "The Possibilities to Develop of Organic Aquaculture Production in Turkey" in Western Blacksea Region and South East Anatolia Region. The other three are about "The Development of Organic Sheep Production and Lamb Fattening" in Southern Marmara Region, "National Cattle Production" (South Anatolian Red / Kilis and East Anatolian Red)" and "Organic Beekeeping".

The possibilities of developing organic animal production in Turkey

The national animal stock of Turkey has an important potential for production. Large animal stock is 11 million heads, small animal stock is 35 million heads and poultry stock is 260 million. Total meat production is 1,348,134 Mt (of which beef and veal meat production is 381,000 Mt, mutton and lamb meat production is 286,000 Mt, goat meat production is 46,500 Mt and poultry meat production is 626.000 Mt), total milk production is about 8.160.000 Mt (of which cow milk, whole, fresh production is 7,100,000 Mt, sheep milk production is 780,000 Mt, goat milk production is 207,000 Mt) and egg production is about 543,000 Mt (Anonymous, 2004b).

The surface area that allows quality forage production in Turkey is 22.4 million hectares, of which the pasture and meadow land (grassland) is 21.7 million hectares and fodder crops land is 70,000 hectares. Of the main fodder crops in Turkey, the following are grown successfully: alfalfa (Medicago sativa), common vetch (Vicia ssp), maize for silage (Zea mays), and sorghum (Sorghum ssp) in all regions, white clover (Trifolium repens) in Marmara, Blacksea and transit regions, common clover (Trifolium protense) in Marmara, Blacksea, East Anatolia and transit regions, trefoil (Onocryshis viciaefolia) in regions where dry climate conditions dominate like central Anatolia. As a secondary fodder crop grown in winter seasons, common are vetch, common vetch+grain mix, clovers and clover+grass mix. For summer season; maize, sorghum, sudangrass (Sorghum sudanense) and sorghum+sudangrass mix in Mediterranean Region, maize on coastal regions, especially sorghum species durable to dry weather conditions inner regions, common vetch, trefoil and common vetch+grain mix can be grown in Eastern and Central Anatolia (Avcıoğlu et al, 2000). Grassland of Turkey has been damaged because of over-grazing, and its production capacity is very poor. (Kılıç, 2000)

Grassland should be improved and fodder crops should be increased in Turkey, Production of fodder crops are the basic branch to provide the integration of plant and animal production and this integration is the basic principle of organic agriculture (Şayan and Polat, 2002). Turkey is surrounded with seas from three sides, with different ecological characters, has altitude differences exceeding 5,000 meters from the sea level and various climatic zones arising from those features. Therefore, Turkey has become one of the most important countries is in its geography from the point of wetlands (Anonymous, 2004c). The integration of plant and animal production is very important in this wetlands, as by introducing fodder crops into rotations programs and by providing manure, soil structure and soil nutrition content will be improved, and the cost of organic plant and animal production will be decreased (Şayan and Polat, 2002). It may be easy to convert to organic management in animal production, if this integration takes place.

This is true especially in areas, where organic plant production is widespread, such as Düzce and Göksu Delta. Düzce is 200 kilometres from Istanbul, and has a great significance in respect to the drinking water of Istanbul (the Melen River passes through Düzce). Organic plant production in Düzce started after the big earthquake in 1999. The important organic products are beans, chickpea, peanut and maize. Although the city has fodder crops potential and quality grassland, organic animal production did not start, as organic fodder crops were not considered/integrated in organic plant production. There is rural a development cooperative, which has 200 members (from six villages) and an association working on organic production in the region. If the organic animal production starts in Düzce, it will be a good production model for other regions. In addition, drinking water provided from the Melen River will be protected from chemical pollutants. Goksu and Çukurova are other big wetlands

of Turkey. Goksu Delta is the second biggest delta on the Mediterranean Sea coast, after Çukurova Delta. Converting to organic animal production will be easier in Göksu Delta than Çukurova delta, as the area is already well-protected.

North and eastern parts of Turkey are especially suitable for organic animal production, with their capacity of pastures and meadow and stock of large and small animals. Also the agricultural structure, customs and the natural and economical conditions are considered to lend themselves for the development of organic farming (Kaymakçı et al, 2004). It will be easy to convert to sheep meat and milk production in the east and the southeast regions, as sheep nutrition is based on pasture and meadow. Organic milk and beef production has a good potential, as plenty of fodder crops and wintering land is available in northern regions.

Imroz sheep that are bred in semi-wild conditions, on Gokceada on Northwest of Ege Sea, have a certain potential for organic meat production. The sheep provide shelter in areas where they themselves determine in different places on the island and feed only on pasture (Konyalı *et al*, 2004). The island can be the centre of organic sheep meat production, if organic animal and plant production are integrated.

Few examples of existing organic animal production in Turkey can be given, such as the organic dairy farm in Kelkit. A feasibility study was conducted and the region was defined an organic agricultural pilot are by MARA, and following this a master plan was prepared. The milk will be organically obtained from the management, which started with a capacity of 1,000 head/year. Contracted fodder crop production by local small scale producers will supply the production of organic feed. Another organic animal production farms is the Klan farm in Çanakkale. The production in the farm does not have any commercial features and animal production is kept at fixed number as 60 goats, 100 sheep, 5 cows and 350 chickens.

Conclusion

Organic animal production, in which ecological balance, animal welfare and health aspect in product quality are taken into consideration and emphasized, has a certain potential in Turkey. However, currently this potential is not put into use. The reasons can be stated as follows: organic plant production has developed due to the request of foreign countries, plant production is not integrated with animal production, organic feeds are rare and, especially many farmers are small land owners and are not organized to meet the prices of inspection and certification.

According to the Turkish view, during the transition to the EU membership, main targets are to improve the income distribution, to overcome poverty and to activate the dynamics in agriculture. Therefore, investments in organic plant and animal production could be one of the opportunities for this transition period.

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