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MINISTRY OF AGRICULTURE
OF THE CZECH REPUBLIC

YEARBOOK ORGANIC FARMING IN THE CZECH REPUBLIC

PRODUKTY EKOLOGICKÉHO ZEMĚDĚLSTVÍ

CONTENTS

INTRODUCTION

We are really fortunate to be one of the first generations who don't have to suffer from a lack of food. Thus, instead of the simple amount of food, we can concern ourselves with its quality, safety and production-impact on the environment. Every year brings a growing number of opportunities for people to come in contact with organic farming (OF); from Organic Food Month, through fresh fruit&veg boxes, to farmyard sales and organic markets. For many consumers it's not just a trendy excess any longer, but a lifestyle. The number of companies producing organic food has exceeded 500. The number of organic farms is also growing rapidly. At the end of last year their total acreage was nearly 400,000 ha, representing nearly 10 per cent of total agricultural land. Not only arable land acreage, but also that of vineyards and orchards is continuously growing; the first hop-fields have been included in the OF system. This is, undoubtedly the result of stable state support of the organic sector.

It is a pity, however, that in our country organic farming is welcomed more by consumers, while the Czech specialist public still considers it a marginal alternative, over-dependent on subsidies. To relieve organic farming of such an attitude, OF representatives must become respected pioneers of modern technology and innovative environmental approaches. This should be assisted by the new Action Plan for the Development of Organic Farming in CZ 2011 – 2015, which will be a guide for the cooperation of the state and non-governmental structures within this new sector. At the end of this period there should be a professionalization of OF structures, including full specialist recognition. Organic farming deserves this as it fulfils the majority of demands required of modern sustainable agricultural systems.

Ing. Ivan Fuksa
Minister of Agriculture

1 THE CURRENT SITUATION IN CZECH ORGANIC FARMING (OF)

1.1 Development of organic farming

The total acreage of organically farmed land at 31. 12. 2009 had increased to 398,407 ha, which represents 9,38 % of total agricultural land in CZ (see Tab.1). Acreage under conversion had reached 26 % (i.e. 103,964 ha). This means the biggest yearly increase in the whole history of OF development (i.e. an increase of 56,775 ha). Similarly the increase in registered organic farmers to 2,689 (i.e. up by 734) is the biggest absolute increase since 1990. At the end of 2009 more than 8 % of registered agricultural businesses in CZ farmed organically.

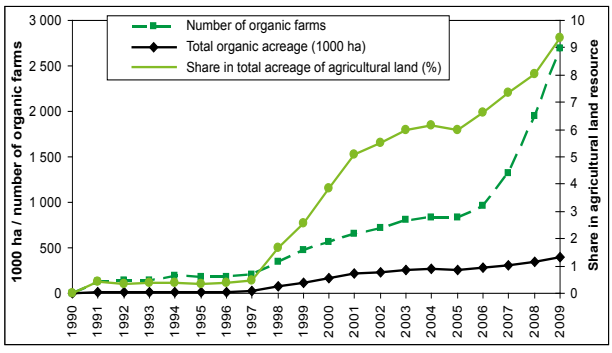
The average size of organic farms has been constantly decreasing since 2001, from 333 ha to 148 ha in 2009. This shows that new, smaller farms are entering OF and also that existing farms are being divided into smaller units due to so-called "young farmers"* entering. Despite this the average acreage of organic farms is nearly double that of conventional farms which is due to the greater number of organic farms with permanent grassland. The overall development of organic farming in CZ from 1990 is shown in Diagram 1. (See below)

Tab. 1 Development of acreage and number of farms under OF

Year	Number of organic farms	Total acreage under OF (in ha)	Percentage of total agricultural land (%)	Year-on-year change in number of organic farms (%)	Year-on-year change in total organic acreage (%)
1990	3	480	-	-	-
1991	132	17 507	0.41	-	-
1992	135	15 371	0.36	2.3	-12.2
1993	141	15 667	0.37	4.4	1.9
1994	187	15 818	0.37	32.6	1.0
1995	181	14 982	0.35	-3.2	-5.3
1996	182	17 022	0.40	0.6	13.6
1997	211	20 239	0.47	15.9	18.9
1998	348	71 621	1.67	64.9	253.9
1999	473	110 756	2.58	35.9	54.6
2000	563	165 699	3.86	19.0	49.6
2001	654	218 114	5.09	16.2	31.5
2002	721	235 136	5.50	10.2	7.9
2003	810	254 995	5.97	12.3	8.4
2004	836	263 299	6.16	3.2	3.3
2005	829	254 982	5.98	-0.8	-3.2
2006	963	281 535	6.61	16.2	10.4
2007	1 318	312 890	7.35	36.9	11.1
2008	1 946	341 632	8.04	47.6	9.2
2009	2 689	398 407	9.38	38.2	16.6

Source: MoA (Czech Ministry of Agriculture) (at 31. 12. of each year); compiled by IAEI (Institute of Agriculture Economics and Information).

Diagram 1: Development in number of farms, total acreage under OF and its share in agricultural land resources (1990-2009)



Source: MoA (at 31. 12. of each year)

** RDP - Axis I - I.3.2 Setting up of young farmers (see Chapter 7.3)*

1.2 Structure of land use in organic farming

In terms of land use, permanent grassland (PG) dominates in OF: in 2009 its acreage reached nearly 330,000 hectares (see Tab. 2). However, since 2003 when grassland acreage was at its highest (90.86 %), it has not grown and the share in total organic acreage remains around 82 % (see Tab.3). a positive fact is the steady increase in arable land acreage (in 2009 by 9,728 ha to a total of 44,906 ha) and permanent cultures (increase of almost 60 % in vineyard acreage, 32 % in orchards and the first 8 ha of hop-fields converted to organic farming).

Tab. 2 Development of land use in organic farming (1999-2009)

Land use	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Arable land	13 776	15 295	19 164	19 536	19 637	19 694	20 766	23 479	29 505	35 178	44 906
Permanent grassland	96 044	149 705	195 633	211 924	231 683	235 379	209 956	232 190	257 899	281 596	329 232
Permanent cultures (orchards. vineyards, hop-fields)	359	462	963	898	928	1 170	820	1 196	1 870	3 105	4 331
Total agricultural acreage	**110 180**	**165 462**	**215 760**	**232 358**	**252 248**	**256 243**	**231 542**	**256 865**	**289 274**	**319 879**	**378 469**
Other land	576	237	2 354	2 778	2 747	7 056	23 440	24 671	23 616	21 753	19 937[1)]
Total acreage	**110 756**	**165 699**	**218 114**	**235 136**	**254 995**	**263 299**	**254 982**	**281 536**	**312 890**	**341 632**	**398 406**

[1)] Other land including ponds (19 890 ha + 47 ha).
Source: MoA (at 31. 12. of each year)

Tab. 3 Comparison of organic land use in the years 1999, 2003, 2005, 2008 and 2009

Land use	1999		2003		2005		2008		2009		Year-on-year change 2009/08
	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(%)
Arable land	13 776	12.44	19 637	7.70	20 766	8.14	35 178	10.30	44 906	11.27	27.65
Permanent grassland	96 044	86.72	231 683	90.86	209 956	82.34	281 596	82.43	329 232	82.64	16.92
Permanent cultures (orchards, vineyards, hop-fields)	359	0.32	928	0.36	820	0.32	3 105	0.91	4 331	1.09	39.48
Other land	576	0.52	2 747	1.08	23 440	9.19	21 753	6.37	19 937	5.00	-8.35
Total acreage	**110 756**	**100.00**	**254 995**	**100.00**	**254 982**	**100.00**	**341 632**	**100.00**	**398 407**	**100.00**	**16.62**

Source: MoA (at 31. 12. of each year); compiled by IAEI

1.3 Size of enterprises in organic farming

In terms of size the most common acreage of organic farms is between 10 and 50 ha (34.1 %) which is also the category the constantly highest increase in the number of farms (by 376 compared to 2008, i.e. by 70 %). On the other hand, the number of organic farms of more than 1,000 ha of land has been stagnating (76 farms). Nevertheless, the Czech Republic is among the countries where the average size of organic farms significantly exceeds the European average – approximately 40 ha.

A long-term dominant category in comparing organic farms according to their acreage is that of 500 – 1,000 ha (29.7 %). Since 2008 the 2nd biggest category is farms of 100 to 500 ha (29.6 %) which has replaced the category of 1000 to 2000 ha farms (23.5 %). Despite this, almost 60 % of organic land is still farmed by large companies with predominant permanent grassland. (Note: in 2009 the biggest organic farm acreage was 2,605 ha).

In a long-term view the fastest growth is evident in the number of farms of small acreage (compared to 2006 up by 624 % in farms of 5 ha or less and by 576 % in farms of between 5 - 10 ha). Farms are mostly family-owned with mixed production and a diverse range of farm livestock.

Tab. 4 Farms according to size in 2008 and 2009

Category of farm according to acreage (ha)	2008				2009				Year-on-year change 2009/08	
	Number		Acreage		Number		Acreage		Number	Acreage
	(abs.)	(%)	(ha)	(%)	(abs.)	(%)	(ha)	(%)	(%)	(%)
0 to < 5	259	14.1	503.4	0.1	391	14.5	814.2	0.2	51.0	61.7
5 to < 10	164	8.9	1 206.0	0.4	257	9.6	1 872.1	0.5	56.7	55.2
10 to < 50	541	29.5	14 126.8	4.1	917	34.1	23 505.3	5.9	69.5	66.4
50 to < 100	254	13.8	18 444.4	5.4	367	13.6	26 150.4	6.6	44.5	41.8
100 to < 500	403	22.0	94 761.3	27.7	516	19.2	117 805.7	29.6	28.0	24.3
500 to < 1000	137	7.5	100 062.7	29.3	165	6.1	118 258.5	29.7	20.4	18.2
1000 to < 2000	65	3.5	88 595.5	25.9	69	2.6	93 576.0	23.5	6.2	5.6
2000 and more	11	0.6	24 068.2	7.0	7	0.3	16 425.0	4.1	-36.4	-31.8
Total	**1 834**	**100.0**	**341 768.3**	**100.0**	**2 689**	**100.0**	**398 407.4**	**100.0**	**46.6**	**16.6**

Source: MoA (at 31. 12. of each year); compiled by IAEI

1.4 Development of organic farming in Czech regions

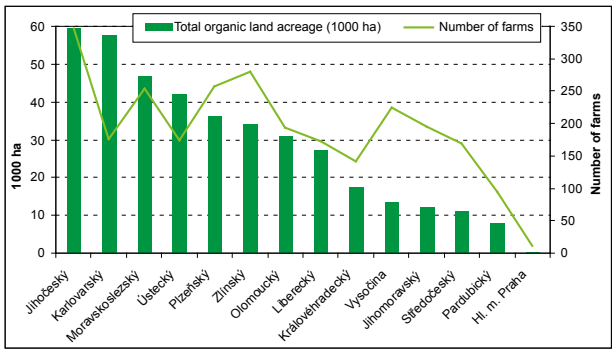
Regional distribution of organic farms and their land according to individual regions is shown below (see Tab.5). Organically farmed land is linked to a region according to the company address, not its premises (i.e. physical location of the farm).

Traditionally, the less favourable highland and upland areas of the Czech Republic are the main organically farmed areas. The largest organic land units are situated in the hilly border regions of South Bohemia, Karlovy Vary, Moravia-Silesia and Ústí nad Labem (see Diagram 2). More than half (51.8 %) of organic land acreage is situated in these regions and farmland acreage here reaches the greatest average size – from 173 ha in South Bohemia to 328 ha in the Karlovy Vary Region.

In terms of the number of organic farms, South Bohemia leads in a long-term view, followed in 2009 by the Zlín and Plzeň regions. The Karlovy Vary Region with its 176 organic farms fell from 2nd position in 2006 to 8th.

In terms of development, three regions have had the biggest increase in the number of organic farms and acreage: Vysočina, Central Bohemia and Southern Moravia. This is also confirmed by a higher share of land under conversion. Despite this, these highly productive regions have the constantly lowest acreage of organic land in CZ.

