

Increasing of competitiveness of dairy products in Slovakia through the application of information systems

Zvyšovanie konkurencieschopnosti mliekarenských výrobkov v SR uplatnením informačných systémov

A. LÁTEČKOVÁ, M. KUČERA, K. BRÉDOVÁ

Faculty of Economics and Management, Slovak Agricultural University, Nitra, Slovak Republic

Abstract: Global trends in world economy intervene into each sector of national economy. In the article, we focused on the dairy industry. The research was oriented at the national market of dairy products with the goal to assess the current situation on the market with these commodities. According to the acquired data, we compiled an overview of the current situation in the market and we pointed out the direction that should be followed by producers. The implementation of information systems is a necessary requirement to increase competitiveness in accordance with the specifics of dairy production.

Key words: dairy industry, competitiveness, management, information systems

Abstrakt: Globálne trendy vo svetovej ekonomike zasahujú do každého odvetvia národného hospodárstva. V článku sme sa zamerali na mliekarenský priemysel. Prieskum bol zameraný na domáci trh mliečnych produktov s cieľom zistiť súčasnú situáciu na trhu uvedených komodít. Na základe analýzy zistených údajov sme zostavili prehľad o aktuálnej situácii na trhu a poukazujeme na smer, ktorým by sa mal výrobca orientovať. Nevyhnutnou podmienkou pre zvyšovanie konkurencieschopnosti je implementácia informačných systémov zohľadňujúcich špecifiká mliekarenskej výroby.

Kľúčové slová: mliekarenský priemysel, konkurencieschopnosť, manažment, informačné systémy

From the European and territorial understanding of the process of globalisation and the internationalisation of the business environment, a fact is that the enterprises are stepping into the era of increasing competitiveness. According to Ubreziova and Horska (2003), only those are successful, who are well prepared and use the opportunity to achieve competitive advantages. Bielik (2004) is considering the Slovak economy to be an open economy with a small internal trade. Therefore, the effectiveness of the Slovak economy, especially of the agricultural sector, is sensitive to the external environment, i.e. to the global trends in the world economy and to the development of the European Economic Area.

After opening the borders and after entering the European Union, the Slovak dairy and cheese making is keeping pace with the world-wide development and its assortment and quality is competitive

with the abroad. Beside these positive facts, Slovak cheese producers are faced with strong competition from the foreign markets. Foreign enterprises often offer their products for prices with which the home producers cannot compete. Trade chains are mostly causing problems with their price and promotion policy to the producers of Slovak cheese specialties and the "bryndza".

For companies producing dairy products, it is very difficult to be successful and to retain a stable position in the market. According to Ubreziova (2005), Skorecova (2008), each firm which would like to remain in the market and to succeed in the struggle with the competition has to satisfy its customers. Consumers will be satisfied when they obtain the products in the place which is for them suitable and for the price which is for them acceptable to pay. The best way is to target at the external environment, to

pay attention to the customers, their requirements and expectations, to identify the factors influencing their behaviour, to follow the market and the behaviour of consumers through marketing researches and market analyses, to evaluate them and to foresee the changes in the market. According to Skorecova et al. (2009), to process the amount of information and to predict the future development is possible only with the implementation of information and communication technologies. In this way, the enterprise could focus on the evolution and production of still better and requested products and should be one step before the competition.

In this article, we are solving the problems of the chosen dairy products with the following objectives:

- to describe the present state of the dairy sector and the current situation in the Slovak dairy market,
- the utilization of information systems to increase the competitiveness,
- to propose recommendations to strengthen the dairy production sector and to show the direction for producers to increase the sales of their products and to be more competitive.

MATERIALS AND METHODS

Desk research was used for the acquisition of information about the level of the purchasing power, production and consumption of dairy products as a considerable factor which influences the consumer behaviour and other indicating instruments of the Slovak dairy market from secondary data of the national Statistical Offices and the programs of governmental organisations as well as from enterprises attend dairy products.

