



БИОЛОГИЧНО ПРОИЗВОДСТВО НА ПЛОДОВЕ В ЕВРОПА ORGANIC FRUIT PRODUCTION IN EUROPE

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Резюме

Европа е водеща сила в движението за развитие на биологичното земеделие в световен мащаб. IFOAM – Международната федерация за развитие на биологичното земеделие, е основана през 1972 г. във Версай, Франция. В подкрепа на това движение Европейският съюз инициира т.нар. *пионерски акт* чрез приемането на закон за биологичното земеделие – Regulation 2092/91 през 1991 г., както и консолидирана версия на Съвета на Европейската комисия от 2002 г., където официално е дадена дефиницията за органично (биологично) екологично земеделие.

През 2010 г. от трайните култури водещи по площ в световен мащаб са кафето, маслините, орехоплодните, лозата, какаото, ягодоплодните, медицинските и ароматните растения и дървесните овощни видове. По данни на ФАО общата площ в света на плодовете, отглеждани за биопроизводство, през 2006 г. е била 804 684 ha, за да достигне 1 144 520 ha през 2010 г. или нарастването е с 42%, а Европа заема 56% от биологичното производство като относителен дял от това на света.

Най-големите площи за биопроизводство на плодове в Европа през 2010 г. са били в Испания – 286 000 ha, следвана от Италия с 266 000 ha и Франция с 69 000 ha. Полша, Италия, Франция и Германия са сред водещите производители на биоаябълки в Европа и света, а Италия и Полша – на круши. Италия, Испания, Франция и Чехия са основни производители на биоплодове при кайсията, докато при черешата са Италия и Полша, а при прасковите и нектарините – Италия и Испания. Нашата съседка Турция е един от големите производители на биоплодове от ябълки, круши, череша, както и от кайсии.

Abstract

Europe is the world leader in organic agriculture. IFAOM, “The International Federation of Organic Agriculture Movements”, was founded in Versailles, France in 1972. In support of this movement the European Union initiated a groundbreaking act by enacting the legislation on organic farming “Regulation 2092/91” in 1991 as well as a consolidated version of the Council of the European Commission, 2002, with an EU wide official definition of organic (biological) ecological farming.

In 2010 the leading perennial crops were coffee, olives, nuts, grapes, cocoa, berries, medicinal and aromatic plants and pome and stone fruits. According to FAO data the total area of fruit grown organically in 2006 was 804 684 ha and it reached 1 144 520 ha in 2010, an increase of 42%, with Europe taking up 56% of the world total.

The largest areas of organic fruit growing in Europe in 2010 were Spain (286 000 ha), followed by Italy (266 000 ha) and France (69 000 ha). Poland, Italy, France and Germany are among the leading producers of organic apples in Europe and world-wide, Italy and Poland – of pears, Italy, Spain, France and the Czech Republic – of apricots, Italy and Poland – of cherries, Italy and Spain – of peaches and nectarines. Our neighbouring country – Turkey is among the large producers of organic apples, pears, cherries and apricots.

Ключови думи: биологично производство в света, Европа, ЕС, плодове, България.

Key words: global organic production, Europe, European Union, fruits, Bulgaria.

INTRODUCTION

The idea of organic farming was conceived and promoted over more than a hundred years ago, as a movement popularized by charismatic leaders, shifting to a more socially, politically and scientifically accepted production system, based on numerous industrial, national and international standards and regulations (Weibel, F.P. et al., 2007).

In that aspect Europe has been the driving force for the development of organic farming on a world scale. For example, IFOAM (The International Federation of Organic Agriculture Movements) was founded in 1972 in Versailles, France. In 1973 in Frick, Switzerland, the Research Institute of Organic Agriculture was established and in 2013 it celebrated its 40th Anniversary. The first scientific congress organized by IFOAM was held in Sissach, Switzerland in 1977. That international organization was the catalyst for the establishment of similar organizations in other parts of the world. In support of that movement, the European Union initiated the so-called pioneer act by enacting the legislation on organic farming, i.e. Regulation 2092/91 in 1991, as well as a consolidated version of the Council of the European Commission of 2002 with an EU-wide official definition on organic/biological/ecological farming. The Organic Foods Production Act 1990 was adopted in the US, defining the legislative framework of organic agriculture, reflected in the last updated version of USDA (Ministry of Agriculture) of 2005. The Codex Alimentarius of FAO (Food and Agriculture Organization of the United Nations, FAO, 2004) adopted in Rome in 1999, also gives a definition of organic farming (FAO, 2004).