Diagram 2: Number and acreage of organic farms in CZ regions in 2009



Source: MoA (at 31. 12. of each year); compiled by IAEI

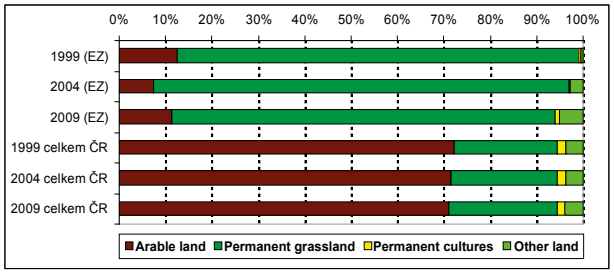
Tab. 5 Number and acreage of organic farms in CZ regions in 2009

Region[1)]	Number of organic farms	Total OF acreage		of which under conversion		Average organic farm (ha)
		(ha)	(%)	(ha)	(%)	
South Bohemia	346	59 775.29	15.00	18 478.93	30.91	173
Karlovy Vary	176	57 656.95	14.47	7 619.96	13.22	328
Moravia-Silesia	254	46 801.71	11.75	12 664.12	27.06	184
Ústí na Labem	174	42 148.49	10.58	8 480.11	20.12	242
Plzeň	257	36 327.36	9.12	11 542.14	31.77	141
Zlín	280	34 231.73	8.59	7 452.53	21.77	122
Olomouc	194	30 972.77	7.77	5 747.75	18.56	160
Liberec	173	27 329.44	6.86	4 374.52	16.01	158
Hradec Králové	141	17 653.26	4.43	4 127.46	23.38	125
Vysočina	224	13 706.44	3.44	8 960.21	65.37	61
South Moravia	196	12 333.54	3.10	4 798.23	38.90	63
Central Bohemia	169	11 132.66	2.79	6 175.82	55.47	66
Pardubice	94	8 137.11	2.04	3 408.17	41.88	87
Prague	11	200.72	0.05	134.06	66.79	18
Total	**2 689**	**398 407.46**	**100.00**	**103 964.01**	**26.10**	**148**

[1)] *Regions are given in the Table according to total organic farmland acreage.*

Source: MoA (at 31. 12. of each year); compiled by IAEI

Diagram 3: Structure of land use in organic farming and in general agriculture (1999, 2004 and 2009)



Source: MoA, Czech Office for Surveying, Mapping and Cadastre (COSMC)

The order will change if we consider the regions according to the share of total organic acreage in the total agricultural acreage in CZ. In 2009 the country's average (i.e. 9.4 %) was exceeded in eight regions, of which the Karlovy Vary Region is high above the average with its 46.5 %. As in previous years it is followed by the Liberec, Zlín, Moravian-Silesian and Ústí regions. In production areas the OF share is from 1.68 to 3.34 %.

In terms of categories of land use it is again the Karlovy Vary Region that dominates with nearly 75 % of permanent grassland and 7.4 % of arable land. The largest acreage of organic permanent cultures is in the Vysočina (27.95 %) and Moravian-Silesian Region (26.95 %).

Of the total agricultural land in the Czech Republic in 2009 the share of all organic acreage (i.e. including so-called other land and ponds) was 9.4 %. A whole third of permanent grassland (meadows and pasture) has entered the OF system, but only 1.5 % of arable land and 5.7 % of vineyards and orchards (3.3 % and 7.9 % respectively). This demonstrates that organic land use significantly differs from general agricultural land use in the Czech Republic (see Diagram 3).

At 31. 12. 2009 2,689 organic farms were registered as organic (or 2,674 organic entrepreneurs), of which 106 companies (ca 4 %) are also registered in other categories, most often in the category "organic food producers" (i.e. farm processors). All other categories also show an increase in the number of companies; the biggest relative increase being in feedstuff producers – their number has almost doubled compared to 2008. Presumably the growing number of feedstuff producers was influenced by the limited possibilities for using conventional feedstuffs in organic farming, which were set by the new Council Regulation (EC) No. 834/2007 and Commission Regulation (EC) No. 889/2008.

At the end of 2009 the number of organic food producers increased to 395 companies (or 497 production sites). This mostly involves, according to focus of individual producers, meat processing, bakery and confectionery products (especially fresh bread), milk processing, dairy products, cheese-making and processing fruit and vegetables. In recent years the number of registered organic wine makers has also been growing.

The second category important for market expansion is that of distributors, i.e. companies bringing organic food or products to market systems including export and import without any further processing. The number of distributors has grown to 168 companies, of which approximately 15 % (26 companies) deal also with import from third countries. It is necessary to say that there are many companies in OF which deal with retail (i.e. supermarket chains, health-food shops etc.) but according to OF law these do not have to be registered from 2006.

At the end of 2009 there were 3,132 companies active in OF (and another 27 companies changed category), more than 1,000 were newly registered, most often in the "organic farmer" category (precisely 1,063 newly registered companies and 28 coming from other categories). If all branches (organic

Diagram 4: Regional share in total number of organic farms in 2009

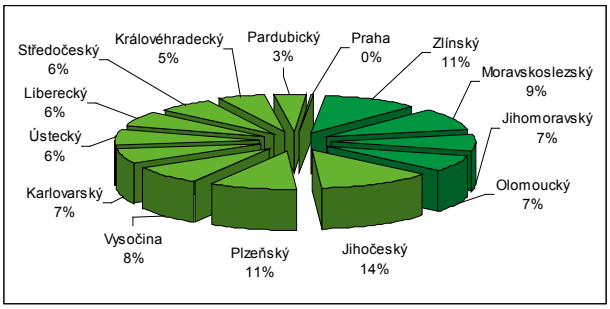
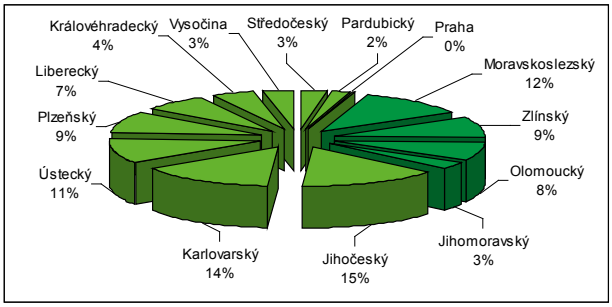


Diagram 5: Regional share in total organic acreage in 2009



farms or premises of registered companies) are counted, there were 3,263 branches active in organic farming. This increase is mainly due to the inclusion of premises of supermarket chains such as BILLA, spol. s r. o., SPAR Česká obchodní společnost s.r.o. and MAKRO Cash & Carry ČR s. r. o.

Tab. 6 Number of registered companies in organic farming at 31. 12. 2008 and 2009

Category	Number of companies / premises		Year-on-year change 2009/08	
	2008	2009	(abs.)	(%)
Organic farmers	1 822 / 1 836	2 674 / 2 689	852 / 853	46.76
Organic food producers	345 / 429	395 / 497	50 / 68	14.49
Organic food & product distributors	137 / 151	168 / 184	31 / 33	22.63
Feedstuff producers	13 / 13	25 / 25	12 / 12	92.31
Seed producers	11 / 11	15 / 15	4 / 4	36.36
Organic beekeepers	11 / 11	12 / 12	1 / 1	9.09
Of which:				
Importers of organic food from third countries	30 / 30	39 / 39	9 / 9	30.00
Farm processors	68 / 75	94 / 100	26 / 25	38.24

Source: inspection bodies (ABCert, Biokont, KEZ); compiled by IAEI

1.5. Concurrence of organic and conventional farming on organic farms

Of a total 2,739 organic farmers, 289 (10 %) stated that in 2009 they farmed both organically and conventionally which is the same percentage as previous year.

Of these 289 organic farms, 72 (75 %) ran both conventional animal husbandry and plant production. Almost half of farms (134 companies) in 2009 farmed their land conventionally, especially arable land. The remaining organic farms (83 companies) had conventional animal husbandry, most frequently cattle (especially dairy cows) and also pigs and horses.

In 2009 organic farms used the conventional system on a total of 73,852 ha farmland, of which nearly 90 % was arable land, 8 % permanent grassland and 2 % permanent cultures.

2 MORE INFORMATION ON ORGANIC FARMS

In statistics gathered on a regular basis by IAEI, data is collected, retrospectively, for the previous year, in the following categories. Therefore the following data relates to the year 2008.

2.1 Data on economic results of organic farms (year 2008)

To evaluate the economic efficiency of organic farms, development in the proportion of profitable organic farms to the overall number of farms is monitored. All companies involved in the survey are asked about their economic result (ER) in the previous year (i.e. 2009 survey = ER for 2008), regardless of whether they farmed organically or conventionally.

If we focus on economic results of organic farms (i.e. excluding farms registered after 2008), of the total of 2,739 respondents about 1,788 organic farms remain, of which 90 % stated that their economic result was positive in 2008 (similar to 89 % in 2007). 9.6 % of organic farms (172 companies) declared a negative result and 7 companies refused to answer this question. An interesting fact is that the share of profitable farms which were still conventional in 2008, fell to 56.8 %.

The group of organic farms with a negative ER includes all sizes of farms (from 0.05 ha to 1683 ha) and also various types of organic farm. However, more detailed analysis shows that the majority of unprofitable organic farms are those focusing on permanent cultures in combination with production on arable land – nearly one third of these farms stated a loss. A very similar result comes from the 2007 data, when 33 % of organic fruit growers and 7 % of organic wine growers stated a negative ER.

2.2 Number of employees on organic farms (year 2008) of

The number of employees on organic farms was surveyed retrospectively for 2008. The evaluation only includes farms which, in 2008, were already under the OF system (1,788 companies).

In 2008 a total of 7,928 people worked on organic farms (irrespective of the number of working hours): 68.9 % worked full-time, 8.7 % part-time and 22.4 % were temporary workers. Approximately one third of the total number of workers were family members (2,309 people) of which two thirds worked full-time.

Compared to similarly compiled figures for the year 2007 (only organic farms), the total number of workers increased by ca 50 % while the ratio of family members to other workers remained the same. On the other hand the number of temporary workers increased slightly to the detriment of part-time workers.

If taken in terms of full-time jobs, this represents 5,841 workers in 2008 (i.e. an increase of 41.4 % from 4,130 workers in 2007). As the number of organic farms increased by ca 43 %, it shows approximately the same need for workers per farm. The biggest yearly increase in AWU1) number was in the South Moravia and Vysočina regions.

Tab. 7 Number of workers on organic farms in 2007 and 2008

Region	2007		2008		Year-on-year change 2008/07
	Number	Structure (%)	Number	Structure (%)	
Full-time workers	3 684	69.9	5 463	68.9	48.3
of which family members	1 021	27.7	1 537	28.1	50.5
Part-time workers	555	10.5	686	8.7	23.6
of which family members	380	68.5	514	74.9	35.3
Temporary and casual workers	1 033	19.6	1 779	22.4	72.2
of which family members	176	17.0	258	14.5	46.6
Total workers	**5 272**	**100.0**	**7 928**	**100.0**	**50.4**
of which family members	1 577	29.9	2 309	29.1	46.4
Conversion to AWU[1)]	4 130	x	5 841	x	41.4
Number of farms	1 250	x	1 788	x	43.0
AWU / organic farm	3.30	x	3.27	x	-1.1
AWU / 100 ha of farmland	1.32	x	1.71	x	29.5
100 ha of farmland / AWU	76	x	58	x	-22.8

[1)] AWU = Annual Work Unit = number of workers interpreted as full-time positions.

Source: IAEI Statistical survey on organic farms 2008 and 2009

2.3 Direct sale of organic food & products on organic farms (year 2008)

Direct sale from organic farms especially includes sale on a farm without a shop or in the farmer's own shop, sale within agrotourism provided on a farm, sale of organic products at markets or via e-mail-orders, delivery services or via internet.

Of a total number of 930 organic farms which could sell their produce with a certificate in 2008, 136 farms sold their products directly on their premises (almost 15 % farms). This proportion is probably higher, as it does not include organic farmers who, despite having farm sale, sell their products without a certificate as common conventional products. The volume of products sold directly to consumers is not of great importance because on more than half (53 %) of organic farms the turnover from direct sale is less than 10 % of total farm turnover. On almost one third of farms the direct sale turnover is up to 50 % of total turnover and only 22 organic farms can consider direct sale as a significant form of sale, representing more than 50 % of total farm turnover.

Sale of animal products is higher than that of plant products (55 % of organic farms specialise only in animal product sale while 36 % focus on plant production; the remaining 9 % offer both types of products). Among animal products, apart from the sale of live animals (most often lambs), this mainly means meat sale (again, most often lamb), milk and dairy products (18 and 9 organic farms respectively) and eggs (9 farms). In plant production sale of vegetables is dominant (29 organic farms; mostly potatoes, carrots and onions) and fruit (15 organic farms). Sale of hay was also quite common (12 farms) and cereals (7 farms), followed by sale of spices and herbs (4 farms) and wine (2 farms). In the commodity of wine a significant increase in sales can be expected in the forthcoming years due to a massive increase in the number of wine growers converting to organic farming.

