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THE PROSPECTIVE EFFECT OF EU JOINING ON THE ANIMAL HUSBANDRY OF THE WEST- TRANSDANUDIAN REGION

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INTRODUCTION

Hungary's joining to the EU has been an epoch-making change in the history of the Hungarian agriculture's last sixty years. It has occurred an essential change in the conditions-system of economy during the period of one generation. The effects touch our whole agriculture, but – according to our present knowledge – they may induce in the stock-farming even drastic structural alteration than in the plant-growing.

Agriculture has always played a prominent role in Hungary. The primary reason of this is, that the soil of good quality is available in our country in much greater proportion than the average of EU countries. To the advantageous nature conditions it is given the population being ready to deal actively in agricultural production also during a long period in our country, who wants to live professional-like from this activity. At the same time the capital is available only limited.

The West-Transdanubian Region is the second most developed area of the country, where on basis of its size and level the agricultural activity is of outstanding importance. It is traditionally a stock farmer area bordering indirectly on the great region built by the „EU-Fifteen”. Here are cultured the most cattles, turkey and poultries – related to unit of agricultural territory, the livestock is higher than the county average.

- In my essay I analysed the branch modifications, which will prospectively occur because of the effect of joining to the EU. The central theme of these analyses is the stock-farming generally and stock-farming of the West-Transdanubian Region detailed.
- I demonstrated the stock-farming results of the Region not only themselves, but also in relation of country-wide values.

- By using operating data, through examples of concrete undertakings I analysed the market position, future perspectives, probable competition position of different animal products.
- I pointed out the role of some important, other factors as professional skill, condition of production-technology, necessary of integration and co-operation being able to improve the profitableness, to strengthen the branches' position, the market competition ability of the products.

On basis of own analyses carried out, as well as on basis of the literature dealing with the theme having a theoretic I have made a prognosis for stock farming of the Region, which makes possible to feature a structure-model of a regional stock farming. The model – beside others – gives an information about the volume of branch production, quality of products, zoo-care-hygienic, environmental circumstances, plant type and size, product market and market competition position, as well as about the farming's profit.

MATERIALS AND METHODS

The research work building the base of the dissertation was carried out at the Department of Agrarian Economy and Marketing of the West-Hungarian University's Agricultural- and Food Science Faculty, in Mosonmagyaróvár in the years 2000-2004. In the first part of the essay I deal with the formation of region specialization, the introduction of economic differences between the separate regions, therein I deal with the detailed analysis of the West-Transdanubian Region, but I made also comparative analysis in country-wide and regional relation. The collected data respect firstly the stock of essential animal species (cattle, pig, poultry), the distribution by sectors of people dealing with stock farming and they

characterize the size of production. The applied data are taken mainly from county directorates of KSH, AKII and from central and county representations of product councils.

I have elaborated the methods of the analysis by applying the procedures tested partly by inland, partly by foreign researchers in this area. To introduce the prognoses for middle-period I applied the materials of European Commission Directorate – General for Agriculture as well of FAPRI connected with my theme.

In second part of the dissertation were detailed analysed the data from years 2000-2004 of some stock farmer undertakings operating in the West-Transdanubian Region. We carried out the analyse of stock farmer undertakings' activity to be able to compare their results with the values taken from statistical, respectively from test plant analyses. In the course of research work 6 agricultural undertakings were analysed, their stock-farming branches were scanned. Following the collection of the undertakings' available data we carried out the analyse of essential natural data characterizing the activity of individual undertakings and the analyse of essential efficiency index-numbers calculated from the data and the analyse of the final result (profit) of the production.

Forming of data basis happened by method of personal interviews and field data collection. The original resources of data were the Balance reports, efficiency analyses, cultural basic documents of the undertakings.

The comparison of inland indexes characterizing the production's level with similar values of some EU countries has given possibility to draw conclusions in reference to the prospective position of country-wide and regional animal product production in the future. Calculations were made

also in connection with the regional effects of EU regulations exercising influence on stock-farming production.

