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Trends in the transformation of livestock systems in Lithuania

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SUMMARY – Agriculture in Lithuania performs a significant social, ethno-cultural and environmental function. More than half of the country's territory is used for agricultural activities. There are favourable conditions to develop dairy and meat farming, cultivate cereals and other crops. The transition from a central planning economy to a market economy has been very complicated and hard. A very high decrease in animal production has been recorded. The study presents an analytic overview of the economic and social aspects of agricultural and livestock farming development. The diversity of farming systems, factors influencing farm diversity are described in the study. The evaluation of the changes and current trends and prospects of development of agriculture are presented in the study.

Keywords: Production, trends, diversity, farming systems.

RESUME – *"Tendances de transformation des systèmes d'élevage en Lituanie". En Lituanie l'agriculture joue un grand rôle sur le plan économique, social et environnemental. Plus de la moitié du territoire du pays est utilisée pour l'activité agricole. Les conditions sont favorables pour le développement de la production de viande et de lait, de céréales et d'autres cultures. Le passage d'une économie planifiée centralisée à l'économie de marché a été compliqué et difficile. L'ampleur de la production des produits d'élevage a diminué sensiblement. Dans l'aperçu on analyse les aspects économiques et sociaux du développement de l'élevage, la diversité des systèmes d'exploitations et les facteurs qui influencent cette diversité. On analyse aussi les changements et les perspectives du développement de l'élevage.*

Mots-clés : *Production, tendances, diversité, systèmes d'exploitations.*

Introduction

Agriculture in Lithuania performs a very important economic, social, environmental and ethno-cultural role. Due to geopolitical and historic circumstances, the economic and social importance of the agricultural sector in Lithuania is still higher than in the neighbouring countries.

Soil in Lithuania is mostly of average productivity, similar to that in other countries of this region – Poland, Denmark, southern Scandinavia (ALDP, 2004). However, in respect of the duration of the vegetative season and average temperatures our country has less favourable conditions. Although compared to the conditions of its northern neighbours, Lithuania is in a relatively better situation.

Natural conditions in Lithuania are suitable for the development of dairy and meat farming, growing of cereals, flax, potatoes, sugar beet, rape, fruit and vegetables, developing organic farming.

The transition from the central planning economy to market economy demanded radical political decisions, which, regrettably, have not always been economically sound or socially acceptable (SSDTLA, 2002). During the last fifteen years, the agricultural policies of Lithuania were not very stable. Political views and positions on the land reform and the development of individual agricultural industries kept changing.

The aim of this study was to present a survey of the situation in Lithuanian agriculture, conditions, diversity of farming systems and prospects of animal production development in Lithuania.

The place of agriculture in national economy

The years 2003-2005 were distinguished for a rapid growth of the results in all economic sectors. The Gross Domestic Product (GPD) change per year reached 9 percent when recounted in constant

prices (Agriculture of Lithuania, 2004). A significant share of Lithuanian GPD is created in the agricultural and food sector.

National agriculture is capable of producing sufficient supplies of the main food products for domestic consumption (Fig. 1). Agriculture is closely integrated in the Lithuanian economic and social life. The living standards and well-being of the total population are highly dependent on the quality and prices of food products. On the other hand, the purchasing power of the population determines the demand for agricultural and food products, the economic viability and income of the agricultural sector.

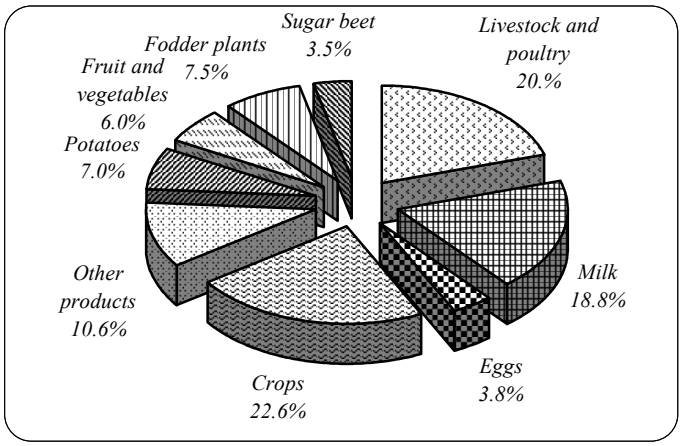

Fig. 1. Structure of gross agricultural production in 2004 (Lietuvos statistikos metraštis, 2004).