Primary information was gained by studying the necessary domestic and foreign scientific literature, scientific papers, press reports, from the internet

WebPages and other data sources. Desk research was used to study the literature, in order to gain the information needed and to get a clear picture about Slovak dairy market.

The realisation of the specified goals required to analyse the current state of the information systems in the international market of software products, but also the present state in the chosen enterprises.

For the research of the given problems, we used the methods of observation, analysis and synthesis.

In the paper, the data and partial results of the research work VEGA are applied. This project is realised in the Department of Information Systems under the title “The improvement of information systems of companies in the agricultural-food complex for the conditions of the market economy”.

RESULTS AND DISCUSSION

Dairy industry in Slovakia – the chosen dairy products

In Slovakia after the transition to the market economy, milk production rapidly decreased and settled on the recent sale of cca 1 mld. per annum. This trend also resulted in the sharp decline in the number of dairy factories as well as dairy cows (60%). The annual consumption of milk and dairy products also decreased from 253 kg per 1 inhabitant to the actual 160 kg per 1 inhabitant.

On the other hand, many positive changes in the milk industry have happened. Milk yield of cows and the quality of dairy products experienced a substantial increase, the structure of production changed, almost all dairies were modernized, some of them with the contribution of foreign capital, the milk legislation was adapted to the requirements of the EU. Slovak dairy products are on a good world level and are competitive with the foreign ones.

Table 1. The production of market milk and the chosen dairy products from the raw cow milk in 1 000 t

Commodity	1996	2000	2001	2002	2003	2004	2005	2006	2007
Market milk	369	322	331	330.5	327.5	292.7	296	238.3	252.3
Cheeses	–	–	50.4	54.9	53.3	48.9	54.1	59.5	58.3
Butter	15.5	16	17	16.8	16.3	13.1	10.0	10.3	11.7
Cream	17.5	19	19.8	23	26.6	31.2	30.5	–	–
Sour-milk products	20.0	44.7	47.5	60.1	56.3	50.2	51.4	65.2	–
Milk powder	13.5	11.9	13.3	12.2	14.2	11.5	12.4	11.0	13.8

Source: Green Report 2003–2008

The total production of market milk and butter significantly showed a drop down from the year 1990 to 2006. Compared to the year 2006, market milk production was twofold and the butter production was threefold at the beginning of the 90s. Cheese production has been growing since the 90s and has continued in the recent years, except the years 2003, 2004 and 2007, when the production was lower than in the previous year. Cream production was increasing since the year 1996 till 2004, when a break-even point occurred, because it started to decrease. The production of milk powder was in the last 10 years more or less balanced, only minimal inter-annual differences occurred (Table 1).

Consumption of milk and dairy products

Regarding the fact that dairy products are a part of a healthy life style, their consumption in Slovakia is not sufficient. In the Table 2, the consumption of dairy products is shown. The consumption of milk has been declining since 1989 except for years 2002, 2005 and 2007, when there was a positive increase in consumption.

The annual consumption of milk and dairy products was in Slovakia till 1989 about 253 kg per 1 inhabitant. At present, it is approximately 155 kg per 1 inhabitant yearly. At the same time, the current world-wide consumption is 290–300 kg per 1 inhabitant per annum. Against this fact, the cheese and quark consumption has been rising since the 90s in our country.

There was accepted a program called the “Improvement Program of the Citizens’ Nutrition in Slovakia” in 2001. Its primary goal was to develop and support all activities which could positively influence the health state of our society. It was realised by informing the public about the importance of the nutritionally worthy products and about the

healthy and safe food. In the form of national subsidies, activities like the program of “School Milk” were supported. School Milk means subsidizing the consumption of milk and milk products by the pre-school and school children from the financial resources of the European Union and the national sources. During the first two years, this program was successful and the consumption of milk and dairy products rose, but it again decreased in the following years. Among the negative phenomena in 2004, there belongs the deficit of the consumption of milk and dairy products (by 51.8 kg lower consumption than the recommended food intake), which meant that there was a need to increase the interest of schools and milk processors for the School Milk and to enlarge the level of this subsidy. The subsidization of milk and dairy product consumption by children in pre-school and school facilities was supported by the Resolution No 412/2007, Coll. of the Government of the SR, of August 22, 2007, on providing the aid to subsidize the consumption of milk and dairy products by the children. In total, some 916 school and pre-school facilities took part in the project in 2007.