With the aim to know the future trend of feeding costs having deciding effect on the efficiency of stock-farming production I analysed the dated corn applications at Budapest Produce Exchange (BÁT). From the data collected here I made calculations to introduce how exercises the price of agricultural cereals an influence on unity cost of different animal products' production.

Taking notice of obtained results general tendencies can be defined, from which the regional model of animal products' production of the next period can be scaled. On basis of results obtained in course of foregoing outlined analyses the critical points and areas can be discovered and the definition of possible development ways can also take place.

RESULTS AND DISCUSSION

The West-Transdanubian Region is composed of counties having different nature from agricultural aspect. In county Győr-Moson-Sopron the proportion of territory of plough-land exceeds the country-wide average, as to territory of counties Vas and Zala are covered in about 30 % with forest. In county Zala is the proportion of turfy territory high. Within the agricultural activity of the Region is the amount of stock-farming determinant. In sphere of inhabitant living here have herding, turkey farming and chicken-farming great traditions. The machining of the Region is much better than the country-wide average.

Examining the changing of the Region's stock it can be defined that the system-changing has produced an enormous break. The production and

the number of animals decreased, the whole farming was reorganized on other bases. As a result of this it already appears a minor increase in number of animals in the 2004. year. The poultry branch is characterized by number fluctuation in the individual years, but it appears stagnation in the whole. In case of laying hen and turkey it can be seen a firm increase in number.

The herding is traditional concentrated in county Győr-Moson-Sopron. The dominance of this county is even more prominent in case of pigs, as more than the half of the Region's pig stock is found here. The distribution of poultry stock shows much more various face. But in average of the four years the stock relations equilibrate in general. The least number of beasts is steadily for county Zala and the least number of pigs is for county Vas characteristic.

During the period I examined – with exception of pig stock – the agricultural organizations have kept the greater proportion of the Region's livestock. In the average of the examined four years the 66,5 % of all beeves and 72,7 % of the cows was kept in joint undertakings. This process definitely points to the direction of stock concentration, which is the basic factor of increase of efficiency and competitiveness.

About the Region's pig branch it can be stated that the number of the stock has decreased in both sectors during the examined years. Inside the counties composing the Region have appeared significant differences. Because of the effect of the high productive prices the number of sold store-pigs sensibly increased in 2002. in all three counties.

About the poultry branch it can be stated in general that the number of stock has increased in relation to the year 2000 in both sectors. But behind the increasing tendency appear serious differences, fluctuations in time. In average of examined period the greater percentage of poultry's sorts was bred

in farming companies. In the Region's turkey breeding leads county Vas, here is found near 80 % of all in the Region bred turkeys, which can be attached to the former began and well working vertical integration activity being carried out by SáGa Foods Rt.

Main production indexes and profit relations of the examined animal species in the West-Transdanubian Region between 2000 and 2003

The profit level of the individual years in the Region follows the country-wide tendencies and that of the AKII test plants. The milk-production pro cow in the Region is lower than both the country-wide average and the AKII test plant's results. But the level of milk-production is essential higher than the regional average in the county Győr-Moson-Sopron, which is the most important county in respect of milk-production. Also the concentration of dairies is considerably greater than the country-wide average. 73 % of cow stock is bred in company farmings, where the number of average farm stock goes up to 656 pieces. This value far exceeds the West-European average, moreover also the values measured in the leading milk-producer countries. The weakest results can be seen at the individual farmers of county Zala and Vas, the quantity of milk they milked only was about 3000 litre in the individual years. Because of its effect it has formed a significant difference in production level between the agricultural organizations and private producers of the Region.

The private farmers have recognized that they can produce more profit by changing over to a beef cattle breed with mass – spice feeding, respective with taking cattle out to pasture than in a dairy-farm with wrong efficiency. The importance of beef cattle breed is still lesser at present, but

the possibilities for development following the joining the EU, completed with supports of important extent can mean one of the possible break-out points for the beef branch.