Development of organic farming in a global aspect

At the end of 2011, 162 countries in the world with a total area of 37,2 million hectares of land (compared to 11 million hectares in 1999) were certified as producers of organic agricultural products, including the countries in a period of transition to organic production. Enlargement of the organic land transition areas could be explained by the increasing demand of the consumers for organic products in the US and in Europe, where over 90% of the world production of organic goods are marketed. In 1999, bio products amounting to 15,2 billion dollars were sold in the US and in 2011 that value reached up to 62,9 billion dollars. In 2011 there were 1,8 millions of certified producers, out of which 34% in Asia, 30% in Africa and 16% in Europe. Referring to the areas of land occupied by organic farming, Oceania takes

the leading position with 12,2 million ha or 33% of the global organic land, followed by Europe with 10,6 million ha, i.e. 29% of the world share, Latin America with 6,9 million ha (18,4%) and Asia with 3,7 million ha – 3% (Willer, H. et al., 2013). Australia has the largest area of organic land (12 million ha) among the countries involved in organic production, followed by Argentina (3,8 million ha), the USA (1,9 million ha), etc.

On a global scale, the countries with the highest percentages of organic agricultural land are the Falkland Islands (Las Malvinas) – 35,9%, followed by Lichtenstein – 29,3%, Austria – 19,7%, Sweden – 15,2%, Estonia – 14,8%, Switzerland – 11,7%, the Czech Republic – 10,7% and Latvia – 10,4%.

The most important of the perennial crops occupying the largest organic land areas are coffee, olive trees, nut trees, grapevine, cacao, soft fruits, medicinal and aromatic plants and pome and stone fruit species.

According to data of FAO (FAOSTAT, 2012), over 55,8 million ha of table grapevines, fruit tree species of the temperate climatic zone, citrus, soft fruits, tropical and subtropical crops were harvested in 2010, which represented a 4% increase compared to 2006. For the same period, the organic production areas occupied with fruit crops increased by 53% and those with vegetable crops by 50%. On a global scale, in 2006 the area under organic fruit production was 804 684 ha, reaching up to 1 144 520 ha in 2010, marking a 42% increase.

Organic fruit production in the world

The relative share of the global organic fruit production by regions is presented in Figure 1. It is interesting to note that Europe occupies 56 % of that production type, followed by Latin America with 24%, Asia (8%), North America (6%), Africa (5%) and Oceania (1%). In actual figures, the increase of the organic planted areas by groups of crops is as follows:

- Vineyards from 113 800 ha in 2006 to 219 000 ha in 2010, i.e. 92% increase;
- Tropical and subtropical crops from 62 700 ha to 190 400 ha, i.e. 204%;
- Citrus crops – from 40 400 ha to 61 400 ha, 52%;
- Pome fruit species – from 34 400 ha to 65 100 ha, 89%;
- Stone fruit species – from 29 800 ha to 35 900 ha, 21%;
- Soft fruits from 10 400 ha to 40 900 ha, 391 % (Granastein, et al., 2013).

