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ORGANIC FARMING AND ISSUE OF FOOD SAFETY IN THE CZECH REPUBLIC

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Abstract

Organic farming (OF) in the Czech Republic (CZ) does not have a long tradition, as far as the first organic farms (OF) were established at the end of 1989. Between 1989-1997 the development of OF in CZ was slow however since 1998, due to the reintroduction of financial support for OF, there was a radical development of OF found out while this trend has lasted to the present. Specifically at the end of 2012 in CZ there were 3934 registered OFs farming to total 488.658 ha, which represents an 11.40 % share of total agricultural land (AL). The main organic areas are traditionally the less favourable highland and upland areas when the dominant form of land-use is using of permanent pastures (PP), whose share amounted in recent years about 83% of the total area of organically farmed land. This fact is also associated with dominant position of suckler cows breeding and relatively strong position of sheep breeding.

The foundation of the food safety (FS) system in the CZ were laid in 2001, however, in January 2010, the Czech government drawn conclusions on the new "Food Safety and Nutrition Strategy for 2010-2013" when the FS has for a long time ranked among the priorities of the CZ. In the CZ the FS system is coordinated by the Ministry of Agriculture (MoA) and the Ministry of Health, in cooperation with other ministries and other state administration institutions. The risk assessment is conducted by independent state as well as non-governmental research institutes together with colleges and universities. An important role in the process of risk communication is played by non-governmental organisations, professional and consumer associations.

Organic farmers and organic food producers must be registered with the Ministry of Agriculture. Inspection of businesses involved in OF is carried out by 3 control bodies (KEZ, o. p. s., ABCERT AG and Biokont CZ, s. r. o.) authorized for this activity by the MoA.

On the Czech market organic food from abroad are dominant. Organic foods are purchased above all in supermarkets and hypermarkets, and their range is relatively wide and consists mainly of milk and dairy products, bakery products, tea, beef, fruits and vegetables. However range of some organic foods on the Czech market is insufficient (eg eggs) and some are not produced by domestic producers at all (eg oil).

The quality of organic foods is the result of the quality of agricultural and food systems, including controls of their health safety. As a result of ongoing affairs with food quality in the domestic market the State Veterinary Administration run this year a Food Safety Information Center Web site, which informs consumers about the results of current inspections. The vast majority of identified inconvenient foodstuff on the Czech market relates to conventional production while the defective



organic foodstuff were found out only sporadically. However, on the other hand it should be noted that the share of organic food in total food and drink consumption is in the CZ long term under 1 %.

Introduction

Organic farming is a relatively big phenomenon both in European and Czech agriculture while the period from 1990 to the present can be called as a period of radical development of organic farming (OF) both in EU and in the Czech Republic (CR). The period from the year 2000 to the present is also a period when generally more and more coming to the fore the issue of food safety, especially in the context with increasing number of different scandals concerning food safety.

The main aim of our study was to assess the development of organic farming and the issue of food safety in the CR.

Development of organic farming in the Czech Republic from 1990 to the present.

In the period from 1991 to 1997 the development of OF in the CR was relatively slow (*Table 1*), while in 1997 only 211 organic farms were registered and their total area was only about 0.5% of the total area of agricultural land (AL). This fact was mainly affected by reduction of financial support in 1992. However, in 1998, financial support was reintroduced, which is subsequently reflected in a relatively radical increase in the number of organic farms and a significant enlargement of the organic land. This trend has essentially lasted until the present, while at the end of 2012 in the CR were registered 3 934 organic farms farming to total 488 658 ha, which represents an 11.40 % share of total AL. On the other hand, it should be noted that not all organic farms are still included in organic farming because for example during the year 2011 around 240 organic farms ceased their activity. The main reasons for termination of organic activities are not precisely known, but administratively demanding and strict controls represent a major problem for some organic farmers. From time to time are also found serious shortcomings in the keeping of organic standards on the farms, which ultimately led to the cancellation of registration. However it is necessary to add to the above mentioned that in the same year there were 649 new organic farms registered in organic farming (*Hrabalová et al., 2012*).

Table 1: The development in the number of farms and land area in organic farming in the CR.

Year	Total number of organic farms	Total area of organic land (ha)	Percentage of total area of agriculture land (%)
1991	132	480	-
1997	211	20 239	0.47
2000	563	165 699	3.86
2005	829	254 982	5.98
2010	3 517	448 202	10.55
2012	3 934	488 658	11.46

