

SHEPHERD' PROBLEMS DURING TRANSITION PERIOD TO THE EUROPEAN UNION

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Invited paper

Abstract: Accession of Hungary to European Union on 1st May, 2004, made a lot of effects on the whole agriculture including the sheep sector; however, the transitional period in fact started from the beginning of 1990's, and will be finished at the beginning of 2014.

In this paper the history of the sheep industry divided into five periods, and the main events and factors affecting the sheep production were summarised. The first period (up to 1990) could be characterised by the uniformity. The second one (1990-2000) was the period of reorganisation, diffusion, reduction, and re-start. The whole sheep sector was privatised, the ownership changed, the wool industry was demolished, and number of firms earning money from sheep industry increased. The third one (2000-30th April 2004) was the period of hope (for the same level of subsidy as in former EU member states), and the final preparation for EU membership. The fourth one (1st May 2004 - 2011) was and still is the learning period (looking for the best ways to help the sector to survive), and finally the fifth one (2011-2014) will be the awaiting period for new circumstances. In the present sheep sector the live slaughter lamb became the main and dominating product (giving 95-96% of the average income), but the ration of utilised lambs per ewes is lower than the necessary and possible level. The wool does not have real value (2-3% of income), and the milk production fall back to low level.

Key words: sheep sector, periods of history, meat, milk, wool, profitability

Introduction

For understanding the shepherds' problems during the transition period to EU, several questions should be answered, and some information need to be collected.

Firstly we can distinguish three main products (meat, wool, milk) originated from sheep industry. The question is: which product has to be selected, which one could give him/her enough income to survive from sheep production? Secondly the market: domestic and/or export will be advantageous? Thirdly the

sheep sector would not be able to survive without subsidies, and the countryside could not be kept up without sheep in most of the EU countries. Consequently the sheep is one of the most important and effective tools for the environment (especially on grasslands), and also a could not be disregarded as a tool to keep up the biological diversity. Furthermore the sheep (and the shepherd) is serving for the whole society, the whole human population, especially for thoes using the countryside for recreation. The actual question is as follows: whether the human being services could give enough resources for survival? This is the subsidy, which is in question. It is quite hard work understanding the shepherds' problems especially without knowledge of tendencies over the last two-three decades.

Materials and Methods

The number of sheep, and the events happened in the Hungarian sheep industry over the last three decades were collected, and different periods were created between 1990 and 2014 concerning the transitional period to EU. Five periods were separated according to the state of sheep industry: *period 1* (before 1990 – still under the centrally organised economy); *period 2* (between 1990 and 2000 – re-organisation of national economy and the ownerships); *period 3* (between 2000 and 2004 – final preparation to EU membership); *period 4* (between 2004 and 2011 – first developing years within the EU); and *period 5* (between 2011 to 2014 – reaching the same level of subsidy like sheep farmers in EU-15 memberstates). The most important events and processes were summarised and evaluated according to the periods.

The database of Sheep Products' Council, the Hungarian Sheep Dairying Association, the Annual Periodic of Hungarian Sheep Breeders' Association, and the Central Institute for Statistics were utilised for the evaluation. Concerning the changes in sheep sector, in the meat production, and in export-import data, the annual evaluating reports made for the EU Forecast Group on Sheep Meat and Goat Meat prepared by *Sándor Kukovics (between 2004 and 2011)* were utilised. In the evaluation of changing in EU sheep sector, the DG AGRI data were used.

Results and Discussion

The periods of sheep sector. Development of sheep industry was quite different over the five periods. The first could be characterised by the uniformity. The second was the period of reorganisation, diffusion, reduction, and re-start. The third was the period of hope and the final preparation for EU membership. The forth was, and still is the learning period, and finally the fifth will be the awaiting period (Figure 1).

Period 1: up to 1990. The sheep sector was functioning in 60% of 130 state farms and 1350 cooperative farms, and only limited number of private sheep farms were functioned. The sheep meat export was well organised, and live lambs, as well as, lamb meat were exported to Europe, Middle East and North Africa. The intensive (express) lamb fattening system (developed in Hungary during the 1970's) was well organised, and resulted uniform lambs with very good quality. Apart from the one determining company (TERIMPEX) an other state owned company (Wool and Textile Raw Material Distributing Company - GYTV) entered to the direct export activity with a smaller ration. The dominant part of the lambs left the country as live animals, but there were two specialised sheep abattoirs (Hortobágy, Baj), which had the one quarter of the total sheep meat of the country.

The subsidy level of wool production reached the 76.6% and there were 11 wool processing companies functioned in the country. The GYTV performed the wool buying up and distribution. There was an intensive increase in milk production in the mid 1980's, and it was followed by a gradual reduction up to 1990. Six sheep milk processing companies were functioning, which sold their products (dominantly kashkaval cheese) to 27 countries (like USA, Middle East, Australia, etc.).