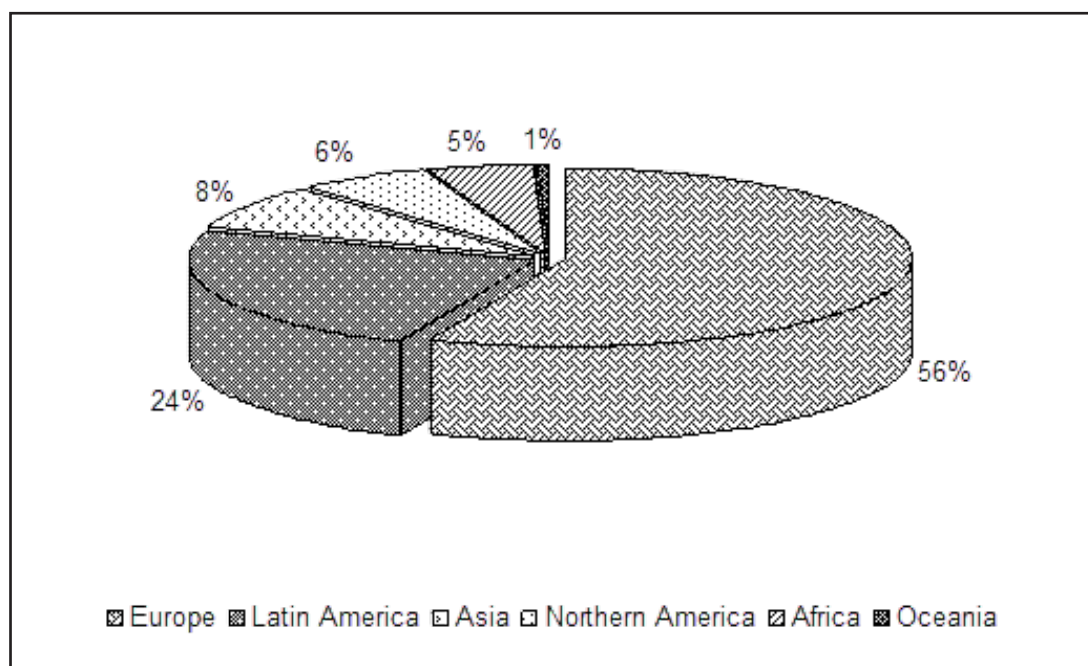


Fig. 1. Proportion of organic production continents and regions (According to Willer and Kilcher, 2012)

Organic agriculture and fruit production in Europe

In 2011, 10,6 million hectares of agricultural land in Europe were managed organically by more than 290 000 farms. 2,2% of the agricultural area on the continent has been certified as organic and in the European Union that percentage is 5,4%. 29% of the world's organic farming is in Europe and the countries with the largest organic agricultural production area are: Spain (1,6 million ha), Italy (1,1 million ha) and Germany (1,0 million ha). The countries in Europe, in which the share of organic agricultural land is more than 10%, are: Lichtenstein (29,3%), Austria (19,7%), Sweden (15,2%), Estonia (14,8%), Switzerland (11,7%), the Czech Republic (10,7%), Latvia (10,4%). Sales of organic products are estimated to be 21,5 billion Euros and only in the European Union they are about 20,9 billion Euros. The biggest consumers of organic products are Germany (a turnover of 6,6 billion Euros), France (3,8 billion Euros), the United Kingdom (1,9 billion Euros), followed by Switzerland, Denmark, Luxemburg, Austria, etc. (Weibel, et al., 2013).

The share of land under fruit crops in the temperate climatic zone, converted to organic production for the period 2006-2010, is presented in Table 1. Areas planted with apple trees, the major fruit species in the temperate climate zone, increased to 54 704 ha in 2010, i.e. by 124%. The