3 STRUCTURE OF PRODUCTION ON ORGANIC FARMS

Data on plant and animal production on organic farms has been collected by IAEI in cooperation with inspection bodies since 2007, under the authority of the MoA. Detailed data is collected throughout the year, it therefore differs from the basic data presenting the situation in organic farming at 31.12. 2009.

3.1 Plant production

According to a detailed survey, a total of 376,923 ha of land was farmed organically, of which 12 % was arable land (i.e. 43,827 ha, of which 44 % is under conversion), 87 % permanent grassland (i.e. 328,753 ha, of which 26 % is under conversion) and the remaining 1 % permanent crops (i.e. 4,343 ha, of which 74 % is under conversion) (see Tab. 8).

The main crop on arable land is cereals (56 %, mostly oats and wheat) and fodder (33 %). Roughly the same 3.5 % of arable land is used for growing grain legumes (pea-growing takes up 55 % of this area) and technical crops (80 % of these are oil crops, especially mustard – over half of the area used for oil crops, while oilseed rape previously dominated). Vegetables are grown on less than 1.2 % of arable land while two thirds of this is used for growing pumpkins (60 % of 511 ha of land used for vegetables). A small proportion (0.58 %) of arable land is used for root crops, especially potatoes (98% of root crop acreage).

In 2009 the volume of organic produce (i.e. produce from purely organic land) reached 643,500 tonnes, of which production of fodder (recalculated as hay) represented 91 % (i.e. 562,300 tonnes from permanent grassland areas and another 25,300 tonnes of fodder grown on arable land). The total production on arable land was 78,450 tonnes of which ca 56 % was cereals and 32 % fodder on arable land (volume in hay). Wheat and oats were the largest proportion of cereal production, as with their acreage (wheat and oats represent almost 40 % of total cereal production). Yield per hectare is generally lower in OF than in conventional farming, although comparison is difficult due to the difference not only between organic and conventional farms but also between organic farms themselves.

Tab. 8 Crops: structure, production and yield on organic farms in 2009

Crop	Number of organic farms[1)]	In conversion period (ha)	Under OF system (ha)	Total (ha)	Organic produce (t)	Organic yield (t/ha)
Arable land total	**421**	**19 388.92**	**24 438.25**	**43 827.17**	**78 450.29**	**n.a.**
Grain cereals (including seed) – total	265	9 670.58	14 863.94	24 534.52	43 745.72	2.94
Grain legumes – total	45	573.54	888.77	1 462.31	1 884.70	2.12
Root crops – total	118	54.98	200.77	255.75	4 243.51	21.14
Technical crops – total	57	913.27	576.40	1 489.68	450.84	0.78
Fresh vegetables incl. strawberries	56	161.04	350.04	511.07	2 778.55	7.94
Root and tuber vegetables	42	11.53	60.92	72.45	1 653.43	27.14
Legumes	13	52.74	3.61	56.35	19.52	5.40
Fodder crops on arable land – total (fodder in hay)	287	7 547.12	6 926.10	14 473.22	25 269.59	3.65
Other crops on arable land (incl. flowers, decorative plants and land for seeds)	11	139.80	189.47	329.27	77.37	0.41
Fallow land (part of crop rotation)	45	328.15	442.77	770.92	0.00	n. a.
Grassland - total (fodder in hay)	**619**	**86 858.27**	**241 894.56**	**328 852.83**	**562 335.44**	**2.32**
Permanent crops - total	**121**	**3 192.98**	**1 149.89**	**4 342.87**	**2 798.86**	**2.43**
Fruit	115	2 165.69	1 095.07	3 260.75	2 624.92	2.40
Nuts	15	50.07	6.81	56.88	8.78	1.29
Vineyards	4	561.37	18.03	579.40	117.94	6.54

[1)] Number of organic farms growing a given crop on organic land.

Source: IAEI Statistical survey, 2009

Grain cereals and vegetables represent the biggest share of all organically grown crops in their total acreage in CZ (5.0 % and 5.8 % respectively under OF). These are followed by fodder crops with 3.8 % and cereals with nearly 2 % of acreage under OF. However, when comparing the volume of production, no main category of crops reaches more than 5 % of its total production in CZ. The biggest share is, again, that of grain legumes followed by vegetables (3.0 % and 1.6 % respectively, of their total production in CZ).

The volume of organic produce on arable land changed within a year, up by 17 %, this was predominantly caused by an increase in cereal production (mainly of grain corn). On the other hand, production of technical and fodder crops fell (by 65 % and 8 % respectively). However, the dramatic fall in technical crops was only due to transferring the production of dill, parsley and lovage from the category of herbs to the category of other leaf vegetables (i.e. transfer of ca 800 tonnes). The year-on-year increase in arable land acreage reached 30 % (or 36 % in terms of organically farmed land). The biggest increase in organic acreage was again that of cereals (by 46 %) and fodder crops (by 27 %). Permanent grassland increased by 16 % and permanent crops by 37 %.

In terms of regions, South Moravia has the largest organic land acreage, followed by South Bohemia and Vysočina, although 40 % of this acreage in Vysočina is used for fodder crops. The largest areas of other crop categories are mostly in the South Moravia Region (31 % of oil crop acreage, 29 % of legumes, 25 % of root crops and up to 80 % of entire vegetable acreage). South Moravia also has most permanent crops, namely 21 % of organic orchards and up to 96 % of organic vineyards. Zlín Region is second with nearly 19 % organic orchards. Most organic grassland is in the South Bohemian, Karlovy Vary and Moravia-Silesia regions (together 44 % of all organic grassland).

3.2 Animal husbandry and production

In 2009 organic farms kept about 224,000 animals on average (total number of organically bred animals throughout the year, excluding bee-keeping and fish-farming). Converted to livestock units (LU) this represents over 95,000 LU (see Tab. 9). The most important category in organic farming is definitely cattle breeding with an 86.8 % share in the total number of LU (or 84.1 % without dairy cows), followed by sheep breeding (8.4 %).

There was a significant year-on-year increase in poultry-raising, especially broilers. In 2008 poultry was raised on 24 organic farms (of which only 3 bred broilers) while in 2009 it was 38 farms of which 9 bred broilers. Pig-breeding also increased (by 26.8 %) which corresponds with the increase in the number of organic farms breeding pigs (from 14 to 21 farms). Other categories (except bees) showed a decline in numbers of animals, of which the most significant is the decline in dairy cows (by almost 50 %) to 2,614 animals. The share of cows in the total number of cattle fell below 2 % for the first time.

The share in total numbers of livestock in CZ shows that sheep and goat breeding has the biggest organic share (nearly one third of sheep and a quarter of goats are kept organically). For cattle and horses it is about 10 %, for dairy cows only 0.65 % of their total number. Despite a significant increase in numbers of poultry and pigs in organic farming, their share in total figures is below 0.2 %.

Tab. 9 Number of animals on organic farms in 2008 and 2009

Animal category	Number of organic farms	Number of organically bred animals[1]		Year-on-year change in the number of organically bred animals 2009/08 (%)
		2008	2009	
Horses	286	3 871	2 982	-22.97
Cattle	826	151 723	136 026	-10.35
Sheep	361	64 559	53 038	-17.85
Goats	132	5 403	4 352	-19.45
Pigs	21	1 569	1 990	26.83
Poultry	38	7 427	25 292	240.54
Rabbits	2	100	88	-12.00
Bees (number of swarms)	6	931	1 202	29.11
Other animals[2]	13	56	48	-14.29
Fish	2	750	458	-38.93

[1] *The total number of organically bred animals includes all animals on an organic farm (not only animals certified according to the farmer's requirement or animals after conversion period).*
[2] *Category "other animals" included ponies in 2008, while in 2009 it included 18 ponies, 20 donkeys, 5 bison and 5 llamas.*
Source: IAEI Statistical Survey, 2008 and 2009

Within organic livestock husbandry, poultry production increased remarkably, by 6,546 % to almost 81 tonnes, which corresponds with the increased number of broilers on organic farms in 2009. Other meat categories also show an increase, except fish – where production fell by 40 %. A total of 7,266 tonnes of meat were produced in 2009, but after deducting the estimated volume of meat sold in the form of live animals for fattening this figure falls to approximately 3,300 tonnes, of which 90 % is beef.

In terms of milk production a total of 13,200,000 litres of milk was produced, of which 96 % was cow's milk. However, cow's milk production almost stagnated (increased by 0.7 %), while a significant increase was seen in the production of sheep's milk (by 452.6 %) and goat's cheese (by 132.9 %). The production of cream, curd cheese and yoghurt also increased several times, but with regard to its overall production in CZ these are still small amounts.

Along with the (afore-mentioned) increase in the number of laying hens, egg production increased by 24.8%, to a total of 1,391,900 eggs (with a considered average egg weight of 62.5 grams this means about 87 tonnes). After a one-year break honey was again produced, to an amount of almost 19 tonnes.

Tab. 10 Animal production on organic farms in 2008 and 2009

Product	Unit	Organic animal production		Year-on-year change (%)
		2008	2009	
Meat				
Beef	1 000 kg	5 469.73	6 618.59	21.00
Mutton/lamb	1 000 kg	329.96	399.58	21.10
Goat	1 000 kg	10.29	22.49	118.54
Pork	1 000 kg	82.90	143.64	73.27
Poultry	1 000 kg	1.22	80.75	6 546.09
Rabbit	1 000 kg	0.30	0.45	50.00
Fish	1 000 kg	1.00	0.60	-40.00
Milk production				
Fresh milk - cow	1 000 l	12 683.14	12 768.13	0.67
- sheep	1 000 l	19.00	105.00	452.63
- goat	1 000 l	355.70	358.26	0.72
Cheese - cow	1 000 kg	2.00	2.50	25.00
- sheep	1 000 kg	2.50	3.80	52.00
- goat	1 000 kg	18.80	43.79	132.93
Further dairy products:				
Yoghurt	1 000 kg	12.00	50.00	316.67
Curd cheese	1 000 kg	12.00	42.97	258.07
Butter	1 000 kg	1.80	1.12	-37.78
Cream	1 000 l	0.20	1.50	650.00
Whey	1 000 l	0.00	0.16	n.a.
Eggs for consumption[1]	**1 000 kg**	**69.73**	**86.99**	**24.76**
Honey	**1 000 kg**	**0.00**	**18.96**	**n.a.**

[1] *Volume of eggs was subsequently adjusted and the originally stated production 142,281 kg (i.e. 2,276,500 eggs) was reduced to 69,726 kg (i.e. 1,115,600 eggs).*
Source: ÚZEI Statistical Survey 2008 and 2009

3.3 Ways of using organic farm production

Of all 930 organic farms which, in 2008, could sell their organic products under a certificate, only 362 (less than 40 %) organic farms actually sold their produce in organic quality. Of the remaining 568 organic farms, 456 farms either sold their produce on conventional markets or used it on the farm and 112 organic farms use all their produce themselves – either in the form of inputs as feed or seed (production and consumption of hay is the most common) or as young animals for their own herds or in the form of food for the farmer's own needs.

Cereals are the most voluminous crop grown on organic farms. In 2008 about 27,000 tonnes were produced, of which about 70 % was sold (i.e. 18,500 tonnes) and 89 % of this amount was in organic quality. Approximately 40 % of entire production sold (i.e. 7,300 tonnes) was exported abroad, all as organic produce. Thus only just over half of organic produce was sold on the Czech market (56 %). The situation is better with legumes, with 87 % sold in organic quality (the rest is usually used directly on the farm as feedstuff), of which 74 % remains on the Czech market. Other crops which were also sold in almost completely organic quality include vegetables and potatoes, herbs, seeds and, in 2008, also pears. Unfortunately, almost all organically produced potatoes, carrots and herbs are exported. On the other hand the biggest share in conventionally sold produce was, besides triticale, that of stone fruit and oil crops (74 % and 48 % respectively) as these are mostly sold on the Czech market. Any significant "other use" of permanent crops (from 9 to 27 %) was mostly the farm's own consumption, but in terms of amount, in pears and stone fruit this was rather a case of on-farm processing (92 % and 40 % respectively of unsold amount) and for apples it is un-harvested fruit due to low redemption prices (80 % of unsold amount).

The majority of organic animal products stay in CZ for further processing. Cattle and sheep are exceptions, as about 14 % of animals for slaughter, nearly one third of calves and 13 % of lambs are exported. Also 34 % of pigs for slaughter were exported in 2008, all in organic quality. However, this figure is not constant as only 1 organic farm is dominant in organic pig-breeding (up to 80 % of total production) and thus the use of pork is dependent on this one farm.