As much as 85% of the sheep were belonging to Merinos, however, the breeding works of several other breeds were started in the country. Besides of this different breeding programmes were started to improve the milk and wool production abilities of the sheep from the beginning of 1980's.

Period 2: 1990 - 2000. The consequence of the change and total reorganisation of the economy, and the ownership the sheep sector was also changed. The cooperative and state farms were demolished or smaller ration was transform to new companies. Dominant part (95%) of the sheep got into private hands, and at the beginning more than 8 800 sheep farms were got into register, but later on the number of farms and the number of sheep kept were gradually declined. Many new sheep farmers started to act without any or with only limited knowledge. Parallel to the reduction of sheep number and production the number of companies dealing with lamb export and wool buying up increased.

The organised nucleus sheep breeding system were closing to collapse and in order to avoid the total stop the Hungarian Sheep Breeders' Association was founded in 1991, which organisation held the nucleus flocks together since then. In order to restore the organisation of lamb market the Sheep Products' Council was founded in 1992. Its activity basically concentrated on the organisation of slaughter lamb and wool distribution, and helped the organisation of sheep milk production as well.

The intensive lamb fattening system functioning on a very good level, and giving uniform lambs with good quality under a well organised circumstances had been forgotten („lost”) over the first couple years of this decade. Because of the strong reduction in sheep number the quantity of marketed lambs decreased, and

the North African and Middle East markets were lost, and 95-98% of our slaughter lambs export limited to EU by the mid of the decade. The specialised sheep abattoirs bought up foreigners (Italian investors), and let them functioning on a limited level.

The special subsidy given to wool production ceased in 1990 and the wool prices heavily reduced, therefore the production and the value of wool became irrelevant within income of sheep farms. The wool processing companies were closed and destroyed by the mid of the decade, and since then the wool produced leaving the country as raw wool.

A further and gradual reduction happened in the sheep milk production, and the significant part of the sheep processing companies ceased, however, some new ones were founded. The most of sheep flocks and populations developed during the previous decade increasing the sheep milk production were frittered away to Arabic sheep meat export on very low prices as the result of privatisation. New breeding programmes started, but the quantity of sheep milk produced had a further decrease. In order to stop this process a new organisation (Hungarian Sheep Dairying Association, founded in 1996) developed a new subsidy system to increase the quantity of sheep milk with first class quality. The government accepted and introduced the system from 1997, and the quantity of sheep milk increased by 30% by the end of this period, but the ration of milked ewes was only 10%.

A special subsidy was introduced for keeping ewes, and for increasing the female replacement (ewe hogget) to stop the reduction in sheep number, along with the subsidy of use of top quality rams in the second part of the decade. The dominance of Merino did not change much concerning the sheep breeds bred in the country, however, new breeds also appeared in the sector.

Because of the foot and mouse disease occurred in North of Italy in first half of 1993, caused by a beef cattle import from Turkey, Hungary had to face a kind of punishment from EU. The live lamb export was stopped for 3-4 months and the lambs produced for Eastern season could dominantly sold for Arabic export on much lower prices. Since this time every single exported lamb has had to wear an individual ear tag and its' number has been fixed on the transport documentation.

Because of the „muddle/nonsense” of the privatisation big part of grass lands used by the sheep breeders got into the ownership of the companies/firms functioning in the cities (dominantly lawyer offices).

The sector practically became a „one main product” industry (live export slaughterlamb), and the wool lost its value in the farm income. The export of sheep milk products fell back to a limited quantity. The new domestic sheep milk products had to be in a competition with a sheep milk product imitations (made dominantly from cattle milk and arrived from Slovakia).

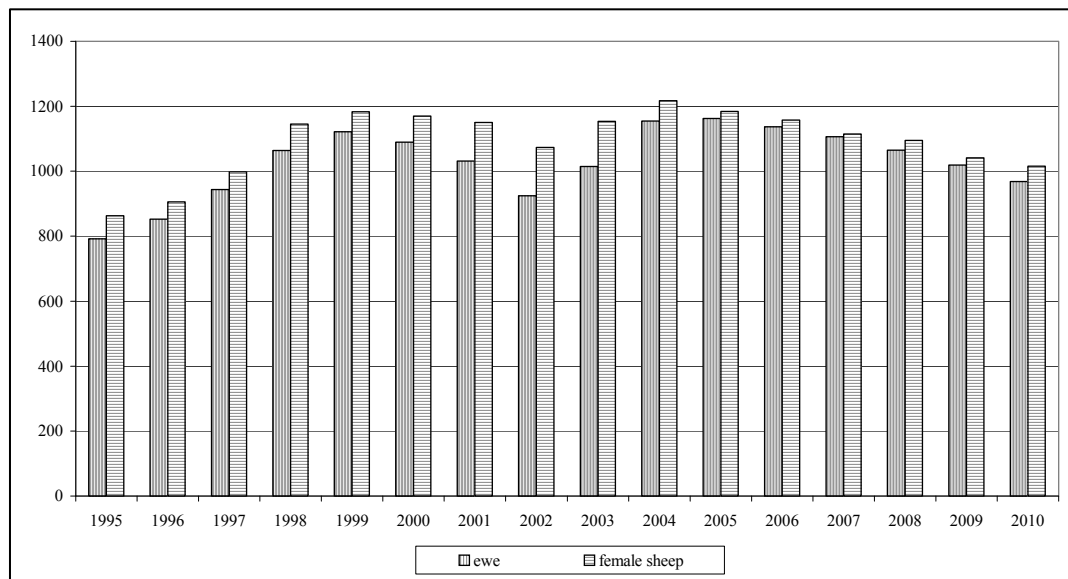


Figure 1. The changing size of sheep sector (MJKSZ, 2010)