With the restructuring of the national economy, the importance of agriculture for the national economy is gradually diminishing (ALDP, 2004), which causes the reduction of labour force engaged in agriculture and of the share the agricultural sector has in the gross value added. In addition to its economic and social functions, the countryside performs important environmental and ethnocultural functions.

Land

Lithuania's territory covers an area of 6.53 million hectares. The total agricultural purpose land area occupies 3.96 million hectares. Agricultural purpose land accounts for 63.4 per cent of the total land area of the country, and 85.4 per cent of total land used for agricultural activities. The data of land use by land categories is presented in Fig. 2.

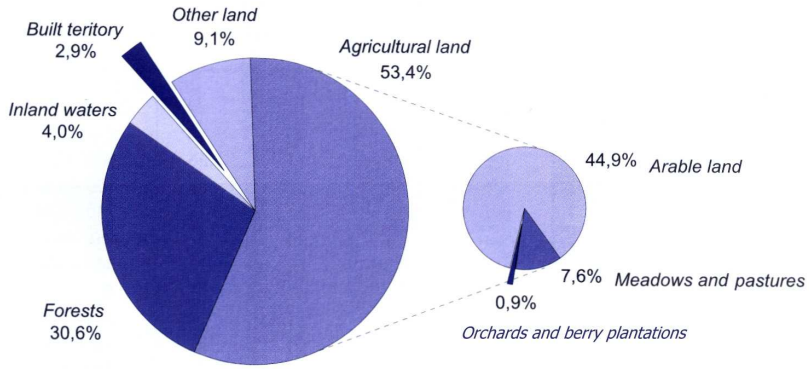

Fig. 2. Total land area by land categories (SYSLCRE, 2003).

The fertility of utilised agricultural land is usually dominated by land quality points, which show the quality of farmland by crop productivity under average economic conditions for farming. The best lands are concentrated in Central Lithuania. The composition of soil in Lithuania is far from uniform. Thirteen per cent of the agricultural land is sand; over 37 per cent is sandy loam, over 39 per cent of clay loam, 3 per cent of clay, about 8 per cent of peat The greater part of the Lithuanian territory is lowlands separated by low hills.

Farm structure

Today, three types of farms can be found in Lithuania: farmers' farms, agricultural companies and individual family farms (Table 1). The number of farmers' farms increased by 64 percent over the last year (from 39,249 farms on the 1st of January 2003, to 53,944 active farms on the 1st of February 2004); agricultural companies work in a stable and promising tendency, only 6 of them stopped functioning last year; the number of individual farms decreased by 16 percent.

Table1. Farm structure

	Number of farms	Land use (thousand ha)	Average farm size (ha)
Farmers' farms	53,944	1354.6	25.1
Agricultural companies and enterprises	610	321.4	526.9
Individual (family) farms	217,557	1159.8	5.3
Total	272,111	2835.8	10.4

About 84 per cent of all the farmers' farms possess an area smaller than 10 hectares. In more productive land areas, such farms account for about 64 per cent. In less productive land areas, farms of 20-50 ha account for 8 per cent, while in higher quality land areas they account for 16 per cent. Farms exceeding 50 ha account for 5 per cent in more favourable areas, while in less favourable areas they account for as little as 0.6 per cent (ALDP, 2004).