areas for organic apple production, out of all the organic apple production areas in the world, are as follows: 27% in Poland, 15% in the US, 7% in Italy and 6% in France. The areas planted with pear trees for organic production on a global scale increased for the same period from 7 338 ha to 8 932 ha, mainly in Argentina, Italy, the US, China, Turkey and Poland, occupying 22, 16, 14, 13 and 8% in the latter two countries, respectively. The areas for apricot organic production increased slightly more than those for pear, i.e. by 27%, the leading countries being Turkey – a 42% increase, Italy – 18%, Spain – 11%, France – 10% and Czech Republic – 6%. Cherry is the second crop after apple, the increase of the planted areas being 101%, from 4 530 ha reaching up to 9 118 ha. The leading countries are Italy (a 30% increase), the US (16%), Poland (10%), Turkey (9%) and Bulgaria (7%). A significant increase of the areas for organic production was also reported for plum (60%) – from 5 589 ha to 8 932 ha, the biggest producers being the US and France (a 13% increase), followed by Serbia (12%), Italy (11%) and Poland (10%). Organic land under peach and nectarine increased by 67%, significant Italy (35%), the USA (20%), China (13%), Spain (7%) and Australia (5%). The total organic production areas for that group of fruits increased from 129 622 ha in 2006 to 134 248 ha in 2010 (Willer and Kilher, 2012).

Table 1. Organic production of fruit and major producing countries

Culture	Areas under in organic production, in ha			Growth,% 2006-2010	Share of organic production, %*		Major producers (% of areas)
	2006	2008	2010		2006	2010	
Apple	24 390	35 126	54 704	124	0,5	1,1	Poland (27); USA(15); Italy (7); France (6); Germany (5); Turkey (5); Argentina (4)
Pear	7338	6897	8932	22	0,5	0,6	Argentina(22); Italy (16); USA (14); China (13); Turkey (8); Poland (8)
Apricot	7463	10 732	9513	27	1,6	1,9	Turkey (42); Italy (18); Spain (11); France (10); Czech republic (6)
Cherry	4530	7246	9118	101	0,8	1,5	Italy (30); USA (16); Poland (10); Turkey (9); Bulgarian(7)
Plum	5589	8080	8932	60	0,2	0,4	USA (13); France (13); Serbia (12); Italy (11); Poland (10)
Peaches & nectarine	4664	6605	7780	67	0,3	0,5	Italy (35); USA (20); China (13); Spain (7); Argentina (5)
Other Fruit	75 648	31 473	35 269	53	-	-	-
Total	129 622	106 159	134 248	4	-	-	-

* According to Willer and Kilcher, 2012

Bulgaria also reports a significant growth. In 2000 the organic land was 500 ha, in 2010 it expanded to 25 648 ha, reaching up to 39 138 ha in 2012 (Table 2). In Bulgaria in 2011 were certified 978 organic producers, as well as 43 processing enterprises, 7 exporting and 3 importing companies. The organic land areas in most of the EU countries could be followed out in dynamics in Table 2.

The data commented above show that Italy, Whereas France, Spain, Poland and Germany are the leading countries in organic fruit production in Europe, where as the Czech Republic and Bulgaria joining more actively. Our neighbor country Turkey should not be underestimated, as it is a big conventional fruit producer on a world scale.

In Bulgaria the first steps for the development of organic farming are made in the 1960s of the 20th century, but only in recent years there is an increased interest in this type of production (National Plan for Development of Organic Farming in Bul-

garia, 2006-2013). As a result, there is a significant increase of areas under permanent crops grown organically, as the demand for these products on the international market also increases (Lecheva, 1996; Lecheva and Karova, 2009).

In 2007, Bulgaria became a member of the European Union and since then farmers must strictly comply with the requirements and competitive European market. European Commission's priorities for research, technological development and demonstration on "Quality and food safety" are aimed to improve the health of European citizens by enhancing the quality of food and improved control during production, environmental protection and the final product on the market (Dzhuvinov et al., 2008).

In the mountainous regions of the country and in particular in the Central Stara Planina soil and climatic conditions are favorable for growing fruit species: plum, apple, cherry and almost all berries (raspberry, black currant, blueberry, red currant). Due to their re-



Table 2. Total area under organic production (including land in transition) in the EU and as a percent of total agricultural land in each country (ha)*