Period 3: 2000 - 30th April 2004. The preparation of ourselves for EU membership resulted an intensive increase in sheep number under the hope of elevated subsidy given for sheep breeders. Parallely the number of sheep farms decreased, however, the number of companies earning money from sheep (slaughter lamb) distribution increased. No practical change happened in the production of slaughter lambs with mixed (in large ration of low) quality. The specialised sheep abattoirs were closed and the organisation of new abattoirs started, but the sheep meat export reduced. In wool distribution remain unchanged, the raw wool was exported.

The consequence of special subsidy given to the sheep milk production to improve the milk quality 50% increase happened between 1997 and at the end of 2003. Apart of this our sheep milk products still had to face the competition with the sheep milk product imitates arrived from abroad into the domestic market, and because of import liberalisation these products became legal.

The phenomenon of „one main product” of the sector became stronger, and the importance of dominating market (Italy) had further increased. The effect of liberalisation could be felt in slaughter lamb distribution as well and the ration of Romanian lambs increased in the Hungarian lamb export.

Because of the foot and mouth disease occurred in United Kingdom in 2001, Hungary had to face again to an EU punishment, the export of lambs were hold back for several weeks, and the earlier practically closed abattoirs were re-

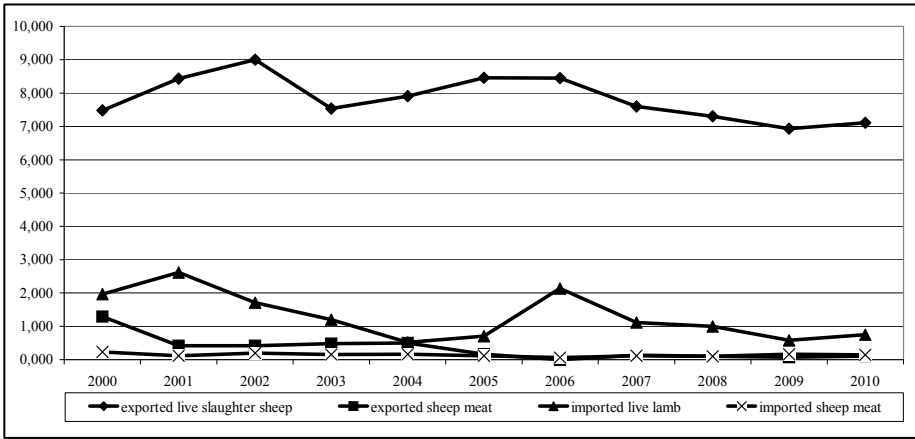


Figure 2. The change of the quantity of main product (in number) (Kukovics, 2004-2011)

opened for 3-4 weeks in order send at least carcasses for the Eastern fiesta to Italy to cover the shortage of lamb meat.

However, the individual tagging of lambs sold from farms were obligatory since 1993, and the sheep farms were registered with their ewes, a new regulation was introduced into the country in 2000 to use standardised individual marking and registration of lambs, ewes, and sheep farms. Since then individual number of lambs and ewes has contained the registration number of the farm, and the individual number of the animal. Accordingly every single slaughter lambs sold gave the possibility to determine its mother, and the farm where it was born.

The processes have happened in the change of the main products as well as in the export - import data of sheep sector in the country over the last decade could be easily followed on the Figure 2 and Figure 3.

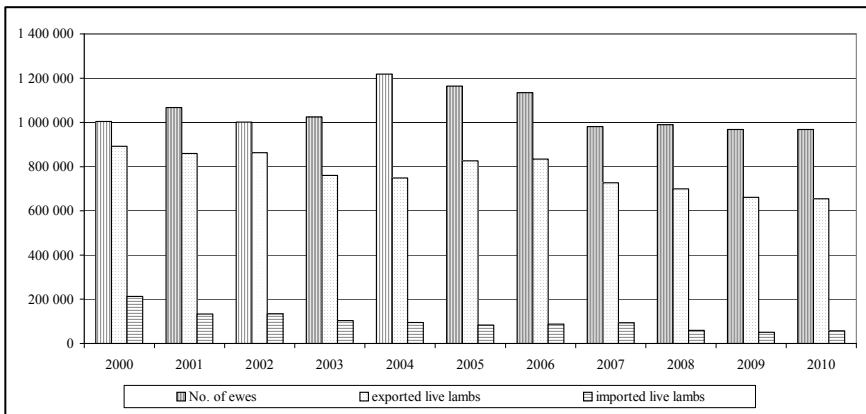


Figure 3. Development of export - import data of live sheep and sheep meat (Kukovics, 2004-2011)