Source: The Ministry of Agriculture of the CR



The main areas of OF in the CR are less favorable mountain and submountain areas, where about half of these areas are now farmed organically. In terms of land use a dominant position of permanent pastures (PP) is evident (*Table 2*), while its share in recent years amounted about 83% of the total area of organically farmed land in the country. This dominance is, in our opinion, mainly affected by high proportion of land at higher altitudes (about 1/3 of land in the CR is situated at an altitude higher than 500 m above sea level), economic problematicity of cereal production in these areas and also relatively good level of subsidies for PP (71 €/ha). With the dominance of PP is also associated a dominant position of breeding of suckler cows and a relatively strong position of sheep breeding in the Czech organic livestock (*Kuchtik et al., 1997*). As for organic arable land, in 2008 its share for the first time exceeded 10% from the total area of organic land and in the future further gradual increase in its share is expected, primarily due to growth in demand for organic feed and seed respecting the European regulations for OF farming, which supports reduction of the share of permitted conventional feed. Due to the optimal economy of livestock on an organic farm an ideal solution is a mixed farm with its own crop production, permanent pastures and breeding of ruminants, respectively with additional pig or poultry production (*Šarapatka, Urban et al., 2005*). Relatively good level of subsidy per hectare of arable land (155 €) and growth in consumer demand for organic products manufactured from organic crops grown on arable land are also important prerequisites for the future enlargement of organic arable land in the CR. In recent years, there has been also found out a slight increase of area of permanent cultures (orchards, vineyards and hop fields). However, in the European context, the current proportion of permanent crops in the CR is insignificant, despite the increase in the level of subsidies for these crops to 849 €/ha. As a conclusion to this part it is necessary to add that land use in Czech OF is significantly different from that of the total land use in the CR while in this case about 38% of the total country land area is arable land and the PP represent only about 12% .

Table 2: Development of size of organic land since 2001 in the CR.

Year	Arable land (ha/ %)	Permanent pastures (ha/%)	Permanent cultures (ha/ %)	Other land (ha/ %)
2001	19 164/ 8.8	195 633/ 89.7	963/ 0.5	2 354/ 1.1
2003	19 637/ 8.3	231 683/ 90.9	928/ 0.4	2 747/ 1.1
2005	20 766/ 8.1	209 956/ 82.4	820/ 0.3	23 440/ 9.2
2010	57 937/12.27	369 272/ 82.38	5 939/ 1.33	18 054/ 4.02
2012	58 489/11.96	407 219/ 83.33	7 683/ 1.57	17 371/ 3.63

Source: The Ministry of Agriculture of the CR

In 2001, the average size of Czech organic farm was about 333 ha, but from this year this area has declined steadily, while in 2011 it was approximately 124 ha. However despite this decline, the CR is among the countries where the average size of organic farm is significantly higher than the European average, which is at about 40 ha. In this context, it should be added that for big Czech organic farms are characteristic large areas of PP with a dominant breeding of



suckler cows or sheep, or a combination of both. Nevertheless, the fact remains, see *Table 3*, that about half of the organic land is farmed only by about 260 organic farms (cooperatives, limited companies etc), while on the other hand about 2 440 organic farms farm on areas to a maximum of 50 ha when these farms are mainly family-type specialized usually in one production (goats, wine production, herbs, etc.)

Table 3: Organic farm size in 2011.

Size (ha)	Organic farms		Acreage	
	Number	%	ha	%
0-10	950	14.3	4 226	0.9
10-50	1 493	38.1	37 810	7.8
50-100	523	13.3	36 993	7.7
100 – 500	688	17.6	153 666	31.8
500 – 1 000	182	4.6	126 554	26.2
1000 - 2000	79	2.0	106 524	22.1
2000 and more	5	0.1	17 211	3.6

Source: MoA (data always as at 31.12. of given year); compiled by IAEI

One of the strong motives of OF is to maintain employment in rural areas, especially in the LFA. It is generally assumed that in the organic farming will work more workers per 100 ha of land than in the case of conventional farming, which is mainly explained by lower labor productivity in organic farms. Nevertheless, in the Czech OF, this assumption is not fulfilled because at OF in 2010 one Annual Work Unit (AWU) farmed on cca 48 ha of land while in agriculture in total it was only 32 ha. Thus, on 100 ha of AL this ratio was 2.08 AWU in OF versus 3.12 AWU in agriculture in total. Within the long-term development is however registered growth of employment in OF when in 2007 per 100 ha there were registered 1.32 AWU while in 2010 it was already 2.08 AWU.

From a comparison of the position of crop and livestock production in the Czech OF the dominance of livestock production significantly results. With the inclusion of all animals raised on Czech organic farms in 2011 there were raised 322 000 pieces of ruminants, which is about 178 000 of livestock units (LU) and livestock load was around 0.45 LU/ha (*Hrabalová et al.*, 2012). The most important breeding in Czech OF (*Table 4*), is cattle breeding, namely breeding of suckler cows followed by sheep breeding. Relatively important productions are also goat and horse breeding but pig and poultry organic productions can be considered as minor.

Biofoods and food safety

Organic food is the main product of Czech OF, and these must be produced with materials derived from OF, under the conditions determined by law that meets the specific requirements for quality and safety (eg without the use of artificial fertilizers, GMO etc.) and must be stored and transported separately from other raw materials and food in areas and under conditions that allow their unambiguous identification and preservation of their quality.