The amount of produce sold actually in organic quality is less satisfying: in the most common OF categories of animal (i.e. cattle and sheep) it only reaches 37 % and 19 % of all meat production respectively (or up to 10 % in beef calves). It is similar with goat's meat (only 11 % sold with a certificate as organic product). A better situation exists in the sale of pork, poultry, milk, eggs and honey – in these categories almost the entire production is sold as organic. However, when compared with the total 2008 Czech production of these commodities, it is a very small amount. Organic poultry is insignificant, organic pork is only 0.02 % of total pork production, organic cow's milk is 0.44 % of total milk production (organic goat's milk is 22 %) and organic egg production only reaches 0.03 % of total egg production. Even the main OF commodity- beef – was only about 5.7 % of the total beef production in CZ in 2008.

With regard to other use of beef, mutton and goat's meat, in almost all cases this meant the farmer's own consumption. The situation was different with beef, when other use (69 %) represents processing on the farm and the sale of meat and meat products as organic food. With poultry, one half of unsold produce (i.e. 26 %) was given to farm workers within a trial poultry-raising period, and the remaining produce was again used for the farmer's own consumption, as well as the unsold eggs. The amount of unsold cow's milk includes milk used as feed for calves. Other use of goat's milk represents direct consumption by the farmer, while all unsold sheep's milk (16 %) is further processed on the farms. With calves and lambs for fattening: this was animals which were not sold and remained in the farm's livestock. All honey produced in 2008 was sold.

4 ORGANIC FOOD PRODUCTION

4.1 Number of organic food producers

At 31. 12. 2009 a total of 395 companies, or 497 production plants, were registered as organic food producers, but 84 of these were shops belonging to supermarket chains – these are registered due to finishing bakery products or packaging dairy products (54 BILLA, spol. s r. o. supermarkets and 30 SPAR Česká obchodní společnost s. r. o. supermarkets).

In comparison with the end of 2008 when 345 companies were registered (or 429 production plants), the number of organic food producers increased by 14 % (i.e. 50 new businesses) which means a certain slow-down if compared to an 82% increase between 2007 and 2008. This deceleration was mostly among wine producers as only 15 new registrations were issued in 2009 while in 2008 it was 45 companies that applied for registration. In 2009 there was again a slight increase in the number of producers in the field of milk processing, and a new area an increase was in tea and coffee processors and non-alcoholic drink producers.

The most commonly processed organic products (according to prevailing activity of producers) include meat, bakery and confectionery and other cereal products (especially fresh bread and rolls), milk, dairy products, cheese, vegetables and fruit (see Tab. 11). In recent years the number of registered organic wine makers has also been increasing, but most of them are not yet in business as their vineyards are still in the conversion period.

Tab. 11 Organic food producers according to type of economic activity in 2007, 2008 and 2009

Code	Economic activity (according to NACE1))	Number of organic food producers2)		
		2007	2008	2009
10.1	**Processing and preservation of meat and production of meat products**	**22 (39)**	**63 (67)**	**63 (69)**
10.11	Processing and preservation of meat apart from poultry	20 (36)	49 (53)	49 (54)
10.12	Processing and preservation of poultry	2 (3)	2	3
10.13	Production of meat and poultry products	0	12	11 (12)
10.2	**Processing and preservation of fish, shellfish and molluscs**	**0**	**0**	**0**
10.3	**Processing and preservation of fruit and vegetables**	**25 (28)**	**38 (41)**	**35 (37)**
10.31	Processing and preservation of potatoes	3	2 (3)	2 (3)
10.32	Production of fruit and vegetable juices	3	6 (8)	8
10.39	Other processing and preservation of fruit and vegetables	19 (22)	30	25 (26)
10.4	**Production of plant and animal oils and fats**	**0**	**1**	**3**
10.5	**Production of dairy products**	**20 (25)**	**32 (67)**	**38 (92)**
10.51	Milk processing, production of dairy products and cheese	20 (25)	32 (67)	37 (91)
10.52	Ice-cream production	0	0	1
10.6	**Production of milled products and starch products**	**7 (10)**	**13 (15)**	**14 (16)**
10.61	Production of milled products	6 (8)	12 (13)	13 (14)
10.62	Production of starch products	1 (2)	1 (2)	1 (2)
10.7	**Production of bakery, confectionery and other cereal products**	**29 (56)**	**40 (71)**	**40 (72)**
10.71	Production of bakery and confectionery products except long-life products	18 (44)	28 (56)	27 (56)
10.72	Production of biscuits and long-life confectionery products	10	10 (12)	11 (12)
10.73	Production of macaroni, pasta, couscous and similar flour-based products	1 (2)	2 (3)	2 (4)
10.8	**Production of other food products**	**65 (73)**	**87 (96)**	**106 (111)**
10.81	Production of sugar	1 (3)	3 (4)	3
10.82	Production of cocoa, chocolate and sweets	3	7	6
10.83	Processing of tea and coffee	14 (17)	14 (19)	20 (24)
10.84	Production of spices and aromatic extracts	5	7	9
10.85	Production of ready-made meals	3	10	11
10.86	Production of homogenized foods, preparations and dietary foodstuffs	5	3	3
10.89	Production of other food products (not elsewhere indentified)	34 (37)	43 (46)	54 (55)
11.0	**Production of drinks**	**22**	**71**	**96 (97)**
11.01	Distillation, rectification and mixed spirits	0	2	4
11.02	Production of wine from grapes	17	62	77 (78)
11.03	Production of apple wine and other fruit wines	0	0	0
11.04	Production of other non-distilled fermented drinks	3	4	6
11.05	Production of beer	1	1	1
11.06	Production of malt	1	1	1
11.07	Production of non-alcoholic drinks; bottled mineral and other water	0	1	7
	Total	**190 (253)**	**345 (429)**	**395 (497)**

[1] NACE – standard classification of economic activity („Nomenclature générale des Activités économiques dans les Communautés Européennes").
[2] Data in brackets corresponds with the total number of production plants.

Source: Inspection bodies (ABCert, Biokont, KEZ); compiled by IAEI

With regard to the importance of organic food production, there are a growing number of medium and large food-producing companies which include organic food production in their portfolio. Only about 15 % organic food producers state that organic food represents more than 90 % of their company turnover.

In terms of region, the majority of registered organic food producers are in South Moravia (almost a third of all producers), but 66 % of these are processors of their own grapes for wine-making (73 companies) (see Tab.12). Central Bohemia is in second place with 40 organic food producers, of balanced structure without any dominant category. The lowest number – only 7 companies – is in the Karlovy Vary Region, although this region has the largest proportion of organically farmed land in the total agricultural acreage of the region (46.5 % land is organic). This region also has the most organic farmers (25 companies) per producer.

Tab. 12 Number of organic food producers in Czech regions in 2009

Region	Number of organic farms	Number of registered organic food producers[1]			Number of organic farms per producer [2]
		production plants	companies	(%)	
Prague	11	50	21	5.32	1
Central Bohemia	169	54	40	10.13	4
South Bohemia	346	23	21	5.32	16
Plzeň	257	35	26	6.58	8
Karlovy Vary	176	10	7	1.77	25
Ústí nad Labem	174	21	18	4.56	10
Liberec	173	18	15	3.80	12
Hradec Králové	141	22	21	5.32	7
Pardubice	94	20	19	4.81	5
Vysočina	224	29	20	5.06	9
South Moravia	196	123	111	28.10	2
Olomouc	194	30	25	6.33	7
Zlín	280	36	29	7.34	10
Moravia-Silesia	254	26	22	5.57	11
Total	**2 689**	**497**	**395**	**100.00**	**7**

[1] Organic food producers are included according to the address of the production plant, not the address of the company.
[2] Calculation made per organic food producer, excluding retail chains.

Source: MoA (at 31.12. of each year); compiled by IAEI

4.2 Number of farm processors

Of the total number of registered organic food producers at 31. 12. 2009, 94 producers (or 100 production plants) were, at the same time, also registered in the category "organic farmer" (therefore they are so-called farm processors). This represents approximately a 24 % share in total registered producers. However, in terms of registered organic farmers, just under 4 % of these process directly on the production site. Moreover, about 60 % of registered farm processors have not started processing organic food, most often due to their businesses still being in the conversion period.

Compared to 2008 the number of farm processors increased by 26 companies (i.e. 38 %), the biggest increase was in the category of wine production (13 newly registered winemakers). Between 2007 and 2008 the number grew more significantly (by almost 50 %), especially in the categories of wine-making, milk and meat processing and meat products.

The most common farm-processed organic produce includes milk and dairy products, fruit, vegetables and meat (mostly meat from large farm animals in farm abattoirs). After the conversion period, wine making (and sale) from organic grapes will probably be the dominant category (see Tab. 13).

Tab. 13 Number and focus of organic farm processors in 2007, 2008 and 2009

Code	Production focus (according to NACE[1])	Number of farm processors [2]		
		2007	2008	2009
10.1	Processed and preserved meat and meat products	4 (7)	9 (12)	11 (15)
10.2	Processed and preserved fish, shellfish and molluscs	0	0	0
10.3	Processed and preserved fruit and vegetables	12 (15)	11 (14)	10 (12)
10.4	Plant and animal oils and fats	0	0	0
10.5	Dairy products and ice-cream	10	16	18
10.6	Milled products and starch products	0	0	0
10.7	Bakery, confectionary and other flour-based products	0	1	1
10.8	Other food products	9 (10)	8 (9)	16
11.0	Drinks	11	23	38
11.02	Wine from grapes	11	23	36
Total		**46 (53)**	**68 (75)**	**94 (100)**

[1] NACE – standard classification of economic activity („Nomenclature générale des Activités économiques dans les Communautés Européennes").
[2] Data in brackets expresses the total number of production plants.

Source: inspection bodies (ABCert, Biokont, KEZ); compiled by IAEI, 2009

5 SALE AND DISTRIBUTION OF ORGANIC FOOD

5.1 Price comparison

A comparison of organic and conventional food prices was carried out by PRO-BIO League in selected specialised organic food shops and supermarket chains in summer and winter 2009. 100 items were compared according to the Consumer Basket of the Czech Statistical Office.

Compared to conventional food supermarket chains, organic food in the monitored sales outlets was, over a long term, at a price level about 100-120 % higher on average. However, a comparison of 2009 with previous years showed an increase in the price difference: in 2009 organic food was 140 % more expensive that conventional food on average, regardless of winter or summer season.

Organic food was cheaper in supermarkets, where the average price of all compared items was 14 – 21 % lower than in specialised shops.

Tab. 14: Summary of organic food price increase compared to conventional food

Average percentage increase in individual organic and conventional food outlets		
Increase in price of organic food in:	summer 2009	winter 2009
specialised shops compared to conventional food by	151 %	149 %
supermarkets compared to conventional food by	100 %	114 %
all outlets compared to conventional food by	140 %	139 %
specialised shops compared to organic food in supermarkets	21 %	14 %

Source: PRO-BIO LEAGUE

No significant fluctuation in the price of organic food was observed in comparing prices during summer and winter 2009.

5.2 Product range in traditional sales points

In 2009 Prague specialised shops and supermarkets offered, on average, 35 organic items out of 100 most frequently purchased food items. Specialised organic food shops offered 57 items.

The proportion of imported organic food in the examined 100 item basket was approximately 60 %, both in supermarkets and specialised shops,

Average number of organic items offered out of 100 in demand		
Sales point	summer 2009	winter 2009
Supermarket chains	37	33
Specialised shops	50	64
All sales points	44	48.5

Source: PRO-BIO LEAGUE

Tab. 15 Proportion of organic food on Czech market according to origin

Sales point	Origin of organic food of items on offer			
	summer 2009		winter 2009	
	% of foreign organic food	% of Czech organic food	% of foreign organic food	% of Czech organic food
Supermarket chains	63%	37%	51%	45%*
Specialised shops	63%	37%	62%	31%*
All sales points	63%	37%	57%	38%*

** The sum of these items is not 100 % as it was not possible to identify the country of origin in 5 % of foodstuffs.*

Source: PRO-BIO LEAGUE

5.3 New distribution channels

In 2009 a trend of direct distribution of organic food appeared in relation to the new alternative culture of buying food and catering in a renaissance of farm markets and farm sale.

Farm markets

The most traditional form of direct contact between a farmer and a consumer is that of farm markets which, especially in bigger towns, were a long-forgotten aspect of shopping habits. In 2009 the first signs of renewed sales in market places appeared, especially in Prague but also in other regional and district towns.