The weight of the Region's pig breed within the stock-farming is lesser than the country-wide average. But the characterizing indexes of the production are similar as the county-wide average respectively the AKII test plant data. The Region's pig breeder have produced loss. Its reasons are complex, but they can be led back mainly to the not suitable level of keeping, feeding technology.

The West-Transdanubian Region can be characterized by a broiler-breeding and turkey breeding, the size of which exceeds the county-wide average. In the Region are operating even 3 large processing plants. The importance of the branches characterizes well that the proportion of broiler chicken is near twice here compared to the country-wide average even as near third of the number of inland turkeys is found here. The production indexes are not significantly behind the results of European leading chicken-farmers. But the quantity of feed pro kilogramme of live mass is some more than that of their competitors. Though the the competition within EU does not mean the great provocation for the branch, but Brazil, the USA, Thailand and Argentina, why the expenditures are significant less in these countries.

The plant model of West-Transdanubian Region's animal-product production

The examination of West-Transdanubian Region's stock-farming as well as the detailed efficiency analysis of the 6 undertakings operating in the Region have given possibility to define general tendencies. On basis of this

the plant model of animal-product production of the individual branches can be featured in the Region.

The plant breeding at least 600 cows within the the Region's beef branch can be adequate to a model. Beside such a size can be assured the condition of economical product production. The level of the production has to go up to the 7000 litre pro cow. In interest of assuring the background for supplying with mass and feeding spice at least 480-500 hectares of agricultural territory have to belong to the undertaking. The whole sum of expenditures consumed in interest of producing one litre milk may not exceed 62 Forint, as the producer price of the milk will probably be on a level of steady 68 Forint/litre – following joining the EU. Beside the cost of main-product production of 62 Forint/litre it can come true to be able to get a profit of 55-60 000 Ft per year per individual with the used support together. Their most appropriate operating form in the branch is the agricultural company.

It is expedient in milk-producing farms of small size with low production level to alter to beef breeding and cow keeping with the aim of beef-producing. It can be reached a suitable profit in this branch even beside a relatively low output of 35-40 pieces beef/year. The territory needed for supplying with spice is 25-30 hectares, which can be easy provided in the Region. It is expedient firstly to base the feeding on utilization of pasture fields. The most important resource of the income is the support provided by EU. The most suitable form of the branch's successful operation is the individual farming form.

As a modell in pig farming can be defined a plant of medium size, wich produces 4500-5000 store-pigs per year. It has for it also a breeding stock providing the after-growth of store-pig base. This size of plant still has the appropriate flexibility and it is able to adapt oneself to the regularly

occurring cycling of pig branches. It can meet the environmental and animal-care requirements.

From the indexes of production level the quantity of spice consumed for 1 kilogramme mass increase has to approach the EU average first of all. The sale price (280-290 Ft) formed at time of joining has approved to seem lasting, that is why the full production cost of the live-mass of 1 kilogramme may not exceed the 270-273 Ft. The technical- technological developments can not be delayed. The general model of operation in the Region can be the individual farming.

Such a stock farmer undertaking can be adequate plant to a model of poultry-farming, where it is carried out the breeding of at least 100 000 pieces broilers, respectively 50 000 pieces turkeys per year. This size is necessary for producing a sufficient amount of profit for a family dealing with this activity. For this branch is namely characterizing the individual, family farming form. The production level formed in the Region is suitable, its keeping is sufficient.

The joining the European Union raises the competition for the producers, processor also even for the dealers by an objective manner. The stock-producers are in the most dependent position in this increasing fight for market. The partitioned farming figures have purchased and saled together since decades in West-Europe, they have processed their products in their own processing plants. The co-operation is definitely necessary in the sharpen competition also in the West-Transdanubian Region – especially in poultry-farming and piggery – where the proportion of individual farmers having small- and medium plant size is determinant.

