Organic Livestock Industry and Its Development Possibilities in Latvia

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Abstract. Organic agriculture as an independent industry had existed in Latvia since the beginning of the 1990s. It developed relatively fast after Latvia's accession to the European Union (EU), however, a decrease in the number of farms engaged in this industry is observed over the recent years. In Latvia, totally 1400 farms raising 73000 cattle, 10000 pigs, 39000 sheep, 7000 goats, and 38000 poultry were engaged in organic livestock farming in 2011. Yet, their share in the total number of livestock is insignificant, the industry is fragmented, and organic meat processing does not exist. Therefore, cooperation among farms is required, so that organic meat reaches consumers. Organisation of farmers in agricultural service cooperatives (ASCs) may contribute to tackling this problem. In 2011, totally 115 ASCs existed in Latvia, of which only 6 were certified as organic, but not a single ASC that would be engaged in the organic livestock industry was among them, which hinders the processing of organic meat and its promotion on the market.
Key words: organic agriculture, livestock farming, agricultural service cooperative.
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Introduction

The number of breakouts of animal diseases and scandals regarding food safety has increased over the recent years. The increasing interest of consumers in quality products has arouse consumers understanding on the significance and value of organic agriculture. It has changed their priorities towards purchasing and consuming organic products, thus, sharply increasing the demand for food produced according to organic farming methods. Organic farming is an agricultural method, which provides the production of biologically pure products based on natural self-regulation processes and environmentally friendly techniques. Thus, ensuring the observation of public economic interests and fostering the solution of ecological, social, and ethical problems for sustainable development of rural areas.

Scientists of various countries permanently pay their research attention to organic agriculture and different aspects related to it. A.Buceniece (2010) researched these issues in the Baltic Sea region and found out that the organically certified area in 9 countries of this region had increased and reached 6.1% of agricultural land, while the fastest increase was observed in the Baltic States. L.Melece and Z.Zaharova (2010), in their turn, state that "biodiversity is a key environmental priority of the EU and its objectives are integrated in the EU Sustainable Development Strategy". J.Brizga (2010) concludes that "the current unsustainable consumption and production patterns in the developed countries are responsible for many environmental problems…". However, A.Borowska (2010) forecasts that "further increase of the area of organic crops can be expected in Poland in the near future, which will be facilitated by the legislation on organic farming providing the framework for the activities of organic farmers". A.K. Løes and B.Nölting (2011) emphasise that it is necessary "to maximise the share of organic food in school meals…". M.Janssen and U.Hamm (2010) point to "particular on the phenomenon that consumers buy organic products despite their limited knowledge on organic production and certification".

Yet, organic management in livestock farming has been little researched. Such research is very important, as the market of organic meat products develops slowly in Latvia. The high fragmentation of organic farms, small quantities of their output, and an insufficient assortment of their products have to be stressed considering the wish of certified organic livestock farms to produce organic meat products for broad consumption as well as the demand for such products on the market. Founding agricultural cooperatives could be one of the solutions to develop the market of organic meat products. Therefore, the **research aim** is defined as follows: to characterise the organic livestock industry and determine its development possibilities in Latvia.

The following **research tasks** were set based on the research aim:

1) to characterise the organic livestock industry in Latvia;
2) to investigate the development of cooperation in organic livestock farming;
3) to analyse market opportunities for meat products produced organically.

Analysis and synthesis, the logical and constructive method, as well as statistical analysis methods were used to perform the research tasks. Research materials of scientists from various countries, information of the Ministry of Agriculture of the Republic of Latvia, the Central Statistical Bureau, the Association of Latvian Agricultural Cooperatives etc. were used to investigate the topic.

Research results and discussion

1. Organic livestock industry in Latvia

Organic agriculture as an independent industry has existed in Latvia since the beginning of the 1990s. Organic agriculture features clear basic principles and

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Table 1

Numbers of livestock in Latvia in 2006-2010 (thou.)

Year	Type of breeding	Cattle	Dairy cows	Pigs	Sheep	Goats	Poultry
2006	Conventional	377	182	417	41	14	4488
	Organic	55	3	9	23	5	17
	Organic, as % of total	13	2	2	36	26	0
2007	Conventional	399	180	414	54	13	4757
	Organic	50	4	6	15	3	16
	Organic, as % of total	11	2	1	22	19	0
2008	Conventional	380	170	384	67	13	4621
	Organic	41	4	6	14	3	16
	Organic, as % of total	10	2	2	17	19	0
2009	Conventional	378	166	377	71	13	4829
	Organic	54	*	10	31	7	33
	Organic, as % of total	13	*	3	30	35	1
2010	Conventional	379	164	390	77	13	4949
	Organic	73	*	10	39	7	38
	Organic, as % of total	16	*	3	34	35	1