According to the Table 2, Slovakia has lagged behind the recommended food intake (RFI) in the consumption of dairy products and reaches just 2/3 of the level of the average consumption of the EU. In the year 2006, it was by 67.6 kg lower, while in 2007 by 64.5 kg less than the referenced dairy ratio.

The insufficient consumption of cheeses in the SR is about 50% lower than in the EU. On the other hand, in the EU countries a higher consumption than the recommended nutrition and food intake was identified in the case of milk and dairy products, except for market milk. According to the information from the Slovak Milk Union, the recommended yearly intake of milk and dairy products is from 206.0 kg to 240.0 kg per 1 inhabitant (Table 2).

Table 2. Consumption of milk and dairy products per inhabitant in kg

Commodity	1990	2000	2001	2002	2003	2004	2005	2006	2007	RFI	EU
Milk and dairy products	226.3	160.2	161.8	166.2	158.3	153.3	154.8	152.4	155.5	220	243.5 ¹
Market milk	110.9	71.5	67.8	67.1	63.9	59.1	56.7	55.9	52.4	91	81.2 ²
Cheeses and curd cheeses	6.2	7.9	8.3	9.0	9.3	8.2	9.1	9.5	9.8	10.1 ³	17.3 ⁴

¹EU 15 in the year 2003; ²EU 25 in the year 2004; ³cheeses = 6.9; curd cheeses = 3.2; ⁴only cheeses in the EU 15 in the year 2004

RFI = recommended food intake RFI and Acceptable Interval of Rational Consumption effective from 1.1.2000

Source: Green Report 2003–2008

Prices of dairy products

The fears regarding a dramatic rise in prices of food products after the entrance to the EU were not fulfilled. It is related to the expansion of the market and to the price competition of the food chains.

Table 3 shows the development of prices for the selected dairy products in the Slovak Republic. The prices of raw cow milk, soft curd cheese, and fresh butter rapidly increased since 2002. In the case of the Edam block cheese, there was a very little difference in prices in the year 2002 and 2007 as well as in the year 2003 and 2006.

The Slovak producers expected that after the entrance of our country into the European Union, i.e.

after the year 2004, the milk prices will increase and gradually level with the prices of the other EU countries. Despite of it, the prices of some dairy products, e.g. raw cow milk and butter, were stagnating or remained more or less the same. It is true, however, that in the year 2007 all prices were higher compared with the previous year.

The sales prices of butter and skimmed milk powder are rising since the year 2001. The price of the Edam block cheese has been growing since 2001 and the growth has continued in the recent years, except the year 2003. In the case of semi skimmed milk powder, the prices were more or less identical. The price of the half cream liquid milk was declining till 2003 and was finally stabilized in 2004.

Table 3. Development of prices of the selected dairy products in the Slovak Republic

Commodity	m.u.	2002	2003	2004	2005	2006	2007
Raw cow milk, class I (1 000 litres)	SKK/t	9 040	9 046	9 198	9 414	9 393	9 536
Milk, canned, whole, long-lasting (1 l box)	SKK/l	17.75	17.19	18.41	18.87	18.51	19.18
Milk, canned, half cream, long-lasting	SKK/l	14.80	14.26	14.84	14.78	14.16	14.00
Cream (over 29% f.d.m.)	SKK/l	64.22	64.50	63.51	62.83	63.09	67.73
Soft curd cheese	SKK/kg	64.60	67.20	71.17	70.63	69.78	70.81
Eidam block cheese (45% f.d.m.)	SKK/kg	117.93	106.75	108.31	115.40	106.96	117.90
Bryndza sheep cheese	SKK/kg	116.73	118.48	119.56	117.55	105.52	118.41
Skimmed milk powder	SKK/kg	88.60	76.41	77.04	78.14	81.35	100.96
Fresh butter (consumer package, 100–250 g)	SKK/kg	93.45	102.96	112.93	115.67	112.84	120.27