The structural changes of farms are greatly influenced by their economic position and possibilities to invest. The analysis of the data in the financial accounting of farmers shows that the economic position of a farm depends also on its size. Small family farms (households) do not usually have many livestock, but the number of animals is highly dependent on the fertility of the land. Larger family farms in fertile regions keep 1.6-2 times more animals than farms of the same size do in areas less favourable for farming.

Situation in milk sector

From the economic point of view, the milk sector is identified as a branch of agriculture with a comparative advantage. Milk production made up 21.5 per cent of the total value of agricultural production. In the Strategy for Agricultural in Lithuania, the dairy sector acknowledged as a priority branch of agriculture.

Changes in milk production have been caused by the period of transition from a planned to market economy. In 2003, if compared with 1990, the number of cows and milk production has decreased almost by half. In 2004, milk production was by 5% higher in comparison with 2002 and by 30% higher in comparison with 1999 The number of milk recorded cows increased by one third or 33 percent as compared with the previous period. On February 1, 2005, there were controlled more than 180 thousand milk-recorded cows, i.e. 40 percent of all cows bred in the country (ARAR, 2006).

Although small dairy farms still take a dominant position in Lithuania, there is a tendency towards their consolidation (SSDTLA, 2002). In 1999 herd size was on average 2.0 milking cows, 2.3 in 2003 , and 2.5 in 2005. 77.9 per cent of farms keep 1-2 cows, 20.5 per cent – 3-9 cows and only 1.6 per cent of the total number of farms keep 10 and more cows (Table 2).

Table 2. Groups of dairy farms by number of cows in 1999-2004

Groups by number of cows	1999		2004		2004 compared to 1999 (%)	
	Number of farms	Number of cows (thousand)	Number of farms	Number of cows (thousand)	Number of farms	Number of cows (thousand)
1-2	193,893	263.4	149,822	199.6	77	76
3-9	37,816	141.9	39,443	162.3	104	114
10-19	631	7.6	2204	27.8	349	366
20-29	103	2.3	339	7.9	329	343
50-99	90	6.5	119	7.8	132	120
100≤	213	50.3	134	38.2	63	76
Total	232,814	474.4	192,259	450.8	83	98

Two major cattle breeds kept in Lithuania are Lithuanian Black-and-White and Lithuanian Red Cattle accounting for 66% and 30% respectively of all cattle. Imported cattle of German, Dutch, Danish, Swedish, Finish and Lithuanian ancient breeds Ash-grey and White-Backed cattle account for the remaining 4% of the total dairy cattle population.

It may be foreseen that milk production will remain the priority branch of animal husbandry (LTEDSL, 2002). The efficiency of branch development will be based on farm modernization, improvement of feeding as well as breeding and production traits of livestock.

Situation and prospects of meat sector

Meat production is one of the underlying agricultural branches in the country. In 2003, this sector made up 20 percent of gross agricultural produce value. Following several year decline in meat production (PAP, 2005), last year a substantial increase was reached in the country. The major parts of meat production come from pork (42.7%), cattle (38%) and poultry (19.2%). The procurement of other animals, including sheep, goats, rabbits and horses, increased as much as twice, the overall buying in gross quantity was small. Although, pork and its products is of particular demand in national market, after joint the EU the increase of beef production begin. In these latter years, a growth in the number of beef and crossbreed cattle has been noticed.

Despite the high rate of decrease of livestock number in 1990-2000, since 2001 we can see inconsiderable increase in livestock number (Gyvulių skaičius, 2004) (Fig. 3).

Two kinds of livestock traditionally prevail in the herd of Lithuania – cattle and pigs. Milk production is a prevailing trend in Lithuania. Cattle of dairy breeds are less suitable for meat production, unfortunately, beef cattle and mixed breeds do not reach 5 per cent of the total number of cattle in Lithuania. At the end of 2005, there were only 0.3 per cent pure beef cattle and 6.1 per cent crossbreeds. Comparatively small livestock breeding farms constitute the majority. The classification farms by cattle number show that as many as 98 per cent of the farmers kept 1-9 heads of cattle and only 2 per cent keep more than 10 heads of cattle (Lietuvos statistikos metraštis, 2004). One farm had on the average 2.7 heads of cattle. Meanwhile, the predominant type of cattle raising in Lithuania is extensive pasturing; no industrial cattle raising for meat is practised.