Source: authors' calculations based on the LR Zemkopibas ministrija, 2011b and the CSP, 2011

transparency concerning the origin, production, and processing of products. It means that products of organic agriculture have a certificate of compliance with organic farming issued by an accredited institution. It certifies that organic products comply with the EU requirements and legislation of Latvia. In Latvia, the number of farms engaged in organic agriculture has annually increased in the period before 2008, but then it decreased to 3593 farms at the end of 2010 (10.2% less than in 2009 and 14% less than in 2008). An increase in the number of these farms after Latvia's accession to the EU is related with the introduction of specific support measures for organic farming financed from the EU Funds within the Common Agricultural Policy. A decrease in the number of organic farms during the recent years is associated with the lack of wish to undertake a five-year responsibility for obtaining support under agro-environmental measure "Development of Organic Farming" of the Rural Development Programme 2007-2013. In 2010, the organic certified agricultural area was 166 338 ha or approximately 9% of the total area of agricultural land in the country (LR Zemkopibas ministrija, 2011a).

Organic livestock farming is one of the industries of organic agriculture, the basic purpose of which is the production of not only safe and healthy but also high-quality agricultural commodities of livestock origin, which can be achieved by ensuring that the conditions of animal raising and feeding are appropriate for physiological needs of livestock, thus, making the conditions as much natural as possible, and by observing the principles of organic farming. Organic agriculture is also part of a broader chain of food supply, which includes production, processing, distribution, retailing, and finally the consumer as well. Each link of the chain plays a significant role in producing organic products in various fields (Eiropas Komisija, 2011).

Although, organic agriculture tries to keep its traditional techniques and reduce its intervention into natural rhythms as much as possible, organic processing reflects the modern tastes of consumers and the variety of culinary skills. The safety and quality of food is a good motivation for developing organic agriculture in Latvia, since all the necessary prerequisites - labour, land, and several herds of local livestock breeds, which are able to adapt to Latvian conditions – are available in order to produce quality organic agricultural products for the domestic and international markets (Lauksaimniecibas dzivnieki ..., 2006).

However, the processing of organic agricultural produce is not developed in Latvia, as organic farms are scattered across regions and their quantities of products produced are insignificant. According to the Food and Veterinary Service, in 2011, totally 1400 organic farms of various sizes, which can be suppliers of produce to organic meat processing enterprises, were certified in Latvia. The distribution of organic farms by agricultural industry was as follows: 491 (35% of total) poultry farms, 363 (26%) meat cattle farms, 264 (19%) pig farms, 262 (19%) sheep farms, and 20 rabbit farms (LR PVD, s.y.). The number of livestock indicates the possible market potential of organic farms (Table 1).

The following conclusions can be drawn from the information summarised in Table 1.

— The total number of cattle has been relatively stable in Latvia over the recent five years, the number of cows, pigs, and goats has declined, and only sheep and poultry have become more numerous. Whereas, the number of livestock raised organically has grown for all the types: poultry – 2.2 times, sheep – 1.7 times, goats 1.5 times, and cattle – 1.3 times, which indicates that there are prospects for livestock raised organically in the future.

Table 2

Characteristics of ASCs in Latvia as of 31 December 2010

Industry/ Type of activity	ASCs		ASC membership		Net turnover		Average membership per ASC	Net turnover per ASC, mln LVL
	Number	Share, %	Number	Share, %	mln LVL	Share, %		
Grain farming	40	35	2265	25	105362.00	69	57	2634.00
Milk production	33	29	4120	45	47433.00	31	125	1437.00
Fruit and vegetable production	13	11	264	3	0.71	0	30	0.05
Meat production	12	10	1574	17	4.01	0	131	0.33
Agricultural services	10	9	635	6	0.07	0	64	0.01
Multi-industrial production	5	4	270	3	1.44	0	54	0.28
Honey production	2	2	22	1	0.02	0	11	0.01
Total/on average	115	100	9150	100	152801.00	100	80	1329.00

Source: authors' calculations based on LLKA, 2011

— The share of organically raised livestock in their total number is quite significant only for sheep and goats – 33 and 36% of their total number, respectively. However, since the number of sheep and goats is insignificant in Latvia, the total number of livestock raised organically is not significant for the further development of livestock farming.
— An increase in the number of cattle over the period of analysis – approximately by 18 thousand – is a positive trend, yet, their share is less than 1/5 in the total number.
— In Latvia, organic livestock farms have performed more efficiently than farms of the corresponding type of livestock, on average, in 2010. It is proved by the fact that there are 200 cattle, 147 sheep, and 36 pigs per organic farm on average, which is 20, 7.3, and 1.9 times, respectively, more than per farm on average. Only the average number of poultry per organic farm is 2.2 times smaller than per farm on average in Latvia.
— One can forecast that approximately 15-17 thousand tons of meat can be produced a year based on the number of livestock raised organically. Therefore, it is necessary to develop cooperation in the industry, so that meat produced this way reaches consumers, as organic livestock farms are located in all the regions of Latvia, and this industry is still quite fragmented.