Table 4: Number of most important farm animals on organic farms in 2011 in the Czech Republic

Animal category	Number of organics farms	Number of organically reared animals
	2011	2011
Horses	515	4 093
Cattle – all categories	1 378	174 644
Cattle over 2 years	1 347	98 346
Of which: dairy cows	88	5686
Suckler cows	1 271	79 298
Sheep	655	79 657
Goats	221	6 317
Pig	19	1748
Poultry	44	37 348

Source: IAEI Statistical survey 2010 and 2011

Act No. 344/2011 came into force in the CR on 1. 1. 2012, amending the existing Act No. 242/2000 Coll. on OF which defined OF and to set criteria for labeling products as "organic farming product". The amendment was approved mainly on the basis of new EU legislation on OF, namely Council Regulation (EC) No. 834/2007 and Commission Regulation (EC) No. 889/2008.

From most of studies dealing with why generally customers buy organic food results that they are bought because they are, compared to products from conventional agriculture, free of chemical additives, better and more environmentally friendly and above all healthy or healthy safe (Kubáňová, 2007). Respecting abovementioned it can be stated that generally the issue of health food safety is becoming a one of the priorities of the consumer, while food safety includes hygiene of food production, control mechanisms, monitoring of food chains and feed safety. In general it can be stated that to ensure food safety contributes government organizations and institutions financed by the state, particularly by the creation of legislation, continuous and consistent monitoring of health safety and quality, long-term monitoring of contaminants, application of scientific knowledge into practice, and by informing and educating consumers. Health Food Safety is also a fundamental principle of European food policy, which guarantees the protection of consumer health. As for CR, the foundation of the food safety system were laid there in 2001 (Resolution of the Government of the CR No 1320), however, in January 2010, the the Czech government drawn conclusions on the new "Food Safety and Nutrition Strategy for 2010-2013" when the food safety has for a long time ranked among the priorities of the CZ. In a long-term perspective the „Food Safety and Nutrition Strategy 2010-2013.“ seeks to strengthen the protection and promotion of health as well as the legitimate consumers' interests. In connection with that it aims to increase the public confidence in the system ensuring safe food, in its quality and nutritional values which is logical due to increasing number of different safety scandals concerning foods that have been registered in recent years in the CR. By the way the most famous scandals of recent years which concerned the CR were so-called methanol affair or salt affair.



In the CZ the food safety system is coordinated by the Ministry of Agriculture (MoA) and the Ministry of Health, in cooperation with other ministries and other state administration institutions. The risk assessment is conducted by independent state as well as non-governmental research institutes together with colleges and universities. An important role in the process of risk communication is played by non-governmental organisations, professional and consumer associations. To communicate with consumers since 2002 there has been established a Food Safety Information Centre operated by the Food Authority of MoA.

When finding food of animal origin, which represents a risk to human health, is operated Rapid Alert System for Food and Feed (RASFF), which ensures rapid transfer and exchange of information between the CR and the EU and also among individual members in the CR. Therefore, through the RASFF are transmitted information, whose purpose is to prevent the introduction into circulation or withdraw from circulation the foods or the feeds which present a risk to human health and also have been exported outside the territory of the individual state.

In the CR organic farmers and organic food producers must be registered by the MoA. Inspection of businesses involved in OF is carried out by 3 control bodies (KEZ, o. p. s., ABCERT AG and Biokont CZ, s. r. o.) authorized for this activity by the MoA. These control bodies also issue certificates which confirm the origin of products and carried out checks of producers, processors and wholesalers of organic food. The inspectors of monitoring organizations exercise regular and random controls on organic farms and at processors and wholesalers, while at least once a year the whole chain of production, processing and distribution undergo by complete control. In 2011 approximately 5 000 inspections were carried out in all organic farms of which 76 inspections were unannounced. The most significant shortcomings identified during controls were incomplete accounts, using of conventional seed without a valid exception, interventions carried out on animals without a valid exception or the use of substances unapproved for OF (Hrabalová *et al.*, 2012). Finally, it should be added that in 2001 the Czech Central Institute for Supervising and Testing in Agriculture (ÚKZÚZ) also carried out inspections, in the form of official controls according to Regulation (EC) 882/2004 on official food and feed controls.

The quality of organic foods is the result of the quality of agricultural and food systems, including controls of their health safety. As a result of ongoing affairs with food quality in the domestic market the State Veterinary Administration run this year a Food Safety Information Center Web site, which informs consumers about the results of current inspections. The vast majority of identified inconvenient foodstuff on the Czech market relates to conventional production while the defective organic foodstuff were found out only sporadically, which is a good sign. However, on the other hand it should be noted that the share of organic food in total food and drink consumption is in the CZ long term under 1 %.

Conclusion

As for the development of organic farming in this case can be stated that in the CR was registered in recent years relatively radical development of this way of farming while the main is livestock production. As for the food safety, its issue is a priority Czech government, and to solve this issue was created "Food Safety and Nutrition Strategy for 2010-2013". In general it can be stated that the situation in the CR regarding food safety is relatively good, but in the last period has been registered the growth of various affairs relating to above all food safety of conventional origin. On the other hand the food safety of Czech organic products is relatively high



nevertheless their production is relatively low. Finally, respecting above mentioned, it is possible to state that the basic problem of food safety on the Czech market is not insufficient legislation or lack of controls, but, even though sporadically, the lack of responsibility of some degrees (producer, importer, processor or retailer) for food safety.

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