Period 4: 1st May 2004 - 2011. Being as EU memberstate sheep number continuously increased until 2005, but since then the annual reduction in the number of ewes were between 50 000 and 60 000 heads. The retain of female lambs from meat export for replacement fell back so heavily, that the number of ewe hogget kept back for breeding purpose was lower, concerning the whole period, than that would be necessary only for one breeding year. Consequently, number of aged ewes rapidly increased, and further reduction in ewe number could be forecasted.

From 2010 to 2011 the number of ewes decreased by 8.7% (100 000 heads). According to the Agricultural Paying out Agency 5546 breeders applied subsidy for 858 thousand sheep, while in the statistics of Hungarian Sheep Breeders and Goat Breeders Association 5618 farm and 867 217 ewes reported, however, in their database 6579 sheep farms and 891 799 female sheep found. In this reductions one could discovered a kind of disappointment concerning the level of direct subsidy (decreasing amount of subsidy per head).

The decrease of ewe number reached the 14-15% in 2011 comparing to 2010, which means about 120-130 thousand heads of reduction. Parallely the number of registered sheep farms was also fallen back by 14-15%, and now about 6 000 sheep farms remained. In this reductions one could discovered a kind of disappointment concerning the level of direct subsidy (decreasing amount of subsidy per head).

The level of sheep milk production was significantly fallen back as the consequence of ceasing the subsidy given for first class quality milk. The quantity of sheep milk purchased up and processed officially decreased below the level of the year 1995, and its quantity hardly exceeded the 0.8 million litres in 2010.

No really change happened during this period concerning wool production, however, the relative shortage of wool on the world market almost doubled the buying up prices in 2010. It meant that the average raw wool price reached the one Euro/kg, and it modified the ration of income of sheep farm from 1-2 % up to 2-3%. This tendency is being continued in 2011, and the average prices reached the 1.5 €/kg.

The phenomenon of "one main product" became much stronger, and the symptom of „one main market" causing more and more problems. During the last couple of years two new small to medium sized sheep abattoirs were founded and having market importance as being in the domestic market and able to export carcasses and chopped meat, however, the ration of these abattoirs covers only a couple of ten thousand heads. Together with this the „breaking in" into the Japanese and Austrian markets of these companies have a meaning of significant result.

There are more than 60 companies functioning in sheep meat distribution (and buying up), from among some 27 ones are exporting slaughter lambs

(dominantly to the inner market of the EU). The raw wool distribution made by some 15-18 firms.

Since the beginning of being EU memberstate (2004) the frozen sheep meat from New-Zealand (under the name of lamb meat) appeared in the domestic market (as the whole EU means an inner market) on much lower price than domestic and EU prices.

Concerning the breed composition in the country the ration of Merinos still exceed the 80%, however, the number of breeds bred have been about 20 over the last two decades. Together with the high ration of Merinos the ratio of Merino ewes could reach only the 20-25% in the nucleus part (under official performance and breeding control) of the national sheep flock.

The demand for improving meat quality (including body conformation, and fat cover of carcass) has aroused the interest in several sheep farmers, but the lack of knowledge resulted unmethodical crossings, and further mixed quality of lambs.

The new obligatory individual marking and registration system of EU introduced in the sheep and goat sectors in 2005 did not cause practical change in the marking, but in registration some new official forms (like transport documentations, special book for population registration on farms, cross-compliance, etc.) appeared creating extra problems. The introduction of electronic individual identification of sheep and goats since the beginning of 2010, however, has caused 5-6 times extra costs in the marking of animals, and parallel to this the registration costs were also increased. There have been several promises made by the governments since then to compensate these extra costs, but the new regulation decreasing these costs of sheep farming has not announced until the end of June 2011.

Nothing has really improved in ownerships of grazing and pasture lands, moreover, because of the consequences of certain renting circumstances (in the case of state owned grasslands, national parks, etc.) it was even damaged. Significant part of the sheep farmers (approximately 35-40%) do not have enough (or does not have any) grasslands, and they have to pay for the rent of those lands surrounding of their sheep barns (most of them used to owned by the state and/or cooperative farms). Besides of this significant part of the subsidies could be received per ha of lands increased the income of owners living in the towns and do not arrive to the real actors of the sector.

Period 5: 2011 -2014. Further reduction of the sheep number could be forecasted up to 2014 concerning the Hungarian sheep sector as well. Under the present form of subsidizing system the number of ewes could be dropped back to the level determined in the cases of Natura 2000 and agro-environmental lands (approximately 6-700 thousands of heads) during the coming two-three years. The reason could be discovered in the present subsidy system (the TOP UP part of SAPS TOP UP disappeared by 2013, and the direct subsidy for sheep kept will be ceased) and in the aging of the ewes.