Pig-breeding farms are not so small. In 2004, the average number of pigs on the farms was 5.8 heads. Forty five per cent of the farms had more than 1000, but at the same time, forty per cent of the farms had less than 10 pigs. In Lithuania, pigs, the hybrids of the Lithuanian White with other breeds, are bred in the majority of pig production units and on farmers' farms. The number of pigs slaughtered for meat – Swedish, Danish Yorkshire, Pietrain, Norwegian, Danish Landrace, Duroc breeds – constitute 12-14 per cent of the total number of slaughtered pigs.

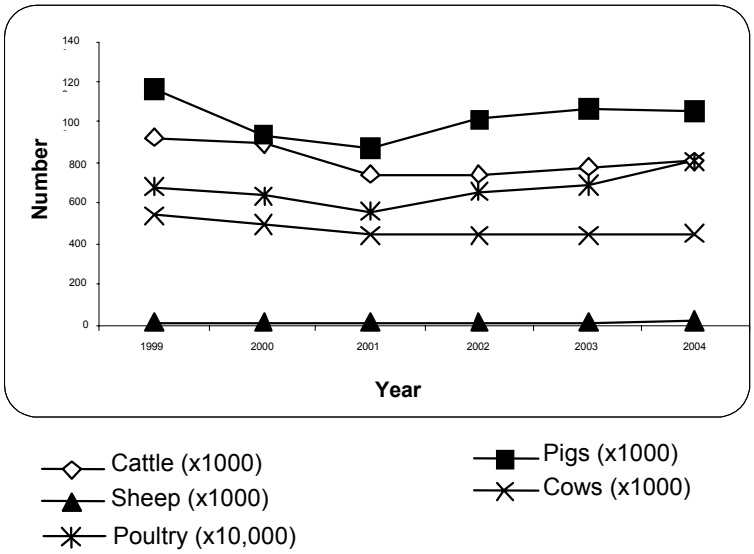

Fig. 3. Dynamics of the number of livestock and poultry.

In 2004, 31 thousand sheep were bred in 5.0 thousand farms. The number of goats was considerably larger than that of sheep. It is planned to expand mutton and goat meat production in those regions where it is not expedient to develop other agricultural activities.

Last year, the procurement of poultry increased by 30 per cent (Agriculture of Lithuania, 2004). About 90 per cent of poultry is produced in six national poultry-yards, the main specialization of which is broiler breeding. Broilers, geese, ducks, turkeys and, lately, ostriches are bred on the farms. The domestic market is being supplied with 80 per cent of the poultry bred in the country.

The main trends in meat production: (i) enlargement, modernization and specialization of farms; (ii) improvement of animal feeding; and (iii) improvement of breeding and carcass qualities of animals, development of commercial crossbreeding by using the best animals of foreign breeds.

Conclusions

The agricultural sector produces a significant share of the Lithuanian gross domestic product. Though the number of livestock and output of animal production was decreased animal husbandry still remains one of main branches of agriculture that gives the high income.

Dairy cattle production is and will remain the dominant branch of agriculture in Lithuania. Its efficiency increase should be based on improvement of feeding as well as breeding and production traits of Lithuanian cattle. Beef cattle production should become more substantial in meat production.

Pig production competitiveness should be based on breeding and carcass qualities of Lithuanian pigs, development of commercial crossbreeding by using the best animals of foreign breeds.

Supplementary branches of animal husbandry as sheep, goat, horse, and poultry breeding should be developed not only to satisfy the demands of home market but also for the export production.

The future of the market belongs to the modern, progressive agriculture based on the newest know-how technologies.

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