Markets are usually organised via civic associations or town halls which can provide a site and a facilities for a market place and possibly promotion among the public. However, farm markets run by private businesses are also coming into existence. In terms of organic farming the important fact is that organic food producers also find regular customers at farm markets.
www.icm.cz/kde-najdete-farmarska-trziste

Boxes

In 2009 great media attention was paid to the distribution of organic food in so-called box delivery, which has been increasingly successful in the last two years. At present the term "box delivery" covers the distribution of a wide range of farm produce directly to the customers in towns.

Box delivery originates in the systems of Community Supported Agriculture (CSA) existing in western countries from the 1970s. In the Czech Republic box delivery systems have been established in recent years especially as an initiative of small, mainly organic farmers who thus extend their farm sale and cooperate either with ecologically oriented NGOs, organic food shops, mother&baby groups, cafés etc. which provide venues for purchasing the produce, or supply their produce to professional distributors.

There has been no standard definition or statistics, as this is often run by informal groups which cannot be registered. Specialists in this area estimate that about 100 box delivery systems operate in CZ, the majority of which involve products of organic farming.

Organic food in school canteens

School canteens are another successfully developing point for organic food sale which has opened up to organic farmers in recent years. This is mainly due to a wide range of projects supporting "organic food for schools". The most intensive project by the Czech Ministry of agriculture, entitled "Introducing organic food to schools and pre-school institutions" was launched at the end of 2009. More information on the project is given in Chapter 7.6.

6 LEGAL REGULATIONS OF ORGANIC FARMING – CURRENT SITUATION AND CHANGES IN 2009

European legislation

The new Council Regulation (EC) No. 834/2007 on organic production and labelling of organic products and repealing Regulation (EEC) No. 2092/91, and Commission Regulation (EC) No. 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No. 834/2007, came into force from 1. 1. 2009. Another important regulation is Commission Regulation (EC) No. 1254/2008 setting rules especially for the use of yeast and yeast products in organic farming.

The set of new legislation on organic farming which has been in force since 1. 1. 2009 is amended by the Commission Regulation (EC) No. 1235/2008 laying down detailed rules for the arrangements for import of organic products from third countries. Amendments to this regulation have also come into force: Commission Regulation (EC) No. 537/2009 and Commission Regulation (EC) No. 471/2010 adding new countries to the list of third countries (Tunisia and Japan).

Czech legislation

Czech Act No. 242/2000 Coll. on organic farming is still in force, especially defining the procedure of registration in organic farming or misdemeanours in breach of organic farming regulations. Executive Decree No 16/2006 Coll. defines the appearance of the Czech national logo for organic foodstuffs which will still be used on organic food covers and packaging together with the EU logo for organic products.

7 SUPPORT FOR ORGANIC FARMING AND ORGANIC FOOD PRODUCTION

7.1 Development of state support for OF

The first finances in support of the establishment of organic farms were released as early as 1990. Subsidizing continued until 1992 and was probably the main reason for an increase in organic acreage to ca 15,000 ha. The MoA decision to cancel the subsidies caused stagnation in organic acreage from 1993 – 1996, but at the same time positively affected the quality of organic farming.

State support for OF was renewed in 1998 and until 2003 was provided on the basis of a government regulation specifying programs to support non-productive functions of agriculture. In the first three years (1998, 1999, 2000) the level of payment was based on a points system. The value of one point depended on the overall budget for the particular year and the number of hectares applying for support. From 2001 Government Decree No. *505/2000 Coll*. came into effect, introducing a fixed sum per hectare. This decree was replaced by Government Decree No. *500/2001 Coll*. for years 2002 and 2003, but the amount of support for OF remained unchanged.

From 2004 to 2006 state support conditions were set out by a program document entitled "Horizontal Rural Development Plan" (HRDP) which was drawn up in accordance with EU rules (i.e. Council Regulation (EC) No. 1257/1999 on support for rural development from the European Agricultural Guidance and Guarantee Fund) and ensured financial support for organic farmers even after Czech entry to the EU. Organic farming was one of the supported chapters within so-called Agroenvironmental Measures (AEM) and detailed conditions for providing subsidies for OF were defined in Government Regulation No. 242/2004 Coll. on implementing AEM as amended. In those years organic farmers could also use an advantageous points bonification when applying for support from Operational Programme Agriculture (OP).

Since 2007 support for OF has been financed on the basis of a document entitled "Rural Development Programme 2007-2013" (RDP) drawn up according to Council Regulation (EC) No. 1698/2005 on support for rural development, and from the European Agricultural Fund for Rural Development (*EAFRD*) which has replaced "HRDP" and "OP". The organic farming sector is again supported within the AEM. Newly, since 2007, companies registered in OF can also utilize their bonus points for further measures within Axes I and III of the RDP. Thus organic farmers have a much greater chance of their project being approved and financed. Another new option for organic farmers is to draw financial means from national subsidies (i.e. according to Principles setting conditions for providing subsidies on the basis of paragraphs 2 and 2d of Act No. 252/1997 Coll. on Agriculture) due to a 2009 extension of the subsidy Chapter "1.R. support for orchard restructuring" for planting organic orchards.

7.2 Basic subsidies per hectare

Support for organic farmers is implemented within Axis II of the RDP "Improving the environment and the countryside" in Chapter II.1.3.1.1. Organic Farming", which belongs to sub-measure "II.1.3.1. Environment-Friendly Farming Methods" of the AEM. The current conditions for providing subsidies for OF are specified in Government Decree No. 79/2007 Coll. on Implementing AEM as amended.

Within this chapter organic entrepreneurs obtain compensation for economic loss due to the organic farming system. The payments are provided per hectare of organic land, and differentiate according to land use (i.e. crops grown on them). Equal sums are paid to organic farmers for land in its conversion period.

The level of payment is fixed (in EUR) for the whole 2007-2013 period as follows:

- Arable land (155 EUR/ha),
- Grassland (71 EUR/ha),
- Permanent crops (849 EUR/ha),
- Vegetables and special herbs on arable land (564 EUR/ha).

Besides the afore-mentioned payments a new payment for grassland was introduced in 2008, amounting to 89 EUR/ha for farms where all land is farmed organically. A lower sum is provided for farmers running so-called parallel farming i.e. they farm part of their land conventionally.

Subsidies are paid in CZK; therefore the amount changes every year according to the current exchange rate. In 2009 the level of payments increased due to the exchange rate rising by 2 % in comparison to 2008 (see Tab. 16).

In 2009, more than 3,000 applications were submitted in support of 364,747 ha of organic land (i.e. 92 % of entire organic land). Farmers applied for 980,8 million CZK (36,56 million EUR) which, compared to 2008, represents an increase of almost 290 million CZK (i.e. 42 %, 10,8 million EUR). The increase in the level of support applied for is due to both the increase in the supported organic acreage (by 19 %) and the increase in payments as farmers transfer from their completed 5-year HRDP projects to new RDP measures with higher rates of payment. The average payment per hectare increased in 2009 from 2,261 to 2,689 CZK/ha (i.e. by 19 %, from 84.29 EUR to 100.24 EUR).

Tab. 16 Development of payments per hectare in OF (CZK) in 1998-2009

Land use	1998	1999–2000	2001–2003	2004–2006	2007	2008	2009	Change IV / III	Change V / IV	Change VII / VI
	I	II	III	IV	V	VI	VII	(%)	(%)	(%)
Arable land	2 200	2 130	2 000	3 520	4 266	4 086	4 158	76	21	2
Permanent grassland	2 200	1 065	1 000	1 100	1 954	1 872	1 905	10	78	2
Permanent grassland – entire farm	x	x	x	x	x	2 346	2 387	x	x	2
Permanent crops	2 200	3 195	3 500	12 235	23 369	22 383	22 774	250	91	2
Permanent crops – extensive orchards	x	x	x	x	x	x	x	x	x	x
Vegetables	2 200	2 130	3 500	11 050	15 524	14 869	15 129	216	40	2
Special herbs	2 200	2 130	2 000	11 050	15 524	14 869	15 129	453	40	2

Note: Exchange rate valid for 2007 (27.525 CZK/EUR), 2008 (26.364 CZK/EUR), 2009 (26.825 CZK/EUR).

Source: MoA

Tab. 17 Development of supported acreage and subsidies in OF from 1998 to 2009

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total acreage in OF (ha)	71 621	110 756	165 699	218 114	235 136	254 995	263 299	254 982	281 535	312 890	341 632	398 407
Total supported acreage (ha)	24 045	67 600	98 745	155 164	195 036	213 698	231 859	227 739	228 247	273 803	305 867	364 747
Proportion of supported acreage (in %)	34	61	60	71	83	84	88	89	81	88	90	92
Total support (CZK x 1000)1)	48 091	84 168	89 102	167 966	210 861	230 811	292 200	285 829	304 995	539 883	691 674	980 809
Average payment (CZK/ha)	2 000	1 245	902	1 083	1 081	1 080	1 260	1 255	1 336	1 972	2 261	2 689

1) From 2007 the total subsidy amount equals the amount applied for, not the amount actually paid as was previously published.

Source: MoA, SAIF

7.3 Point-advantage RDP measures

Due to low organic food production in CZ, the MoA decided to create an advantage for organic food producers and organic farmers in a point-evaluation of submitted projects within five selected RDP measures.

SUPPORT WITHIN RDP - AXIS I: "IMPROVEMENT OF COMPETITIVENESS OF AGRICULTURE AND FORESTRY"

I.1.1 Modernisation of farm enterprises

Support focuses on investment improving the overall efficiency of an agricultural enterprise so as to increase its competitiveness. It relates to activities connected with production, processing or introducing selected products to the market.

In 2007 and 2008 organic farmers received a bonus of 27 points if they farmed their entire acreage organically, and 15 points if at least 50 % of their acreage was organic. In 2009 bonus point evaluation was not used within this measure and all applications meeting the conditions for providing support were granted.

I.1.3 Adding value to agricultural and food products

The subsidy focuses on supporting the efficiency of processing enterprises, gaining new customers for agricultural products, supporting the marketing of agricultural produce, improving the quality of products and supporting introduction of new products, methods and technology.

In 2009 an organic producer could gain an extra 20 points under an obligation that within 3 years of submission of an application for the subsidy, the proportion of income from organic food/feed production compared to total income will be higher than 75 % or more than 25 million CZK (930,000 EUR). Another option was 10 points for a share of between 10 – 75 %, or income from organic food, from 10 million to 25 million CZK. The applicant also had to submit a valid certificate for a product (organic foodstuff / feedstuff) included in the project, along with the subsidy application at the latest.

Due to such a great advantage for organic food producers the conditions were changed in 2009 and there are currently no advantages of additional bonus points (15 or 7 points) according to farm acreage for producers who are also registered as organic farmers.

I.3.2 Setting up of young farmers

Support focuses on investment in agricultural production. It is designed for young farmer-entrepreneurs and is paid in the form of a fixed sum intended for the start and development of business activities and implementation of a business plan.

A newly registered organic farmer not involved in any other agricultural production at the same time, could, in 2009, gain 15 points, or 10 points if farming at least 50 % of land organi-

cally. Moreover, the condition must be kept for at least the period of project commitment (this was previously a period of five years from the date of application registration).

SUPPORT WITHIN RDP - AXIS III: "QUALITY OF LIFE IN RURAL AREAS AND DIVERSIFICATION OF RURAL ECONOMY

III.1.1 Diversification of non-agricultural activities – scheme a)
This measure focuses on carrying out individual activities in rural areas within diversifying activities of agricultural enterprises towards non-agricultural activities. Scheme a) is designed to launch and develop activities mainly in the field of production and processing, including support for traditional crafts.

If a farmer has entire land under organic farming, they gain 15 points, if at least 50 % of farmland then 10 points. These conditions have applied unchanged since 2007.

III.1.3 Support for tourism – scheme b)
This measure focuses on the development of activities within the development of rural economy towards activities relating to tourism, especially exploiting the potential of organic farms in the field of agrotourism. Scheme b) mainly supports the construction of small-capacity accommodation and catering facilities, sports equipment hire and facilities and areas for sports and recreation.

In 2009, as well as in 2007 and 2008, a bonus of 15 points was provided for farmers with all organic land, and 10 points if they farmed at least 50 % of their land organically.