Since 2003 subsidy system in EU-15 has been changed, and in the SPS (Single Payment System) system sheep breeding still receiving significant level of subsidy, however, there are some differences among countries.

Unfortunately, the change of our subsidy system to SPS stopped in 2009, and sheep farmers have been losing a good amount of subsidy (comparing to the possibilities) which will last (in the case remaining under the present system) up to 30 April 2014, from the change-over will be obligatory for Hungary as well. This process will result in reduction in sheep number, which will come along together with the negative effects on the production, social life, employment, land utilisation, environment and inhabitant preservation, as well as sustainability of rural countryside.

The present state of sheep sector. It is almost a kind of banality that the sheep industry is producing the 1% of the total agriculture value, and its share within the whole animal production is about 2%, thanks to the 90% export ratio of its products.

As the result of the history of last twenty years the sheep sector consists of small farms, the average flock size could not reach the 150 ewes. In 2010 there were 6 862 sheep farms having 969 000 female sheep kept in production. By the end of June 2011, the number of sheep farms decreased by 700, and the number of ewes kept reduced by 120-130 thousands of heads. Some 61.61 % of farms kept less than 100, 87.59% had less than 300 heads of ewes in 2010. There were 300-500 heads of sheep on the 7.10% of the farms, and only 5.31% of sheep flocks had more than 1 000 heads. They had 16.14, 48.73, 19.21, and 11.53% of total ewe population, respectively (*MJKSZ, 2010*).

Before the EU accession Hungary had a quota to be exported to EU amounted to 16 000 tonnes of bone in sheep meat, and this quota was never fully utilised. As many as 1 146 000 ewes were determined in accession documents as subsidy upper limit for Hungary. We were in the closest situation to this number in 2005 and now about 860 thousand heads could be found in the national flock.

Concerning the main data about 6.5-7.0 kg of bone in lamb meat sold after one average ewe. In 2010, 655 000 live lambs were exported from the country on an average of 20-22 kg live weight. About 0.65-0.70 lambs are utilised after one average ewe, which means a low production level. More than 98% of the lambs exported as live animals (*Kukovics and Jávora, 2010*).

About 3-3.3 thousand tonnes of raw wool produced in the country and sold out mainly to the nearby countries. There are two small and two medium sized sheep milk processing factories in the country (dominant part of their products sold on the domestic market), and on some sheep farms cottage cheese also produced.

The market. Some thousands of animals sold for Japan and Turkey but most of the lambs are sold within the EU (dominantly in Italy). The number of animals and the sheep and goat meat production of the EU has been continuously decreased since 2000, and over the last couple of years the 3rd countries could not export enough quantity of these meats to the EU (Table 1). Big number of sheep

farmers in New-Zealand (giving 85% of the total EU import) changed sheep farming to cattle milk production, therefore there is a significant drop in sheep meat market. The sheep meat consumption (including goat meat) has also being reduced because of shortening availability, high prices, and the low knowledge about the sheep / lamb meat within the young generation (*Kukovics, 2008, 2010; Kukovics, 2004-2011*).

The light lamb prices remained on a high level during the first part of 2011, after the period of second half of 2010 the Hungarian sheep farmers had a relatively better position on the market, and giving less seasonability in the prices and the income, however, the Hungarian prices were below the average EU prices, and far away from the Italian ones.

The heavy lambs creating only much smaller part of our export, but the Hungarian shepherds would like to get similar high prices for their lambs than the French farmers (French prices are the highest in EU). Therefore several farmers are planning to produce heavy lambs with much better quality than make it today in order to get the chance to sell them in France.

Table 1. The main characteristics of sheep and goat meat production, export and import, and self sufficiency in the EU

	2004 EU-25	2005 EU-25	2006 EU-25	2007 EU-27	2008 EU-27	2009*) EU-27*	2010 EU-27**	2011 EU-27**
Usable production								
1000 head	72 686	72 197	72 080	77 681	72 579	69 536	67 368	66 615
Tonnes	1 059	1 058	1 038	1 096	1 026	969 820	938 380	932 673
Non off 1000 head						13 874	13 874	13 874
Non off 1000 Tonnes						161 999	161 999	161 999
Import of live animals	17 931	9 688	10 008	10	8	4	10	8
Export of live animals	1 412	2 280	1 449	4 382	2 991	3 725	10 903	10 000
Gross indigenous	1 043	1 051	1 029	1 101	1 029	1 135	1 111	1 104
Import of meat cwe	259 649	273 757	280 284	271 629	269 936	271 440	239 118	250 000
Export of meat cwe	4 184	4 171	3 528	5 888	5 641	7 730	13 106	11 000
Internal use	1 315	1 328	1 315	1 362	1 291	1 395	1 326	1 333
Population (million)	458,973	460,978	463,125	494,633	496,807	498,494	499,990	501,490
Consumption (kg/head)	2.87	2.88	2.84	2.75	2.60	2.80	2.65	2.66
Selfsufficiency (in %)	79.3%	79.1%	78.3%	80.8%	79,8%	81.4%	83.8%	82.8%
Price (Ecu/100 kg)	399.10	397.91	416.04	371.49	396,01	417.10	440.76	-
Price (Ecu/100 kg)	558.80	605.23	594.62	586.31	607,33	637.69	588.93	-
Slaughterweight Heavy	20.3	20.2	19.9	18.4	18,1	19.6	19.7	19.8
Slaughterweight Light	10.9	10.9	11.0	10.8	10,7	10.5	10.6	10.7