It is found a sufficient number of food processing plants of appropriate size, round which an integration based on common interest could

be formed. The integration could be applied beside the supporting of fight for the EU markets also against the new, fine methods of market- defend: the regulations for foodstuff- safety, foodstuff-quality, for hygiene, animal-welfare, environment- and land-protection, for certification of origin and birth required by EU, the common performance of accurate documentations could free the producer from considerable overcharge, cost. A good example is for this the already presented integration started in area of turkey production which can be applied well also in branches poultry and piggery in the Region.

NEW AND NOVEL RESULTS OF RESEARCH

1. In course of my examinations I have experienced that one has to calculate upon a lasting overproduction of fodder crops in Hungary, so also in the West-Transdanubian Region. Because of its effect as well as because of the limited export possibilities the purchasing price of fodder crops sorts on physical market is prospectively on a lower level than the Union's buying price. This means a price advantage for farmers carrying out stock-farming. Calculating on basis of application of Budapest Produce Exchange the advantage of buying price of different corn crops sorts can change between 1 000 – 4 000 Ft in the Region in different periods.
2. In consequence of lasting low buying price of corn crops the individual animal products can be produced beside lesser unity expenditures. The extent of cost decrease depends on the quantity of mix-food consumed in interest of producing unity animal product. In poultry- and pig-branches consuming more food it can be calculated an expenditure decrease of 3-5 %, while in milk-production can be calculated an expenditure decrease of

2-3 % in case of farmers carrying out stock farming in West-Transdanubian Region.

3. I have stated that following the EU joining – against the other stock-farming branches – the support of beef breeding and keeping of cows because of their meat has significant increase. The sum of demandable support for one sold animal can reach the 45 000 Ft, in case of existence of extensive keeping's conditions too. This can mean a good possibility, break-out point mainly for individual farmers producing with low efficiency and having a size of small plant in the Region. The environmental conditions for product changing are given, as firstly county Vas and Zala have grass territories of great extent and good quality.
4. The family farm dealing with beef breeding and keeping of cattles can meet the requirements of extensive keeping beside using 14 hectares plough-land and 15 hectares pasture field. The 25-28 pieces fat stock sold from the yearly average stock of about 35 pieces produce sufficient income for two persons working in full-time job at an average family farm. According to the made calculations the yearly obtainable income may be 1 200 000 Ft pro person.

RECOMMENDATIONS FOR THE THEORETICAL AND PRACTICAL USE OF RESULTS

On basis of situation analysis of main stock-farming branches (beef, pig, poultry) of the West-Transdanubian Region between 2000-2004. by comparison of results coming from the analysis with the country-wide data as

well with similar values (indexes) of EU the following statements can be taken about the present condition and future possibilities of regional stock farming:

1. **On basis of economic indexes the West-Transdanubian Region is one of the most developed planning and statistical region of the country.** The GDP pro person takes 1 703 000 Ft . The number of unemployed persons is low (4,4 %), presence of foreign capital is outstanding, the infrastructure is developed and the degree of industrializing is higher than the average.
2. The agriculture of West-Transdanubian Region is characterized by the same processes following the system changing as it passed off in the country. **The number of beeves counted in 1985 decreased 58,2 % until 2000, the number of pigs 47,5 %, the stock of poultries 42,3 %.** It falls 40 animals to 100 hectares territory, which is 10 % more than the countrywide average. The natural capabilities of the Region are various, it is characteristic for county Győr-Moson-Sopron the plough-land exceeding the average, while for the counties Vas and Zala the twice more forest-land than the country-wide average.
3. The number of stock decreased between 2002-2003 in the West-Transdanubian Region. **The decrease of beeves (10 %) fell in with the values measured county-wide. Differently from country-wide tendency the number of pigs only decreased in a little measure (4 %), while the number of poultry sorts increased more than the country-wide average. It is characteristic for the poultry sorts the stock- fluctuation of a large measure between the individual years**

also in the Region. From this differently the turkey stock shows a relative continuity and equability thanks to the stably built up vertical integration.