Within these measures a total of 2,399 applications were submitted in 2009, of which 1,808 were approved, amounting to 4,719.4 million CZK (175.9 million EUR). Almost one third of applications (29.9 %) with a total required subsidy of 851.2 million CZK (31.7 million EUR) (i.e. 18.0 % of all subsidies) were submitted by companies registered in organic farming. Despite

the yearly increase of 143 projects from the OF sector, 2009 saw a decrease in their share in both the total number of applications submitted (from 32.8 %) and in the total amount of approved subsidies (from 26. 9 %). The most commonly utilized measure in 2009 was undoubtedly measure "I.3.2 New farmers going into business" where the share of supported projects submitted by farmers was the same as the share in the total amount of subsidies, i.e. 62.3 %. Interest in measure "III.1.3 Support for tourism – scheme b)" also increased – here nearly one third of approved projects were submitted by organic farmers applying for 28 % of the total sum applied for (see Tab. 19)

In 2008 the biggest share of organic farming projects in the total number of projects was under sub-measure "I.1.3.1 Adding value to agricultural and food products" (60.4 %), where almost 70 % of all requested financial means headed towards OF. In second position with a share of ca 50 %, the same as in 2007 when it was 25 %, is the measure "I.3.2 Setting up of young farmers" (see Tab. 18)

Tab. 18 Number of approved projects and the required subsidy amount in point-advantage RDP measures in 2008

RDP measures, Axes	Number of approved applications	Required level of subsidy (EUR x 1000)1)	Of which companies using point-advantage for OF			
			Number of approved applications		Required level of subsidy	
			(abs.)	(EUR x 1000)	(EUR x 1000)	(%)
I.1.1 Modernisation of farm enterprises	633	60154.42	127	0.76	6 751.71	11.2
I.1.1a Investment in buildings and technology for animal production	462	46691.97	120	0.99	5 900.17	12.6
I.1.1b Investment in buildings and technology for plant production	171	13462.45	7	0.16	851.58	6.3
I.1.3 Adding value to agricultural and food products	148	17881.58	87	2.23	11 737.33	65.6
I.1.3.1 Adding value to agricultural and food products	144	16895.39	87	2.29	11 737.33	69.5
I.1.3.2 Cooperation in developing new products, methods and technology	4	986.1933	0	0.00	0.00	0.0
I.3.2 Setting up of young farmers	301	12516.99	153	1.93	6 294.00	50.3
III.1.1 Diversification of non-agricultural activities – scheme a)	19	873.6535	2	0.40	66.76	7.6
III.1.3 Support of tourism – scheme b)	113	11462.83	29	0.97	2 850.44	24.9
Total	**1214**	**102889.5**	**398**	**1.24**	**27 700.20**	**26.9**

The required level of subsidy is understood as the amount of financial means required from the state (i.e. only a part of the whole investment, as the subsidy only covers a certain percentage of costs). As the subsidy can only be used after the investment itself, the amount of financial means actually paid can differ from that in the Table.
Note: Exchange rate valid for 2008 (26.364 CZK/EUR).
Source: MoA and SAIF

Tab. 19 Number of approved projects and requested level of subsidy in point-advantage RDP measures in 2009

RDP measures, Axes I and III	Number of approved applications	Requested level of subsidy (EUR x 1000)1)	Of which companies using point advantage for OF			
			Number of approved applications		Requested level of subsidy	
			(abs.)	(EUR x 1000)	(EUR x 1000)	(%)
I.1.1 Modernisation of farm enterprises	1 025	110 496.7	221	21.6	11 845.29	10.7
I.1.1a Investment in buildings and technology for animal production	740	83 284.1	200	27.0	10 663.11	12.8
I.1.1b Investment in buildings and technology for plant production	285	27 212.7	21	7.4	1 182.18	4.3
I.1.3 Adding value to agricultural and food products	239	33 340.8	35	14.6	5 874.78	17.6
I.1.3.1 Adding value to agricultural and food products	230	27 829.1	35	15.2	5 874.78	21.1
I.1.3.2 Cooperation in developing new products, methods and technology	9	5 511.7	0	0.0	0.00	0.0
I.3.2 Setting up of young farmers	398	16 261.8	248	62.3	10 126.08	62.3
III.1.1 Diversification of non-agricultural activities – scheme a)	48	3 570	7	14.6	452.7	12.7
III.1.3 Support of tourism – scheme b)	98	12 265.4	30	30.6	3 433	28.0
Total	**1 808**	**175 934.7**	**541**	**29.9**	**31 731.8**	**18.0**

The required level of subsidy is understood as the amount of financial means requested from the state (i.e. only part of the whole investment, as the subsidy only covers a certain percentage of costs). As the subsidy can only be used after the investment itself, the amount of financial means actually paid can differ from that in the Table.
Note: Exchange rate valid for 2009 (26.825 CZK/EUR).

Source: MoA and SAIF

7.4 National subsidies

Within national subsidies implemented in the form of so-called "Principles defining conditions for providing subsidies on the basis of paragraphs 2 and 2d of Act No 252/1997 Coll. on Agriculture, a subsidy program "1.R. Support for restructuring fruit orchards" is newly available for organic farmers (previously only intended for integrated orchard growers.

Six applications were submitted in 2009, 5 of these were approved and support was given for planting 17.55 ha of organic orchard – the subsidy paid was 1,755 million CZK (65,420 EUR).

7.5 OF Action Plan and the "Organic Farming and Processing Organic Foods" program

A strategic document "CZ Action plan for development of organic farming to the year 2010" (AP), which was approved by the government on 17. 03. 2004 in Resolution No. 236/2004, states the main aims and priorities for development of the OF sector in CZ.

These aims have been worked into the form of specific measures and tasks within the "Organic Farming and Processing Organic Foods" program (henceforth Program), which has become one of the specific instruments in their implementation. This Program was approved by the Board of Government for Sustainable Development in 2007. Within the Program the Ministry of Agriculture supported 3 significant projects:

- Introducing organic food to schools and pre-school facilities
- Support for development of regional sale of organic produce
- Organic farming and processing organic foods

As 2009 was the penultimate year of operation of the CZ Action plan for development of organic farming to the year 2010, preparations began for the creation of a new action plan for development of organic farming in the period 2011-2015.

7.6 Projects implemented within the "Organic Farming and Processing Organic Foods" project

Introducing organic food to schools and pre-school facilities

Implementation period:
2009-2011
Overall sum: 7,711,000 CZK
(ca 287,500 EUR)
Implemented by: Country Life s.r.o.
www.bioskoly.cz

The aim of the project "Bioškoly – Introducing organic food to schools and pre-school facilities" is:

- to establish practical conditions for introducing and using organic food in school canteens; to supply products of domestic organic farms, producers and processors to schools through a coordinated distribution network
- to assist school canteens with the practical introduction of or-

ganic food to their menus through educational events, cookery courses and information materials

- to bring together schools, parents and children on one hand, and organic farmers and producers of organic food on the other hand, through school organic festivals, excursions to organic farms and open days

Support for regional sale of organic produce

Implementation period: 2009-2011
Overall sum: 7,566,000 CZK
(ca 282,000 EUR)
Implemented by: EPOS
www.bio-mleko.cz

The aim of the project is to support sale of organic milk and develop the organic milk market in CZ, to increase production of organic milk, improve awareness and specialist knowledge of organic milk producers and those interested in conversion to organic production. It is intended for both organic farmers and conventional farmers who are considering conversion to organic milk production, for producers and processors of milk.

The project offers:

- free training for those interested
- excursions to farms producing organic milk
- practical instructions, guide-books and other material
- free consultancy on organic production and processing of milk

Organic farming and processing organic food

Implementation period: 2009-2010
Overall sum: 7,050,000 CZK (ca 262,800 EUR)
Implemented by: PRO-BIO Association
www.pro-bio.cz (pro-bio project)

The project focuses on the organisation of educational events for organic farmers, processors and traders in organic foods, creation of a network of model farms, developing methodology for evaluating welfare, production and sale of organic products.

The aim of the whole project is to increase know-how in the field of organic farming and thus contribute to its overall development in CZ as a means of protecting the environment. The project is realised by PRO-BIO Association of Organic Farmers with its branches and regional centres, in cooperation with Bioinstitut, o.p.s. and EPOS - Association of Consultants in Organic Farming.

Within the project support was given to a network of organic enterprises with above-standard activity in the protection of the environment and with farm processing. Through newly-created information points, boards, leaflets and especially personal contact with the public, the model farms pass on their experience in considerate farming in the landscape and farm processing. The farms themselves serve as examples of the multi-functional character of organic management.

8 INSPECTION IN ORGANIC FARMING

Inspection of organic entrepreneurs, processors of organic foods, business-people and other registered persons in terms of ACT No. 242/2000 on Organic Farming, was carried out by 3 inspection organisations authorised by the Ministry of Agriculture. These are:

- KEZ o. p. s., www.kez.cz
- ABCERT AG, www.abcert.cz
- Biokont CZ, s. r. o., www.biokont.cz

The efficiency of inspection is overseen by the Ministry of Agriculture's Department of Environmental and Ecological Agriculture acting as responsible authority.

In 2009 inspection agencies authorised by the Ministry of Agriculture carried out a total of 3,555 inspections at 3,190 inspected companies. Of these inspections 152 were unannounced, the rest were announced according to Council Regulation (EC) No. 834/2007.

In the event of discovery of any discrepancies in the activity of an organic business-person or other registered person defined by Council Regulation (EC) No. 834/2007, or Act No. 242/2000 Coll. on Organic Farming, which were not the subject of permitted exceptions, the following measures were implemented:

Caution	296
Conditionally issued certificate	66
Certificate withheld	27
Reason for initiating legal action on the part of the inspection agency	15
Initiation of legal action	8
Adjudication	11

In 2009 cautions were issued to organic business-people or organic producers predominantly due to false marking of organic products and organic foods. On all products the false logo or title was removed on the basis of a request from the MoA, if necessary, alterations were made to the product packaging, which was brought in line with regulations.

In 2009 decisions to withdraw a certificate were made predominantly due to breach of legislation in terms of using dressed seed, processing products on uncertified production lines, the use of non-approved substances in plant production, breach of regulations on welfare and the use of non-approved feedstuffs.

9 EDUCATION

9.1 Teaching Organic Agriculture in Czech secondary schools

In the Czech Republic 65 schools teach within the field of agriculture. These include specialist technical colleges, secondary schools (up to age 18) and training departments. However, none of these schools teaches organic agriculture (OA) as a separate field.

A total of 38 schools teach OA as an individual subject or within other subjects. The most common fields with subjects including OA are Agribusiness, Conservation and Creation of the Environment, Conservation of Nature and Environment, Ecology and the Environment or Natural Science. Other schools teach OA within specialist subjects.

9.2 Education and research into OA in Czech universities

Attention is given to organic agriculture in education and research at the Czech University of Life Sciences in Prague (CULS), the Agricultural Faculty of the University of South Bohemia in České Budějovice (AF USB), Mendel University in Brno (MENDELU), the Institute of Chemical Technology in Prague (ICT) and the Palacký University in Olomouc (UP).

Individual fields of study relating to organic agriculture, or close to it, are taught at CULS (Organic Agriculture study programme – professionally oriented bachelor's degree course and professionally oriented combined bachelor's degree course) and at AF USB (Permanently Sustainable Farming Systems in the Landscape – professionally oriented bachelor's degree course and combined form of study). Individual subjects with components dealing with OA also at CAU, AF USB and MENDELU.

Students have the option of following the organic system of agriculture on school farms at CULS and AF USB, which generally have experimental areas where research projects are carried out.

At ICT, within Special Food Analysis laboratory exercises conceived as projects, students focus on quality analysis of organic and conventional products and comparison of the two.

The subject of quality of organic produce, its authenticity and traceability is dealt with in numerous doctoral theses.

International research projects are also carried out in the field of organic agriculture.

International research projects at CULS:

- 7th Framework Programme: Economic analysis of certification systems for organic food and farming (2008–2011) – the project analyses the implementation of the certification system for OF products, evaluates the relevant costs and transactional costs which exist for OF certification systems and organic products in EU regions, Turkey and Switzerland.