*provisional ** forecast cwe – carcass weight equivalent; *) = as from 2009. New slaughter series.

Official slaughter only.

Source: *EU DG AGRI*

The possibility of choice. Concerning the abovementioned data and information there are only two products left to be improved in the sheep sector. A better chance might be in the meat production, because there are huge resources in increasing lambing rate and ration of lambs sold after one average ewe. At the same time, the quality of lambs (following the demand of the S/EUROPE carcass classification method) including body conformation and fat cover would also be improved (*Kukovics and Jávora, 2010*).

On the field of milk production the chances are smaller because less and less people want to deal with this labour demanding activity, however, for farmers producing sheep milk the annual income could be increased by the values of 0.5-1.5 lambs per ewe – comparing to those selling only lambs.

Milk production. The sheep milk production was on the top in 1970 (Figure 4), when 22.9 million litres were processed, however, there was an other smaller peak in mid 1980's. Some 40% increase happened between 1997 and 2003, but it meant only 1.5 million litres production altogether (*Jávora et al., 2006*). There were several consequences of the last two decades decreasing the importance and the quantity of milk production (dominant importance of lamb meat, low milk production of Merinos, missing labour for milking, low level of subsidy for improve milking and quality preservation machinery, problems around changing breed and carry out proper crossbreeding, etc.) and made the ration of milked ewes lower and lower (Figure 5).

There were changes in sheep milk processing industry as well. Several former factories were closed, however, some new ones opened between 1990 and 2010. Apart of these the milk product export reduced, and the domestic market became more important. Besides of these the dominancy of Kashkaval cheese ceased, and many new different kinds of cheeses appeared in the market (*Kukovics and Jávora, 2010*).

Certainly the profitability of sheep milk production is depending on several factors (like breed/genotype, performance level, available labour, flock size, etc.), but it is much costly than cattle milk production. Because of decreasing production level a kind of competition developed among the milk processing factories and it resulted an elevated level of buying up prices (*Kukovics and Németh, 2011*), which reached the HUF 180-200 per litres (changing rate was 1 € = 265 HUF on the last day of June 2011).

Evaluation of the cost level of sheep milk production showed a wide range between HUF 100 and 180 (the cost centrum could be around HUF 120-140) per litres of milk sold depending the intensity of the production. It meant that above HUF 140 cost per litre the profitability was heavily reducing (*Kukovics and Németh, 2011*).

Nowadays, about 40 000 heads of ewes milked (approximately 5-6%). Big part of it belong to Merinos, Tsigai, and Transylvanian racka sheep (with average production about 30-50, 50-70, 60-90 litres, respectively, after weaning), and the

number of milk sheep is just a little bit over the 10 000 heads. These are belonging to Lacaune (130-170 litres), British Milksheep (120-200 litres), Milking Tsigai (70-120 litres), and Awassi (200-600 litres), and some crossbreds are also kept in production (*MJKSZ, 2010*). Based on several years of experiences using crossbreeding the milk production of original Merinos (dominant breed) could be elevated by 150-350% already in the first generation (*Jávör et al, 2006*).

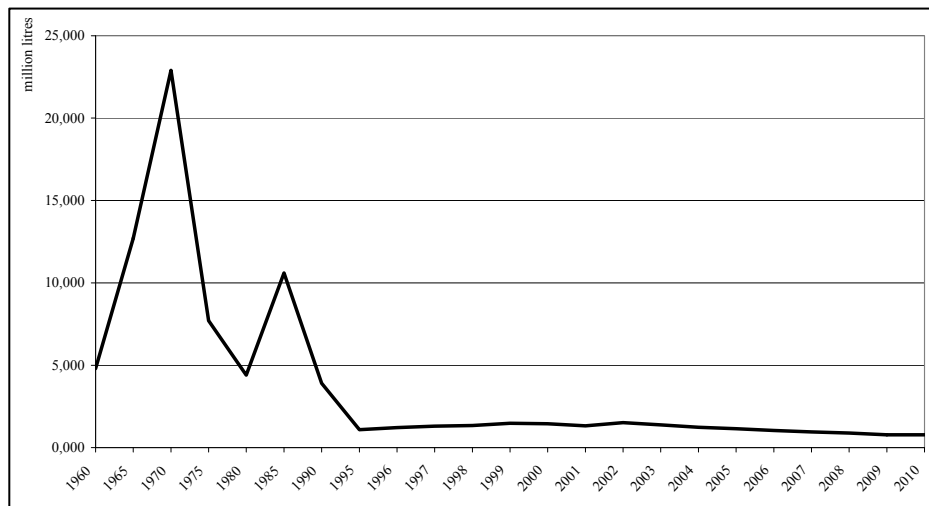


Figure 4. The quantity of processed sheep milk (*Kukovics and Németh, 2011*)