Countries	Years							
	2000		2005		2010		2012	
	Organic area, ha	%	Organic area, ha	%	Organic area, ha	%	Organic area, ha	%
Austria	429 167	13,8	479 817	16,7	543 605	19,7	533 230	19,7
Bulgaria	500	0,0	2432	0,0	25 648	0,8	39 138	1,3
Belgium	20 667	1,5	22 996	1,7	59 220	4,3	59 684	4,4
United Kingdom	527 323	3,0	612 996	3,5	699 638	4,1	590 010	3,4
Germany	546 023	3,2	807 406	4,7	990 702	5,9	1 034 355	6,2
Greece	26 707	0,3	288 737	3,5	309 823	3,7	462 618	5,6
Denmark	157 676	6,0	134 129	5,2	162 903	6,1	182 930	6,9
Estonia	9872	1,0	59 742	6,8	112 972	11,9	144 149	15,3
Ireland	27 231	0,6	35 266	0,8	47 864	1,2	54 122	1,3
Spain	380 920	1,5	622 762	2,5	1 456 672	5,9	1 593 197	6,4
Italy	1 040 377	8,0	1 069 462	8,4	1 113 742	8,7	1 167 362	9,1
Cyprus	52	0,0	1698	1,1	3575	2,4	3575	2,4
Latvia	4400	0,2	104 235	6,1	166 320	92,1	195 658	10,8
Lithuania	4709	0,2	64 544	2,3	143 644	5,2	156 539	5,4
Poland	22 000	0,1	159 709	1,1	521 970	3,4	661 956	4,3
Portugal	50 001	1,3	211 501	5,7	201 054	5,8	201 054	6,0
Romania	17 388	0,1	92 770	0,7	182 706	1,3	288 261	2,1
Slovakia	60 000	2,8	90 206	4,8	174 471	9,0	166 700	8,8
Slovenia	5200	1,1	23 499	4,8	30 696	6,4	35 101	7,6
Hungary	47 221	1,0	128 576	3,0	127 605	3,0	130 609	3,1
Finland	147 423	6,6	147 587	6,7	169 168	7,4	197 751	8,7
France	369 933	1,3	550 488	2,0	845 442	3,1	1 032 941	3,8
Netherlands	32 331	1,6	48 765	2,5	46 233	2,4	48 038	2,5
Czech republic	165 699	3,9	254 982	6,0	448 202	10,5	488 658	11,5
Sweden	174 227	5,7	222 738	7,0	438 693	14,3	477 685	15,6

* According to Willer and Kilcher, 2012

moteness from industrial centers, these areas are not subject to contamination and are suitable for organic farming. Although there is legal basis in our not yet developed technologies for the production of biological products of various fruit crops (Minkov, 2012).

The ambitions of Turkey to enter more seriously on the world market of organic products are supported by the fact that Istanbul hosted the 18th Organic World Congress from 13 to 15 October 2014, organized under the auspices of IFOAM, its motto being "Building Organic Bridges". Candidates for hosting the next 19th Congress in 2017 are India,

China and Russia. The strategy of the organizers for the future development of organic farming in Europe states that the Common Agricultural Policy and the development of rural areas in EU should be based on innovations for ecological and sustainable development of agriculture in Europe in the frames of the Horizon 2020 programme by building bridges among researchers, farmers, businesses and the extension services for agriculture. That is also supported by the Annex of the European Commission adopted on 24 March 2014 in the proposal for a new European Action Plan for Organic Farming.

Conclusions and Recommendations

Organic farming in the world and in Europe is continuously expanding with the aim of protecting the human health and the environment, which is confirmed by the strategic data by regions of the world and by the organic market expansion, especially in North America and in Europe.

Bulgarian fruit production should take advantage of the experience of some Central and East European countries, such as Poland, the Czech Republic, the Baltic states, etc. with the aim of converting from conventional to integrated or organic fruit production, as the markets for such production are expanding and our farmers could gain new markets for their commodities, because more and more consumers prefer fruits without residual amounts of pesticides, labelled “No Residue”.

In the period of transit to market economy, it became clear that our conventionally produced fruits could hardly compete with those produced in Italy, France, Spain and other EC countries. That requires from the Bulgarian farmers to urgently convert to ecologically sound fruit production, in order to withstand the domestic and foreign market competition.

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