Source: Green Report 2003–2008

Table 4. Sales prices of the chosen dairy products in Euro/kg

Commodity	2001	2002	2003	2004	2005	2006	2007
Butter	2.17	2.19	2.48	2.82	3.00	3.00	3.6
Eidam block cheese	2.68	2.76	2.57	2.88	2.9	2.9	3.5
Half cream milk, liquid	0.37	0.35	0.34	0.37	0.4	0.4	0.4
Semi skimmed milk powder	2.27	2.29	2.12	2.29	–	–	–
Skimmed milk powder	2.06	2.07	1.84	1.92	2.00	2.2	3.0

Source: Green Report 2003–2008

Table 5. Consumer prices of the chosen dairy products in Euro/kg

Commodity	2001	2002	2003	2004	2005	2006	2007
Butter	2.7	2.86	3.20	4.27	4.8	4.9	5.8
Eidam block cheese	3.83	4.00	3.82	4.31	4.4	4.4	5.2
Half cream milk, liquid	0.36	0.39	0.43	0.49	0.5	0.5	0.6

Source: Green Report 2003– 2008

In 2005, producers in the EU countries offered butter by 14% and skimmed milk by 6% cheaper than in Slovakia. Against the EU average, the sales prices of Slovak cheeses in 2006 were higher by 45%, and in 2007 they were higher by 14%. The prices of Slovak cheeses were by 36% lower against the EU prices. On the other hand, in 2007 the processing plants in the EU countries sold dried milk more expensively (in average by 6%) than in Slovakia (Table 4).

In the case of **consumer prices**, the situation is the most unfavourable for butter. Since 2001, customers are buying butter every year by 5–20% more expensively. The price of the Edam block cheese markedly increased since 2001, the only exception was the year 2003, when the price was lower than in the previous year. The consumers were able to buy the half cream liquid milk approximately for the same price.

In 2007, the growth in the prices of milk and dairy products on the level of farmers and processors resulted in higher consumer prices, mostly those of cheese and butter (Table 5).

Foreign trade of Slovakia and of chosen dairy products

In trading with cheese products, Slovakia had a positive balance of trade. In the case of raw cow milk, the majority of export directed to the Czech Republic in 2004, where some dairies had to limit their production because of the shortage of raw material. The total import of milk and dairy products was SKK 2484 million in 2004 and almost twofold (SKK 4 640 million) in 2005. A substantial increase in import in 2005 compared with the previous year was recorded in the case of the concentrated milk and cream (by SKK 658 million) and of cheeses and curd cheeses (by SKK 545 million). In that period, the export of cheeses and curd cheeses enhanced by SKK 765 million, the export of concentrated milk and cream increased by SKK 662 million and the export of non-concentrated milk and cream grew by 498 million SKK.

In 2006, the percentage of milk and dairy products export in the total agrarian export of the SR was 14.2% and the percentage of milk and dairy products import in the total agrarian import of the SR was 7.3%. A substantial increase in import in 2006 against the previous year was recorded in the case of cheeses and curd cheeses increased (by SKK 362 million). On the other hand, a substantial year-on-year decline in import was recorded in the case of concentrated milk and cream (by SKK 380 million). The export of cheeses and curd cheeses rose by SKK 540 million, the

export of concentrated milk and cream declined by SKK 367 million and the export of non-concentrated milk and cream grew by SKK 204 million.

A substantial increase in export against the previous year was recorded in the case of concentrated milk and cream (SKK 635 million), non-concentrated milk and cream (SKK 345 million). In 2007, the import of concentrated milk and cream declined by SKK 322 million. On the other hand, a substantial year-on-year decline in import was recorded in the case of cheeses and curd cheese (SKK 417 million). The export of non-concentrated milk and cream experienced a slight increase in 2007.