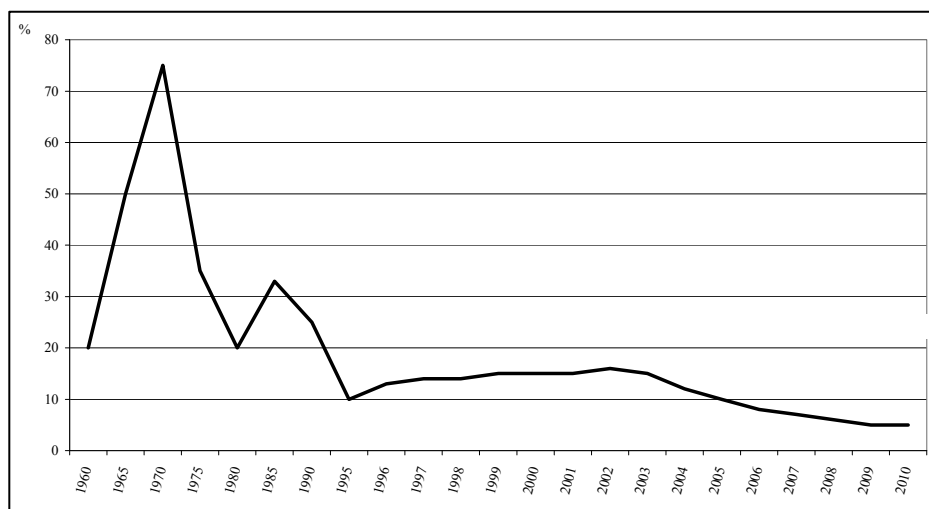


Figure 5. The ration of milked ewes (*Kukovics and Németh, 2011*)

Meat production. Several studies were made to determine profitability of sheep farming over the last decade (for instance *Marselek and Abay Hamar, 2008; Nábrádi, 2009; Monori, 2010; Kukovics et. al., 2010*), declaring the average annual deficit was between HUF 1000-4000 after one ewe kept. The Research Institute for Agricultural Economics made evaluations based on data collected from test farms (*Bélađi - Kertész, 2006; 2009*) stated the average annual cost level was above HUF 23 300 (approx. € 80-90 €) per ewe, and the net result of the activity exceeded the HUF 3000 „negative profit”. All of the studies underlined that the average income ratio originated from wool (2-3%), milk (1%) and others (0.5-1.0%) were quite limited on national level, and the profitability was determined by the rate of lambs sold after one ewe.

At the same time these results made unambiguous that at least 400 ewes are needed in production to cover the operating costs of full time sheep farm (*Cehla, 2010*), however, 5-7 years before only 300 ewes were enough for the same reason. Looking at the average national flock size 85% of the sheep farms could not reach this level, but they are keeping 60% of the ewes in Hungary. Comparing the number of exported lambs and the total number of female sheep over one year of age – on national level – one could state that ration of utilised lambs per ewe was around 70% over the last years. The abovementioned studies said that at least 125-130% utilised lambs per ewe per year were needed for profitable production.

The minimum level of utilised progeny per ewe per year should be around 85-95% in rather extensive production system. As the intensity of production is increasing the necessary level of utilised lambs intensively elevated: in semi-intensive system it should be around 125-135%; and in the intensive indoor system the minimum level should be 165-170% (*Kukovics and Németh, 2011*).

The necessary increase in this ration could be reached by using intensive selection in pure breeding and/or utilizing targeted crossbreeding program. The first one needs 12-15 years, while in the case of latter one 3-5 years are enough for the expected results.

As most of our lambs are exported as live light animals we do not evaluate the importance of lamb quality in this study in details, however, we are convinced about the selling abilities of better lamb quality. We only mention that 70% of the lambs slaughtered and classified in domestic abattoirs reached only the „O” and „P” level in the S/EUROP system. This quality also needs intensive improvement via selection (8-10 years demanded), crossbreeding (results could come from first generation), or better technology and feeding (depending on cost level).

The need of subsidy. Knowing all mentioned above the sheep farming is not a profitable activity, only the various kinds of subsidies could keep up the sheep farm over the zero level. In order to strengthen the importance of subsidies some information are needed to learn. However, the amount of subsidy used in the total agriculture has been increased from the accession to EU still the ration of

direct sheep subsidy gradually reduced (Table 2), and this reduction will go on until 2014 under the system used presently.