4. The forming of the Region's stock-farming according to the economic forms shows differences at the individual species. **Near 70 % of beeves was bred by agricultural organizations.** The proportion of beeves kept by collectives characteristically decreased within the agricultural organizations and in the same measure increased the number of stock-farming of economic companies. **In Region's average the agricultural organizations have bred 541 pieces and the individual farmers near 9 pieces of beeves.** The concentration of stock was more definitive at the individual organizations during the examined period.

In case of piggery is the dominance of individual farmers characteristic. The weight of agricultural organizations is only in county Győr-Moson-Sopron greater. Also at this animal racy is the decrease of collective form observable.

In the Region **also in case of poultry sorts is the proportion of stock kept by individual farmers greater than that of the agricultural organizations.** In forming of the stock can be seen greater differences like between the individual years of the examined period between the individual years of the examined period.

Especially outstanding is in the Region the turkey breeding in which represent the agricultural organizations a continuously increasing, determinant proportion. 80 % of turkey stock is concentrated in county Vas.

5. **In the West-Transdanubian Region the determinant element of turkey breeding is the vertical integration formed by processing plant operating here, which extends to all components of product path, to its all figures. As a result of this beside a sure market background near 140 producers produce about 3,5 million turkeys, within calculable and planable circumstances. This well operating integration would be able to be established also in the other in the Region located poultry processing and pig butcher plants.**

6. The level of product production is in case of individual animal races in the Region good. **The milk production falling on one cow took 5 441 litres in 2003, which is with 547 litres less than the county-wide average. The individual and economic organizations of the Region carried out a production of various measure (5-8 Ft/litre), but profitable production during the examined period.** The first-cost continuously increased, which was compensated by increasing of sale price. The decreasing of buying up prices by 10Ft/litre in average and ceasing of supports made the milk production unprofitable.

The producer of the Region in pig-farming show a similar production level as the country-wide average. The quantity of food (~3,8 kilogramme) consumed for 1 kilogramme mass- increase is yearly a bit changing, though it significant exceeds the quantity of food (~2,8 kilogramme) consumed in average in the front-rank West-European states. The pig-farming had lost with exception of the year 2001, the lost was partly compensated by national supports.

The broiler raisers produce 1 kilogramme live-mass beside a bit better specific food consumption (~1,9 kilogramme) in the Region

than the country-wide average. This is well a bit behind the average of the leading West-European countries, but the costings are even so with 8-10 % lower in the Region. The overseas states mean the real competition for the branch. It has to be made known – similar to neighbouring Austria – that the Hungarian products are produced beside stricter orders, quality regulations, therefore they are safer and have a better quality. Parallel with this must be pointed out that consumption of own product creates workplace, increases the national product, contributes to keeping the village style of life, to saving of country environment, landscape and country culture.

7. Following the EU joining the position of individual animal products has formed variable. **The unit cost of milk production is the same or a bit better in the Region than that of the Union's competitors. The equalization of milk's buyer-up price happened in year of joining,** it shows an average value of 66 Ft/litre. **The expansion of consumption in swine-flesh production** an increase of prices in a little measure, then their minor regress **is expected in the next 5 years.** We may calculate with **mild, but consistent increase of poultry-consumption for a middle-range period** on the EU's inside market, which is advantageous for producers operating in the Region.
8. **The store-cattle breeding respectively the beef cattle breeding may have a significant role inside the West-Transdanubian Region. It gives for this a good basis that sufficient pasture field of good quality is found on territory of Vas-, but especially of Zala county,** respectively the fact that 56-57 % of cow kept in these two counties by individual farmers are produced for their meat. Following the EU joining

this branch has received significant additional support and it has got a higher quota according to number of animals than the present existing stock. As an effect of these **the maximal reachable income by selling one animal can be about 55 000 Ft. On basis of this sum I have stated that a family farm, with two members of full-time job can get earnings equal to the level of average earnings has formed in the Region.** To reach of this it is enough, when the farm has 10 hectares plough-land and 15 hectares territory of pasture field. By food produced here 31 pieces store-cattles have to be bred, from which 25 pieces have to be sold. In this case the income per person can reach the sum of 1 240 000 Ft/year.