An important item in the product structure of the Slovak agrarian export and a traditionally strong export commodity are cheeses and curd cheese, the share of which in the total exports represented 4.6% (5.7% in 2006). The percentage of milk export in the total agrarian export of the SR increased year-on-year, from 3.7% to 4.1% and in the case of malt, it increased from 3.7% to 3.8%.

Information systems in the dairy industry

The specificities of dairy production demand enhanced requirements on the information security of all areas: purchase and storage facilities, production, trade and distribution, financial management and planning. The producers of dairy products need to have the ability to quickly change their production processes and trade chains, to be able to respond to the changing requests of their customers. Software products for the dairy industry have to solve all questions of the company in that sector, from managing of suppliers through processing, development, managing of prescriptions, managing of purchasers and logistics.

Information systems applied in the dairy companies are different depending on the size of the enterprise and the output of the (processed) production. While in smaller companies business information systems are applied, which are comprised of subsystems for the solution of basic areas (warehouses – purchased inventory, production – own work capitalized, personnel clerk and wages administration, non-current assets, trade, the balance of customers and suppliers, bank, accounting), the solution for large enterprises is much more complicated. There are used the systems of the ERP (Enterprise Resource Planning), which are specialised at the acquisition and processing of primary data of the business processes being in progress and other specially oriented systems, among which we include:

- Production Planning System (PPS), which enables to optimize production concerning the companies capacity and sources
- Computer-Integrated-Manufacturing, which optimizes the production
- Mobile Data Evidence (MDE)
- Manufacturing Execution System (MES), which interconnects the information system of production and administration, (transfers information of the production process to the ERP, while ensures the optimization of production process from the order enter till finished product)
- Human Resource Management
- Supply Chain Management (SCM)
- Customer Relationship Management (CRM)
- Document Management System (DMS)
- Business Process Management (BPM)
- Business Intelligence (BI).

The managers of companies processing raw milk are always under time pressure, which is caused by the short product life, the requirements of customers and the competition. On the basis of the BI, the needed data are fast available for managers and so they are able to optimally evaluate. The system of the BI enables the interactive work with data, pre-processing of data needed for the analyses, monitoring of the expenses according to the required point of view. It also makes possible the sequential calculation of the basic indicators as well as complex analyses in the real time, dynamic analyses of the detailed levels and the determination of the reasons of deviations in terms of the defined values, multidimensional analyses over the summarised data and the sequential presentation of the related data with the possibility of correction in the real time, the individual creation of configurations and overviews.

Managers of dairy companies lay stress on the data processing in the real time, on-line information, more elastic price making, communication with the customers, fast reaction on the changes of demand, real presentation of all processes from the purchase till the sales of products and total backward monitoring.

Considering the fact that we are dealing with food products, it is necessary to adhere to the statutory requirements on backward controls and monitoring throughout the food production chain according to the Regulation (EC) No 178/2002 of the European Parliament and of the Council of January 28, 2002. In purchase, it is important to keep the correct assortment of materials at disposal in the adequate quantity. In the production, it is important to have besides material the necessary production facilities

and workers. It is similar for sales and for purchase – the basis for the right decision is the analysis of the enterprise processes and their presentation in the enterprise information system (IS). The system of quality (DIN EN ISO 9001:2000) is a necessary component in the complex IS for the management of the food company, which interferes into all organisational units. The software security of the quality management means to connect all components of the company from the purchase till the sales with a network of information and control points. This ensures to observe the quality of dairy products during the production process. Mostly charging system is applied, which provides all identification data on-line and so it is important for the backward controls and monitoring of products (each component entering the prescriptions is marked with a charge – the number of amount, and in this way, it enables faultless analyses of the product's origin in the direction from the customer to the supplier and vice-versa). This kind of charging system, in the case of a critical occasion, enables a quick access to the required data, a shorter restriction of the flow of goods, a targeted and fast recall of inconvenient products from the customer, a fast information of the consumers, concrete charging measures by the suppliers.