International research projects at AF USB:

- 6th Framework programme: Breaking the spiral of unsustainability in arid and semi-arid areas in Latin America using an ecosystems approach for co-innovation of farm livelihoods (2006–2010), which focuses on modelling the structure of farms in developing countries (Uruguay, Argentina, Brazil, Mexico) with the aim of harmonising productive and non-productive functions, especially environmental and social functions.
- EUS: Sustainable Kitchen – the possibilities for large-scale cooking facilities to reduce CO2 emissions (2009–2011)
- EUS: Sustainable farming – Czech-Austrian project focusing on the cultivation of alternative cereals, selection of type and species for organic farming. (2009–2011)
- LdV: LOVEt – a project by 6 EU partners mapping the needs of organic farmers in terms of the need for, and use of, consultancy services. (2008–2011)
- LdV: i-FLOW Multi-channel e-platform for the improvement of ecological farming skills - a project by 8 EU partners fo-

cusing on consultancy in organic farming with the use of a network of connected servers with databases of information about organic farming and remote i-Pod transfer of data during field consultancy (2010–2013)

- AKTION-Kontakt – exchange of experience and the possibility for its application in the development of organic farming in third-world countries (2010–2011)

International research projects at ICT:

- Quality Low Input Food – Improving quality and safety and reduction of cost in the European organic and „low input" food supply chains: Effect of crop management practices – organic, „low input" and conventional – the influence on the composition and quality of foods (2004–2009)

10 SUPPORT FOR SCIENCE AND OF RESEARCH IN CZ

10.1 Research projects and their financing

By Decree No. 793 of the Government of the Czech Republic on 27th June 2008 the sum of 24,828,902,000 CZK was invested in research and development in the year 2009. Research projects dealing with the problems of organic farming were supported in 2009 by the financial resources of the Ministry of Industry and Trade (MIT), the Ministry of Education, Youth and Sport (MEYS) the Ministry of Agriculture (MoA) and the Ministry of the Environment (MoE) (according to information in the Central Project Register – CPR - http://www.isvav.cz/prepareProjectForm.do)

Of the total financial sum allotted to research and development in 2009 a total of 3,741,948,000 CZK (15.1 %) fell to the MIT, 9,744,397,000 CZK (39.3 %) to the MEYS, 912,154,000 CZK (3.7 %) to the MoA and 478,111,000 CZK (1.9 %) to the MoE.

Table No. 20 gives an overview of the R&D finance programme for 2009. The amount of financial resources for individual research programmes were taken from Decree No.793 of the Government of the Czech Republic of 27th June 2008 on proposed expenditure from the state budget of the Czech Republic on research and development in the year 2009 with a view to 2010 and 2011. The stated number of supported projects and the percentage share of financial resources relates to projects dealing with OF.

Tab. 20 Overview of R&D project finance in the year 2009

Financer	Title of research programme	Number of projects supported*	Level of finance (thousand EUR**)	% share of financial resources allocated to OF projects from total sum of finances for R&D of a given ministry	% share of financial resources allocated to OF projects from the total level of resources for R&D in CZ.
MoA	QG – Ministry of Agriculture research programme for years 2005-2009	1	1 211.6	0.149	0.005
	QH – Research programme in the agrarian sector 2007-2012	7	11 929.2	0.912	0.034
	1G – Use of natural resources	1	893.2	0.192	0.007
	QI – Research in the agrarian sector (VAK)	1	2062.8	0.222	0.008
MoE	SP – Departmental research programme into MoE operations in years 2007-2013	1	10 052.8	0.559	0.011
MEYS	7D – EUROSTARS	1	1 281.9	0.023	0.009
	7F – Financial mechanisms EEA/Norway	1	235.9	0.004	0.002
	2B – Healthy and high-quality life (2006-2011)	1	12 600.6	0.125	0.049
MIT	TIP	1	48 398.9	0.122	0.018
Total		**15**			**0.143**

** research projects from which, in 2009, financial resources were drawn for projects relating to OF.*

*** Rate of exchange valid for 2009 – 26.825 CZK/EUR.*

Source: R&D Information System - http://www.isvav.cz/prepareProjectForm.do, MoA information bank - http://www.mze-vyzkum-infobanka.cz/; compiled by Bioinstitut

Tab. 21 Overview of programs dealing with OF issues according to the stated main project fields

Fertilization, irrigation, working the soil

Project code	Project title	Year project implementation began	Year project implementation ended	State support for 2009 (x1000 EUR)*	Main recipient	Provider
7D08003	Organic cultivation of fruit on the basis of microbial technology	2009	2011	82.2	Symbio - m, s. r. o.	MEYS

Diseases, pests, weeds and plant protection

Project code	Project title	Year project implementation began	Year project implementation ended	State support for 2009 (x1000 EUR*)	Main recipient	Provider
QH72217	Possibility of regulating broad-leafed dock in grassland under OF system	2007	2011	40.2	Crop Research Institute	MoA

Livestock breeding

Project code	Project title	Year project implementation began	Year project implementation ended	State support for 2009 (x1000 EUR)	Main recipient	Provider
0002701403	Fattening boar piglets in organic farming	2008	2008	*	Institute of Animal Science (IAS)	MoA
QH82245	Research aspects to improve the quality of milk from organic farms with the aim of supporting quality production of organic milk and safety of the final organic product	2007	2011	27.2	MILCOM a.s.	MoA

* *Experiment conducted within the IAS research program.*

Plant cultivation, crop rotation

Project code	Project title	Year project implementation began	Year project implementation ended	State support for 2009 (x1000 EUR)	Main recipient	Provider
FR-TI1/299	Development of strigolactone (STRGL) application technology for agrotechnical use	2009	2012	170.7	The Institute of Botany, ASCR	MIT
7F09017	Utilizing legume-cereal intercropping to increase self sufficiency with animal fodder and maintain soil quality on organic farms in the Czech Republic	2009	2010	14.6	Bioinstitut, o. p. s.	MEYS
2B06101	Optimization of agricultural and river landscape in CZ with emphasis on development of biodiversity	2006	2011	453.0	Palacky University Olomouc / Faculty of Science	MEYS

Project code	Project title	Year project implementation began	Year project implementation ended	State support for 2009 (x1000 EUR)	Main recipient	Provider
QH82027	Innovation in technology of growing legume-cereal mixes in organic farming and their influence on selected soil characteristics with specific focus on the nitrogen cycle	2008	2012	48.2	AGRITEC, research, breeding and services, Ltd.	MoA
QH82272	The use of spring forms of selected wheat species in organic farming	2008	2012	45	Crop Research Institute	MoA
QH82149	Soil protecting cultivation systems for potatoes, focusing on top quality organic production on arable land	2008	2012	26.7	Czech University of Life Science, Prague	MoA
QH82231	Production of strawberries in organic growing systems	2008	2012	37.8	Research and Breeding Institute of Pomology Holovousy Ltd.	MoA
QH92106	Cultivation systems for poppies focusing on quality and safety of organic and integrated production	2009	2011	85	Czech University of Life Science, Prague	MoA
QI91C123	Specification of process of seed multiplication in spring forms of grain in organic farming systems	2009	2013	75.3	Crop Research Institute	MoA
SP/2D3/155/08	Optimization of organic farming and selected agro-environmental measures with emphasis on nature and landscape protection	2008	2010	99.6	Bioinstitut, o. p. s.	MoE

Food production

Project code	Project title	Year project implementation began	Year project implementation ended	State support for 2009 (x1000 EUR)	Main recipient	Provider
1G58063	Increasing the quality and efficiency in production systems for milk and dairy produce in organic farming conditions, from ensuring nutrition, through methods of dairy production to their refinement into competitive alternatives to conventional systems	2005	2009	65.4	MILCOM a.s.	MoA
QG50034	New technology and methods in organic farming on arable land to attain quality suitable for food and feedstuff processing.	2005	2009	50.8	University of South Bohemia, České Budějovice / Agricultural Faculty	MoA

* *Exchange rate valid for 2009 – 26.825 CZK/EUR.*

Source: R&D information system - http://www.isvav.cz/prepareProjectForm.do, Ministry of Agriculture information bank - http://www.mze-vyzkum-infobanka.cz/: compiled by Bioinstitut

10.2 CTPOA – Czech Technology Platform for Organic Agriculture

For the purpose of uniting and linking a wide range of interested bodies in the field of organic farming and foodstuff production the Czech Technology Platform for Organic Agriculture was established. All 16 founding members from various research institutions, universities, representatives of private sector basic producers and processors of organic produce made a commitment to a joint aim - to establish and support the development of a knowledge system in the field of organic farming and production of organic foodstuffs, with emphasis on the transfer of findings in all key areas of the sector.

The platform was established in accordance with the TP Organics initiative and the European Commission initiative of 16th June 2004 relating to the creation of technology platforms, published in COM (2004) 353 final. The reason for its establishment was insufficient links between the research sector and the users, resulting in a failure in the transfer of information, development of innovative methods and the transfer of the needs of practitioners to research themes, which are the core of successful development of the organic farming sector. The founding members collectively drew up a Strategic Research Agenda (SRA) and an Implementation Action Plan (IAP). The SRA is the main working document of the platform, in which the R&D priorities are defined over an extended time period. The IAP sets out medium-term and long-term aims through which the identified priorities will be progressively worked out within research themes in order of importance and with regard to the weak points in OF in CZ and deficiencies in members' knowledge. The platform was established as an association which is open in character and to which applications can be made for membership. Bioinstitut o.p.s. was appointed coordinator of the CTPOA.
Further information at: http://www.bioinstitut.cz/ctpez.html

11 PROMOTION OF ORGANIC FARMING AND ORGANIC FOOD

Promotion of OF and organic food is ensured thanks to the regular support of the activities of non-governmental organizations and promotional events on the part of the Ministry of Agriculture (see Chapter 7.5), and to occasional public tenders issued by the MoA.

A significant activity in the field of OF education and promotion is the implementation of a 3-year consumer campaign "Žiju bio" (I live organic) in which the MoA is involved in financing (through the State Agricultural Intervention Fund, SAIF). The campaign, focusing on basic information and promotion of OF and production of organic foodstuffs, is especially aimed at mothers with children and consumers interested in a healthy lifestyle. The main aim of the campaign is to highlight the basic principles and notions in the field of organic foodstuffs and OF. The overall cost of the campaign comes to 24.3 million CZK (without VAT).) 50 % of the cost comes from EU funds, 50 % from the SAIF. The project is carried out by the Ogilvy Mather advertising agency.

Annual promotional events which the MoA is involved in financing include Bioacademy, Organic Food Month, Organic Food of the Year, the Barták Cup, as well as the traditional Organic Fair and Harvest Festival in Prague. Every year Czech producers of organic foodstuffs, representatives of organisations in the field and the MoA are presented at the Biofach and Biostyl trade fairs.

Non-governmental organisations also promote OF within their own activities and projects. The most common instrument for promotion and education on the part of NGOs are training and information programs and events for the lay-person and for specialist public, including schools, publishing printed material and electronic data and operation of websites. In 2009 NGOs carried out several long-term projects in support of organic farming, a significant part of which was promotion and education. These were primarily MoA projects: "Organic farming and organic food processing" which was carried out by PRO-BIO Association of Organic Farmers, "Introducing organic foodstuffs to schools and pre-school establishments", carried out by Country Life, s.r.o. and the project "Support for the development of regional sale of organic foodstuffs" focusing on supporting the production of organic milk, carried out by the EPOS company. (see Chapter 7.6).

Another several-year project comprising largely of education and promotional activity was the Bioinstitut, o.p.s. project "Organic Farmers for Nature", the aim of which was to support OF as an important prerequisite for conserving species diversity and diversity of the rural landscape.

Other educational events which were carried out during 2009 include the campaign by Hnutí DUHA Rainbow Movement) entitled "Podestýlka, výběh, to je jiný příběh" ("Bedding and a run – sound like better fun") giving information about the negative aspects of mass breeding of livestock and the advantages of organic breeding, and the Biosummit 2009, a specialist conference on marketing organic produce, which was organised by the Blue Events agency. A unique project was the campaign "Koruna pro bio do škol" ("One crown for bio in school") carried out by the Green Marketing and Outcomm agencies along with Nadace Partnerství (Partnership Foundation). The project involved the cooperation of leading producers of organic foodstuffs in collecting donations towards the support of a project to introduce organic food to school meals and support children's education on organic farming.