The development of the organic livestock industry is limited by the lack of cooperation between producers and processors of organic meat. To develop the organic livestock industry and foster its growth potential, coordinated and targeted activities of cooperation are needed, so that the organic livestock industry becomes more competitive on the food and agricultural market. Hence, Latvia could integrate into the international supply chain of organic food.

2. Cooperation development prospects for the organic livestock industry

Cooperation is regarded as mutual activity to achieve common goals and is one of the most efficient ways of improving the economic condition of farms and ensuring their viability in rural areas (Cobia, 1989).

In a modern sense, cooperation is defined as "an independent union, which was joined by individuals voluntarily to fulfil their common economic, social, and cultural needs and wishes by exploiting a jointly-owned enterprise managed in a democratic way". Therefore, cooperation assists in gaining a greater market power, at the same time reducing production costs owing to economies of scale caused by integration (Kooperacija Aleksandra ..., 2001).

The term "cooperative society" usually relates to the forms of cooperation registered in compliance with the procedure stipulated by the law of the corresponding country. Cooperatives differ from each other by the economic development level (for instance, horizontal and vertical cooperation), the function to be performed (for instance, production, supply, sales etc.), the direction of activity, and the market segment represented by them (Cooperative, 2011).

The "Cooperative Societies Law" of the Republic of Latvia stipulates two types of cooperatives – producer cooperatives (PCs) that are engaged in producing agricultural products and ASCs that provide services to producers of agricultural products but are not engaged in producing agricultural products, however, such a cooperative is allowed to pre-process products produced by farmers. An ASC may be founded by not less than five individuals or legal entities producing agricultural products as well as other ASCs (Kooperativo sabiedribu likums, 1998).

The authors believe that an ASC is a prospective model of cooperation for organic livestock farms; its purpose is to provide possibilities for its members to sell

Table 3

Certified organic ASCs and their characteristics in Latvia in 2011

ASC	Location		Type of processing/activity
	unicipality	parish	
LPKS "Keipenes pagasta piensaimnieku sabiedriba"	Ogre	Madliena	Production of dairy products
LPKS "Latgales Ekoprodukti"	Varkava	Rozkalni	Packing of fruit and vegetables Processing and packing of grain and flour, packing of herbs
LPKS "Zalais grozs"	Amata	Nitaure	Repacking and processing of products of plant origin
LPKS "Daiva"	Rujiena	Jeri	Grain dry-house, grain warehouse
LPKS "Trikata KS"	Valmiera		Collection and transportation of raw milk
LPKS "Baltic meat standard"	Kuldiga	Snepele	Slaughterhouse

Source: authors' construction based on LR PVD, 2011

their farm products based on cooperation and to support its members in ensuring an efficient production process, in preparing sales of products, and in the sales process. Thus, reducing their production costs regarding delivery of products to consumers and selling at profitable prices in both the local and EU markets.

Presently, the majority of ASCs in Latvia are established in the dairy and grain industries, fewer ones are in the industries of fruit and vegetables, meat, and agricultural services, while multi-industrial and honey producers do not want to cooperate. According to the Association of Agricultural Cooperatives, 115 ASCs were registered in the territory of Latvia in the beginning of 2011; their distribution by industry and other characteristics is presented in Table 2.

After analysing the information summarised in Table 2, one can conclude that:

— totally 9150 farms are members of ASCs, which accounts for only 11% of the total number of farms in Latvia (CSP, 2011b). Of these farms, 87% are engaged in 85 cooperatives of three industries (grain, milk, and meat production), which accounts for 74% of the total number of ASCs;
— the net turnover of the mentioned cooperatives of three industries accounts for 99.9% of the total net turnover of all the 115 ACSs, which indicates their significance and potential in the market;
— the number of members in ASCs of all industries, except milk and meat industries, has to be increased to concentrate the output of their products, thus, strengthening their position on the market.

Of the total number of ASCs in 2011, there were only six certified organic ASCs with processing enterprises belonging to them (Table 3).

Not a single ASC existed in the organic livestock industry in Latvia at the end of 2011. Although, the number of certified organic livestock farms is sufficient, the development of the industry and ASCs is hindered by many specific requirements related with organic livestock farms. For instance, to sell products as organic, an animal has to be slaughtered and its carcass has to be processed only at a registered and certified organic slaughterhouse. Presently, not many certified organic slaughterhouses are available in Latvia: nine for cattle, sheep, goats, and pigs; two for rabbits; and one mobile slaughterhouse (LR PVD, 2011). The ASCs are able to provide to their members not only such services as processing, marking, and sales of organic food products but also sales of organic meat products, focusing mostly on logistics and marketing activities.