The result of a properly chosen IS in the dairy company is saving of the production costs, the elimination of abundant stock inventories, the increase of the productivity in the logistic processes, the increase of the quality of products and food safety.

Between international suppliers of the complex systems for the dairy industry, there belong e.g. the company Minerva, the CSB-System AG and others.

In the market of software products, there are other programs too, which are possible to be successfully applied in the dairy industry – for example:

- **Financial planning** – it makes possible to create a complex financial plan, modelling of transition of investment objectives
- **Economic analyses and financial indicators** – decisions about the optimal form of financing with the goal to optimize the chosen economic indicators, the selection of the optimal long-term (non-current) dividend policy in relation with the planned profit and cash flow, the calculation of the indicators of profitability, liquidity, capital structure and activities
- **Expense controlling** – permits to plan and control the company's activities and its intra-plant organizational entities, budget setting (budgeting) for the departments, controlling its drawing, monitoring the development of fixed costs and variable costs,

the development of the break-even point (transition point) of the BEP profit centres

- **Strategic controlling** – enables the monitoring of the strengths of the company according to the SWOT analysis, determining of the competitiveness and the market share, proposing measurements to its uplift, it maps the strength of the competitive companies, it realises the ABC analysis and other analyses, and projecting of the products, market-place and customers
- **Controlling of liabilities** – monitors the trend of the liabilities in the required structure according to its age and term of expiration, forecasts the development of liabilities
- **Controlling of the sales** – in the form of map, it makes possible to compose overviews of the realised sales in the form of revenues, to pursue the development of the product life cycle, the development of the remittance contribution and other analyses and controls of the pursuance of plan and sales
- **Marketing analyses and planning** – permits to evaluate marketing analyses and strategies
- **Profit/income control** – enables to determine the break-even point (transition point) of the of the company, to determine the price quantity policy of the company, to optimize the assortment of products, which the company is offering in market, so that company could achieve the required **remittance contribution** and profit. It includes the calculation of critical price and marginal costs and other calculations in the company economy
- **Cash flow** and other.

CONCLUSION

In Slovakia, the annual output of milk is only 1 099 000 t, which shows that the production of dairy products is very low. Milk quotas for the SR are specified according to the milk production, which increased since 1. 4. 2008 to 1 061 603 760 kg. In 2007, Slovakia agreed to the gradual raising of milk quotas till 2014, until their abolishment in the year 2015 (Milk quotas 2008). Our country, however, failed to fulfil the actual quota. It is true that in our country, there exists overproduction of milk (155 000 t), which is higher than the average of the EU countries. It is caused by low milk consumption. This state is due to the low level of the living standard, low incomes, a low purchasing power of consumers and inhabitants.

There is an insufficient distribution of dairy products in several distributive channels in Slovakia. Only the most frequently bought and the best known types of dairy products and the dairy specialities get

into the simple retail shops in a negligible amount. Marketing activities from the side of producers and sellers of dairy products focused on the support of these products are insufficient. Advertisements about dairy products occur very rarely in the TV, radio or newspapers in the SR. Exceptions are the advertisements of yogurts, yogurt drinks, and milk specialities of international companies, which have direct investments in the country and own the biggest Slovak dairies, e.g. the Rajo, a.s. or the Danone, Ltd. Our cheese specialities (beside the “bryndza” – sheep cheese and steamed cheeses like the Parenica, Oštiepok, Korbáčiky) are very popular world-wide, but they are too little promoted not only at home, but also abroad and they are little known by consumers from some European countries.

According to the acquired information about the dairy products market, through its analysis and comparison, we developed a set of proposals and recommendations. These are related to the all subjects acting at the dairy products market in Slovakia, which could eliminate the individual barriers in the consumers’ market of these products and thereby they would contribute to the increase in sales in the home market.