9. Following the EU joining the system of supports for agriculture changed. In the changed support system **the poultry- and pig-breeding of the stock-breeder branches practically do not receive payment, milk production gets less dotation than before joining. But the support of store-cattle and beef cattle have increased (70,7 respectively 64,1 Ft/kg)**, as well as the number of animals that can receive support. The greatest subvention can receive the farmers producing GOFR plants.
10. **Six stock farmer plants were detailed examined in the Region. On basis of the obtained data it can be stated that the milk production produced by one cow is significant higher in all three milk-producer farm, it exceeds 7 000 litres.** The genetic and technic background exceeds the average in all three cases. By decrease of the costs of production within this the costs of feeding as well as by realization of production level fitting to the genetic potential it can be stated with great

surety that they will be competitive also on the increased market of the European Union.

The production and economic data of examined pig-breeding farmings are similar to the average values seen in the Region. The natural indexes of the production are behind the results of the European Union's determinant swine-flesh producers. The consumption of food is near sesquialter and the sold store-pig in relation to one sow is three-quarter of the same data of front-rank producers. The level of food-costs as well as the level of other cost is appropriate, they are lower than that of the competitors. The reason of staying behind is the inadequacy of technologic level and the not appropriate circumstance of keeping and feeding.

The examined broiler-breeding farming of large size works with developed technology and excellent management. The indexes of product producing are a bit better than the Region's average, the approach the level of West-European countries. By fining the technology of keeping and feeding the resultful farming of near future seems to be ensured.

11. **In course of examination of feeding costs** meaning the largest expenditure of animal product producing **I stated that Hungary and within it the West-Transdanubian Region has long-range comparative advantages**, why our homeland produces the greatest plus in fodder corn crops and this overproduction seems to be lasting. Because of the great plus production and Hungary's geographical location (far seaports) the prices of fodder corn crops can be lasting low, under the buying up prices on the physical market. According to my calculations

the fodder corn crops sorts may be 1 241 – 4 807 Ft cheaper for the stock farmers in different periods than the intervention buying up price calculated for the same period of time on the site. This positively influences the costs of animal product producing. Because of the lower prices of fodder corn crops can the cost of poultry- and swine-flesh decrease in a measure of 3-5 %, the cost of cow's milk in a measure of 2-3 % compared to the West-European competitors.

12. On basis of carried out examinations plant models were made. On basis of the models **an agricultural organization keeping minimum 600 pieces of cows can be profitable in West-Transdanubian Region, which produces at least 7 000 litres milk per cow in a year beside maximum 62 Ft/litre expenditure. In pig-farming the individual undertaking form can firstly be successful, insofar it sells at least 4 500-5 000 pieces of store-pigs and the quantity of food consumed for 1 kg live-mass-increase takes about 3 kg. The poultry-farming can be successful also individual farming form. The sizes of the production: at least 100 000 pieces broiler or 50 000 piece turkeys yearly,** beside the production and efficiency level existing in the Region.

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- 1) Gergely I. - Tenk A. - Szentirmay A. (2005): Expected effect of EU accession to the income of a family farm, dealing with cultivation of plants.
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- 5) Gergely I. - Szentirmay A. (2003): Az EU-csatlakozás hatásainak vizsgálata egy konkrét árunövény termelő gazdaságban.
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- 6) Gergely I. - Szentirmay A. (2003): Az EU csatlakozás fontosabb hatásai a szántóföldi növénytermesztésre.
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- 8) Gergely I. - Szentirmay A. (2004): A forint Euró árfolyam változás hatása a növénytermesztés jövedelmezőségére.
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Conference presentations:

- 9) Gergely I. - Szentirmay A. (2003): Az EU-csatlakozás hatásainak vizsgálata egy konkrét árunövény termelő gazdaságban.
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- 10) Gergely I. - Szentirmay A. (2003): Az EU csatlakozás fontosabb hatásai a szántóföldi növénytermesztésre.
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