The development of ASCs in the organic livestock industry could foster the establishment of meat pre-processing and processing enterprises in which modern technologies can be used for processing products and formatting packages. Larger economic gains may be obtained if organic meat is further processed. Further processing (for instance, production of semi-finished goods, drying, smoking etc.) is one of the most expensive but also the most profitable ways of creating higher value added. Large-scale economic activities, which are not possible on micro- and small individual organic livestock farms, are performed by processing products in ASCs. Further processing may also be a prerequisite for getting and stabilising high market prices, and it allows saving significantly on transportation costs as well. It has to be emphasised that the establishment of cooperatives in the organic livestock industry would reduce the number of transactions done by market participants. Thus, decreasing costs in the food supply chain and ensuring the control of participants of demand and supply side over the market, and it would increase competition advantages for organic meat products by creating an additional value (Baraskina, 2010). There are prospects for the organic livestock industry in Latvia, as the output of it is insufficient and does not make the market fully self-sufficient. At the same time, the organic livestock industry can provide competitive export products in the future.

3. Market opportunities for organic meat products

Presently, low efficiency is characteristic of organic product supply chains in Latvia, as every producer mostly him/herself organises sales of its products; besides, products in small quantities are supplied every time. This, in its turn, determines relatively high prices on domestic organic products available on the Latvian market.

After analysing the most popular sale sites of organic products in Latvia, one can see that mostly unprocessed and unpacked products are sold on regional markets, on the spot on farms, and from 2002 – at the "Green Marketplace of Organic Farmers". There are also special

eco-stores selling organic products, and such products are ordered online and delivered (food baskets are delivered to customers at home or to another certain site). Only several organic products are sold in supermarket chains, of which organic meat products make up the smallest proportion (Baraskina, 2002).

Although, supermarkets offer farms an opportunity for regular supplies, setting a constant quantity and quality of organic products, not every farm is able to ensure such supplies to supermarkets. The situation on the market might significantly change if various processing enterprises are founded in the result of cooperation. If organic meat products are sold using one brand name, it is possible to both increase sales quantities of meat produced organically, to make a price policy, and to ensure regular supplies of organic meat products and a necessary assortment of these products in compliance with the quality standard for food sales sites.

If a cooperative establishes an effective channel of distribution, one possibility is to sell organic meat products to its restaurants and cafes, and public catering enterprises, for instance, catering facilities in both governmental institutions (schools, old people's homes etc.) and private enterprises as it is practised in European countries (Bille, 2009).

When selling organic meat products on the local market and performing the function of a middleman moving products from the producer to the consumer, a cooperative can organise direct selling as well. Several advantages, from the viewpoint of both farmers (cooperative members) and consumers, belong to direct selling, as buyers may express their wishes and needs but producers increase their profit. A cooperative has a possibility to offer its organic meat products in the virtual environment. E-commerce offers two possibilities – to represent its website and open an e-store. Commerce through the Internet has become a considerable alternative for traditional methods of commerce for many enterprises that do not wish to sell their products on the local market and actively extend their sales market (Ekonomika un marketings…, 2006).

Conclusions, proposals, recommendations

1. Organic livestock farming is the supplier of safe, healthy, and high-quality agricultural produce of livestock origin to organic meat processing enterprises. This industry is at the initial stage of development in Latvia, as in 2011 only 1400 organic livestock farms of various sizes were certified in Latvia.
2. The existing number of livestock on farms determines the possible potential of the organic livestock industry. In the period of 2006-2010, the number of livestock raised organically has grown for all their types: poultry – 2.2 times, sheep – 1.7 times, goats 1.5 times, and cattle – 1.3 times.
3. The share of organically raised cattle in their total number has to be increased. It would allow significantly increasing the market size of organic meat, which presently is estimated at 15-17 thousand tons a year.
4. A higher concentration of livestock than it is on average in the industry is observed on organic livestock farms. Yet, irrespective of this fact, cooperation among farms is required to increase the economic condition of farms and ensure their viability and compositeness.
5. An ASC is the most appropriate model of cooperation for organic livestock farms, as it provides services to producers of agricultural products but is not engaged in producing agricultural products. Yet, an ASC is allowed to pre-process, process, and transport products produced by farmers to sales sites.
6. In the beginning of 2011, totally 115 ASCs, engaged in various agricultural industries, were registered in Latvia. Only 12 of them were engaged in meat processing industry, reaching a membership of 1.6 thousand farms and a net turnover of LVL 4 million in 2010, which is the third best result after the indicators of grain and dairy cooperatives.
7. Of the 115 ASCs in Latvia, only six were certified as organic, and not a single ASC, which would be engaged in the organic livestock industry, was among them. It prevents meat products produced by means of organic techniques from reaching customers on the market, thus, not using quality food of animal origin produced in this industry according to the purpose of its production.

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