Because of data of subsidies paid out in 2010 were not available at the end of June 2011, the summarised data of the most important headwords of subsidies from the six previous years could be presented (Table 3). There were serious changes in the rations of subsidies utilised by the actors of sheep sector, and the values of land based subsidies gradually reduced, however, these gave the most important resources of sustainability of sheep farming (*Cehla and Kukovics, 2010*).

The values of direct sheep subsidies given during the last three years to the sheep farmers were summarised in Table 4 (*Kukovics and Németh, 2011*). Knowing the data of average loss per ewe per year these subsidies really decreased costs of sheep farming, moreover, in most of the cases they were covering the values of „negative profit”, the loss. The real income on the sheep farms were dominantly connected to the other activities (crop production, etc.) and subsidies received to help these production.

The level of direct and land based subsidies for 2011 were not known yet at the end of June 2011, but some reduction surely could be expectable in the case of the first one. The change to Single Payment System is awaited beside the over evaluation of possible subsidies.

Table 2. Total subsidies and ratio used by sheep and goat farmers

	2004	2005	2006	2007	2008	2009
Total subsidies paid to agriculture (28 kinds) billion HUF	27.40	445.00	532.90	310.00	402.00	614.00
Ratio of ewe + additional ewe + „de minimis” ewe and doe (%)		0.00		0.34		0.41
Ratio (%) of all subsidies used by sheep farmers		0.72		0.70		0.45

Source: *Cehla and Kukovics (2010)*

Table 3. Tendencies of rations of dominant subsidies (%)

	2005	2006	2007	2008	2009
No. of farms applied	5195	7474	7490	7413	7095
Subsidy given by land (ha)	50.27	46.14	43.18	34.94	41.31
Agrar-environment	20.83	21.32	18.24	14.74	8.33
EMVA animal farm reconstrucion	0.00	0.00	0.03	10.25	8.82
Direct ewe	5.04	5.00	4.65	3.70	3.20
EMVA tehcnology investment	0.27	0.27	4.53	0.20	2.20

Source: *Cehla and Kukovics (2010)*

Table 4. Direct subsidies given (in HUF) (1 € = 268 HUF)

Kind of subsidies	2008	2009	2010
HUF per head per year	1640	1315	1700
Direct ewe – meat	1400	1750	1400
milking	1400	1600	1930
Additional ewe (for 300 000 heads)	1240	1240	1240

Source: *Kukovics and Németh (2011)*

Conclusion

The different periods of the last twenty years had deep impacts on the sheep breeding and sheep farming and the following conclusions could be drawn. The number of ewes kept in production per farm, and its individual production level are equally important by increasing profitability of sheep farming.

The main product is the slaughter lamb, therefore the level of utilised lambs per ewe per year is dominantly determine the profitability level, which should reach 85-95% in extensive production system, 125-135% in semi-intensive system, whereas 165-170% is necessary in intensive system depending on lamb price. In milk production the profitability level is depending on the breed milked, but the level of milk production and the production cost of one litre of milk should be synchronised. The HUF 120-140 cost per litre milk could be accepted, but above it the profitability is reducing. There are unused resources both in meat and milk production, but without various kinds of subsidies sheep farming will not be a profitable activity.

Problemi ovčarske proizvodnje u toku tranzicionog perioda u EU

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Rezime

Pristupanjem Mađarske Evropskoj Uniji prvog maja 2004. godine, imalo je jakog uticaja na celu poljoprivredu uključujući i ovčarsku proizvodnju; ustvari period tranzicije počeo je početkom 1990 godine i završio se početkom 2014. godine.

U ovom radu, prikazana je istorija razvoja ovčarske proizvodnje koja je podjeljena u pet perioda, dok su glavni događaji i faktori koji utiču na ovčarsku

proizvodnju sumirani. Prvi period (do 1990) mogao bi se okarakterisati kao uniformni. Drugi (1990-2000) je bio period reorganizacije, difuzije, redukcije i ponovnog početka. Cela ovčarska proizvodnja je privatizovana, vlasnici su promenjeni, vunarska industrija je uništena, dok se broj firmi koje su profitirale od ovčarske proizvodnje povećao. Treći period (2000 - 30. april 2004) je bio period nadanja i završnih priprema za članstvo u EU. Četvrti (1. maj 2004 - 2011) je bio još uvek period učenja (traženja najboljeg rešenja za opstanak ovčarske proizvodnje) i konačno peti period (2011-2014) će biti period isčekivanja novih okolnosti.

U postojećoj ovčarskoj proizvodnji jagnje za klanje je postalo glavni i dominantni proizvod (dajući 95-96% prosečne zarade), ali nivo iskorišćenih jaganjaca po jednoj ovci je niži od potrebnog i mogućeg nivoa. Vuna nema pravu vrednost (2-3% od zarade) dok je proizvodnja mleka opala.

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Received 30 June 2011; accepted for publication 15 August 2011