12 ORGANISATIONS AND ASSOCIATIONS ACTIVE IN THE OF SECTOR

12.1 Organisations and associations in the OF field

PRO-BIO Association of Organic Farmers
PRO-BIO is a nationwide association of organic farmers, processors and dealers in organic produce. It also unites consultants, schools, consumers and friends of organic farming. Within the scope of its activities PRO-BIO provides a whole range of educational activities and promotion of organic farming.
www.pro-bio.cz
Other activities in the field of consultancy, promotion and education are the responsibility of the association's regional centres, as well as specialist branches operating nationally; these include:

- **Regional centres**
  A total of 11 regional centres operate within the PRO-BIO Association. These provide advice and consultancy, organize educational events and seminars and support the development of organic farming in the given areas.
- **PRO-BIO Liga / PRO-BIO League**
  This PRO-BIO consumer branch based in Prague is an organisation operating nationwide, its activities focus on promotion and education among the consumer public on issues relating to organic produce and the organic farming system
  www.biospotrebitel.cz
- **PRO-BIO organic retail outlets**
  This PRO-BIO branch unites specialised organic-food retail outlets in the Czech Republic. On behalf of its members PRO-BIO carries out activities in support of sales and mutual promotion of "Organic Food Month"

Federation of Food and Drink Industries of the Czech Republic (FFDI) – Organic foods section
The specialist section for organic foods, established in 2009, unites producers of organic foods organised within the FFDI. The federation provides its members with specialist services in the field of legal regulations and organic food production. The Federation is actively involved in the preparation of national legislation relating to production of organic foodstuffs, it also promotes organic produce among food processors.
www.foodnet.cz

EKOVÍN - Association of integrated and organic production of grapes and wine
An association which unites companies and individuals involved in integrated production and organic production of grapes and wine, coordinating their activity and protecting their legal interests.
http://siphv.artemon.cz:8080/vino-ip/

CTPOA – Czech Technology Platform for Organic Agriculture

A specialist platform established in 2009 as an association of members from various research institutions, universities, representatives of private-sector direct producers and processors of organic produce. The platform's aim is to build and maintain the development of a knowledge system in the field of organic farming and organic food production with emphasis on transfer of findings in all key areas of the sector (see Chapter 9.2)

12.2 Education, research and consultancy organisations

Bioinstitut o.p.s. – Institute for organic agriculture and sustainable landscape management
An organisation focusing on research, education and consultancy in the field of OF. Bioinstitut primarily deals with the environmental aspect of organic farming, carries out research and promotes OF. Bioinstitut organises informational and educational events for farmers and the specialist public, publishes the results of its own research and research conducted abroad, publishes practical and instructional hand-books for farmers.
www.bioinstitut.cz

EPOS – Association of consultants in OF
An association of consultants, research workers, teachers and other specialists in OF. The association provides informational consultancy services, courses and seminars, training for consultants, publication work. It publishes studies and promotes OF.

12.3 Other organisations active within OF

AREA viva
An NGO dealing primarily with the themes of support for sustainable forms of agriculture, rural development and promotion of organic farming in the Czech Republic. Its main activities include education on farms and providing WWOOF activities for the Czech Republic.
www.areaviva.cz

Green Marketing
The Green Marketing Agency provides support and consultancy in the field of marketing organic foodstuffs, natural and ethical products. It conducts marketing consultancy, market research, price monitoring, event marketing and many other activities. It is also co-organiser or organiser of a whole range of activities aimed at promoting organic foodstuffs and organic farming.
www.greenmarketing.cz

Hnutí Duha / Rainbow Movement
One of the biggest environmental NGOs in CZ. Within the "Farming" program DUHA actively promotes the organic farming system and its instruments and brings together small-scale farmers and their cooperation with consumers, deals with issues relating to local foods. The instruments used include educational activities (excursions, lectures), publication work and direct events (outdoor campaigns etc.).
www.hnutiduha.cz

Liga ekol ogických alternativ / League for Ecological Alternatives
A people's association striving for sustainable energy which is more considerate to nature and to humans and for sustainable human activity in the landscape. Activities include education and promotion in the field of organic farming. In 2009 the LEA was particularly active in co-organising the Prague Biojarmark.
www.lea.ecn.cz

Nadace Partnerství / Partnership Foundation
One of the biggest foundations for the support of projects concerning the environment writes its grant programs on the widest of themes relating to the environment and sustainable development. In the year 2009 the foundation wrote a program "Biopotraviny do škol" ("Organic food into schools"), which is part of a program "Škola pro udržitelný život" ("School for sustainable living") and should support the introduction of organic food to school meals and the education of schoolchildren on organic farming in general.
www.nadacepartnerstvi.cz

ZERA – Zemědělská ekologická regionální agentura / Agricultural Ecological Regional Agency

A regional agency dealing with educational, research and coordination activities in implementing programs and measures within sustainable rural development and agricultural use of the landscape. Its activities include educational programs for farmers and farm excursions for the general public, including organic farming enterprises.
www.zeraagency.eu

Traditional farm-processed organic milk in the České Středohoří (Bohemian Central Highlands)

For two years now the Laušmans have been achieving their plans in full on the Držovice farm near Litoměřice. The family farm, which produces a wide range of dairy produce from cows, goats and sheep, is still taking shape and assuming its final form. After the year 2000 the Laušmans gradually moved from a completely different field of activity in Prague to Držovice and since 2007 have put serious effort into realising their plans. The farm currently employs 7 people, family, friends and employees. For two years they have worked with their friend, cheese-maker Tomáš Ondřich, who has gradually created all the recipes. The farm now offers fresh cheeses, yoghurts, sour milks and especially maturing cheeses, on which the family would like to base a greater percentage of production in the future as they are the most popular among customers.

"The capacity of the ripening room already can't cope, so we want to expand," explained Mr. Laušman. The most popular maturing cheeses are prepared on the farm mostly during winter. The cheeses mature for 2-12 months, and therefore more space is needed where cheeses can be stored for maturing. The Laušmans take care of the whole process themselves, from breeding, through processing to distribution. They now have 80 sheep (of which 60 are milked) and 100 goats (80 milked). The commercial goat herd comprises of white short-haired, brown short-haired and cross-breeds of the two. The sheep are milk-producing East-Friesians.

The Laušmans visited many farms, learned from other people's mistakes and based their vision on running a medium-sized farm, selling directly to the public and on markets. During winter they focus on the animals and make cheese from cows' milk. In summer they work on sheep and goats' milk products and prepare the gradually-maturing cheeses.

The Laušmans make full use of various forms of distribution channel. Product sales from the farm are a certainty, whereas selling through shops is more complicated and the Laušmans are gradually moving away from this as they are unable to offer a constant range throughout the year as the shops require. On the other hand sale on farm markets is advantageous and the Laušmans intent to continue in this direction. They go to town markets 4x a week, mostly to Prague and the surrounding area, where people have got used to buying. On the markets they like the personal approach to customers, the atmosphere of the market and cooperation with other farmers. Sales depend on the season, in summer the farm has more visitors and they sell mainly on markets, during winter the shop and market sale of maturing cheeses increases. Držovice products should also do well in the "delivery box" system which they are now developing. The Laušmans do not rule out deliveries to companies and wine-shops and are also considering operating an e-shop in winter.

Držovice cheeses also appear at the classic Biojarmarks, in Toulcov dvůr and traditional festivals. The farm holds its own open days in spring and autumn. Besides all this, with the help of her family and employees, Mrs. Laušman is now in the third year of running a health-food shop in Litoměřice.

"We would welcome a sales cooperative within 30km where produce could be processed. I'm sure small farms would make use of it. Unfortunately it doesn't yet work the same as, for example, in Austria, where a churn of milk is collected from the farm every morning," complains Mr. Laušman, who would like to see more and more small farms in their area.

The Laušmans have also established a Anima Úštěk, people's association, as yet in its initial phase, which focuses on traditional handicrafts, processing wool, cheese-making supplies and other activities, organising workshops and events for the public.

History of the farm

In spring 2002 the farm began building alterations and also began breeding goats. In 2007 the project documentation was completed for stabling for 100 goats, a milking parlour and water treatment plant. On the basis of project documentation building permission was given in 2008, and the project documentation was then used in a grant application. A European grant, administered through the State Agricultural Intervention Fund, helped with the costs of over 3 million CZK. The grant was provided within the Rural Development Program Axis I – sub-measure "I.1.1.1. Modernisation of agricultural holdings" and sub-measure "I.1.3.1. Adding value to agricultural and food products". Assistance also came from the Program for Rural Development Axis IV Leader – "IV.1.1 Local Action Groups". By the end of 2008 building work was completed on the cheese plant, milking parlour and water treatment plant. In 2009 everything was put into action, the milk dairy gained certification. Now the Laušmans are continuing with reconstruction of other parts of the farm under a new project.

Processing capacity: 400 litres of milk a day

The farm has 30ha of pasture in close proximity to the farm, 9ha of arable land used to grow feed (oats and barley), haylage and hay is being prepared, service companies are being approached as the farm is limited in its own equipment.

Since January 2010 all production carries the BIO (Organic) label and is inspected by the ABCERT company.

Držovice cheese is also the proud recipient of the award "Best food product in the Ústí nad Labem Region 2009".

http://farma.drzovice.info/

14 AN EXAMPLE OF A RESEARCH PROJECT CARRIED OUT IN THE FIELD OF LIVESTOCK PRODUCTION

Fattening boar piglets in organic farming

Project code: 0002701403
State support for year 2009: part of the Institute's research program
Main recipient: Institute of Animal Science (IAS)
Provider: MoA (Experiment conducted within the IAS research program)
Year of implementation: 2008 IAS

Fattening boar piglets to lower weight categories is one of the potential options for improving the economic balance of pork production. Following on from previous results, in 2008 the IAS carried out a comparative experiment with the aim of verifying the suitability of this method of fattening in organic breeding conditions, with emphasis on monitoring factors of nutrition and type of stabling and their influence on the presence of a boar smell in the final product. The aim was not only to prove the positive effect of fattening boar piglets in different breeding conditions, but also to establish the resulting meat on the market network.

With regard to the debatable method of castration without numbing or anaesthetic there is an effort to find alternative methods which would meet current European requirements for a higher standard of welfare in animal husbandry. Fattening boar piglets to lower weight categories is one possible solution which, if certain principles are kept, may bring the farmer considerable economic gain. Favourable indication of the efficiency and slaughter value of boar piglets compared to castrated animals (barrows) has been proved in numerous experiments. The risk of the presence of an undesirable boar smell was minimal when basic principles of fattening were kept.

Comparison of characteristics of efficiency in boars, pigs and sows shows distinct differences. Steroid hormones, secreted in the sexual glands influence not only expressions of sexual behaviour, but also the overall metabolism and differing formation of individual body parts. Consequentially, the result is greater efficiency of feed and greater proportion of muscle tissue to fat in butchered carcasses of boars compared to barrows. Boars attain greater meatiness. The risk in producing meat from young boars is in the possible presence of an undesirable boar smell in the meat and fat. The production and accumulation of this substance generally occurs after the animal reaches sexual maturity (around six months). Besides sexual maturity the level of boar smell is also significantly influenced by genotype, feeding, environment and slaughter weight. If basic knowledge of factors influencing the occurrence of the boar smell is respected it is possible to successfully implement the stated method of fattening.

The experiment was carried out within the general operation of Sasov Organic Farm where breeding piglets in so-called family groups is a long-standing principle. Piglets stay with their mothers to the age of 35 days in individual pens. Subsequently, groups are formed of 5-8 sows with piglets of approximately similar age. These animals stay in a group pen until the piglets are 3 months old.

In the observed experiment, after weaning, piglets of specific hybrid combinations (BUxL) x (PnxD) were divided according to sex (boars, sows and barrows) into separate enclosures so that boars were not in direct contact with sows of similar age. The animals had bedded pens with solid floors and an outdoor run. They were fed on a standard feed mix based on legume-cereal mixes to an average slaughter weight of 105 kg live weight.

In organic farming conditions boars achieved 3% greater daily growth compared with barrows with a lower consumption of feed per kg growth (3.69 compared with 4.32). Under the SEUROP classification the boars achieved a higher level of meatiness compared with barrows. This difference was determined as statistically significant. It was the same with economically significant meat parts, where the butchered carcasses of boars showed a greater mass of rump, neck and loin chop meat. The ratio of meat to fat on butchered boar carcasses was 1 : 0.26, compared with 1 : 0.39 on barrows. With regard to the selected technological and nutritional signs of quality the boar meat showed a lower loss of cell fluid in draining. The colour of the meat showed similar qualities in both groups. The content of solids and fats in the barrow meat was greater than that of boars. In sensory evaluation there was no significant difference between the meat of young boars and that of sows or barrows.

Butchered boar meat in the form of cut meat or smoked produce was distributed to the standard organic food retail network with the marked origin or the product (meat from young boars). This marking, which was a condition of the processing company, played a significant role in the promotion of this new type of product, which showed positively in the level of demand in the following years, when Sasov farm began operating its own abattoir.

Meat from uncastrated animals can be successfully used in smoked products where there is given scope for the elimination of potential variation in the level of boar smell. Proof of this in the Czech Republic is Sasov Organic Farm's unique product Huntsman's Boar Salami, which has successfully established itself on the market.

Fattening boars is fully, or at least partly, utilised in countries where a lower slaughter weight commonly applies (eg. Britain, Ireland, Spain). In the Czech Republic this method of fattening is not yet widespread even though the legislative framework does not pose any obstacle in this direction.

GLOSSARY OF ORGANISATIONS

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