These recommendations include namely:

- Making the production and sales of producers and processors of dairy products more effective by joining to regional units, which would perform common sales and communication policy and so it would help to decrease the distribution costs. In the sector of dairy industry, a huge competition is nowadays, which is the drive motor of development at the market. Each firm which would like to remain at the market and abide in the struggle with the competition in order to satisfy its customers. To satisfy the customers needs to find out their requirements and expectations. In this area, there is important the implementation specifically oriented information systems.
- It is important to raise the awareness of Slovak consumers by the means of true information campaigns of the dairy products, because they realise their significance and so increase the annual consumption of these products.
- A central information portal should be established to provide the important information for the producers, processors, sellers and of course for the customers.
- In the different regions of Slovakia, we recommend to organise for example weekly, monthly or every spring, summer, autumn markets for the regional producers on specially selected places. These markets should be announced in advance at least by the

- regional media e.g. the regional television channels or radio channels or newspapers. According to the possibilities of the producers, cheese tasting/sampling could be organised at these markets, because it is one of the best ways to become familiar with a new cheese product, to compare different cheese types and to test them directly in the same place.
- The barrier of high prices exists in the Slovak dairy products' market even though some consumers are ready to pay more for healthy and high quality products. For the producers, it means to look for the balance between the quality and the prices of products. Favourable packages, as the tool of propagation, should be used for the products packed in vacuum packing, for example for the "parenica", "ostiepy", "bryndza" sheep cheese.
 - The producers of dairy products should be able to change quickly their production process and trade chains and so to be capable of fast reacting to the changing market conditions. The qualitative IS should provide the solution that does not just ensure data recording and evaluation in real time, but also supports the company to achieve its goals, the development of the products' brands, the management of demand, the introduction of a new product at the market. A valuable chain of dairy products is widespread and the companies have to work with different suppliers and distributors. Therefore, it is important for an information system to support planning and prognoses of production according to the seasonal trends and specifics of consumers. We recommend reevaluating of the current information systems in the dairy companies and implementing the IS which would support the increase of competitiveness.

REFERENCES

- Bielik P. (2004): Konkurencieschopnosť slovenských producentov (Competitiveness of the Slovak agricultural producers). *Acta Oeconomica et Informatica*, 7 (2): 32–35.
- Škorecová E. (2008): Náklady na zabezpečenie kvality produkcie v nákladovom a manažérskom účtovníctve (The costs for ensuring production quality in cost- and managerial accounting). In: *Proceedings of Reviewed Articles of International Scientific conference International Scientific days 2008 – Competitiveness and Economic Growth: European and National Perspectives*. CD, SPU, Nitra, pp. 987–993; ISBN 978-80-552-0061-3.
- Škorecová E., Látečková A., Kučera M. (2009): Nákladový systém a jeho softvérová podpora (Cost system and its software support). SPU, Nitra; ISBN 978-80-552-0195-5.
- Ubrežiová I., Horská E. (2003): Postavenie produktov vybraných slovenských mliekarní v konkurenčnom prostredí (The competitive environment status of the products from selected milk processing entities in the Slovak Republic). *Acta Oeconomica et Informatica*, 6 (2): 41–45.
- Ubrežiová I. (2005): Internationalization process and changes in the Slovak milk processing industry. *Agricultural Economics – Czech*, 51 (8): 57–361.
- Mliečne kvóty (Milk quotas) (2008) [on-line]. Available at <http://www.euractiv.sk/podnikanie-v-eu/clanok/rada-zvysila-mliecne-kvoty> [Quoted 2008-02-02].
- Green Report (2003–2008) [on-line]. Available at <http://www.land.gov.sk/en/>

Arrived on 12th May 2009

Contact address:

Anna Látečková, Milan Kučera, Kinga Brédová, Slovak Agricultural University, Trieda A. Hlinku 2, 949 76 Nitra, Slovak Republic
e-mail: anna.lateckova@uniag.sk, milan.kucera@fem.uniag.sk, bredakinga@gmail.com
