VLIV ROZŠÍŘENÍ EU NA KONKURENČNÍ PROSTŘEDÍ V SEKTORU OLEJNIN V ČR

THE IMPACT OF EU ENLARGEMENT ON COMPETITIVE ENVIRONMENT OF THE CZECH OILSEED SECTOR

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Anotace:

Příspěvek je zaměřen na rozbor a hodnocení vývoje nabídky a poptávky řepky olejné v České republice před a po vstupu do Evropské unie, dále na stanovení významných změn týkajících se dané komodity, vyplývajících z uplatňování společných evropských pravidel v zemědělství. Vývoj vybraných charakteristik trhu řepkou olejnou byl statisticky vyhodnocen a jeho příčiny vysvětleny z ekonomického hlediska. Konkurenceschopnost komodity byla hodnocena pomocí ekonomického efektu na základě posouzení rentability a efektivnosti agrárního obchodu řepkovými semeny s využitím ukazatele směnných relací.

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Klíčová slova:

Řepka olejná, nabídka, poptávka, konkurenceschopnost, rentabilita, směnné relace

Annotation:

The paper deals with analysis and evaluation of oilseed rape supply and demand in the Czech Republic within the context of the accession of the CR to the European Union. Significant changes of the analyzed commodity, closely associated with the Common Agricultural Policy, were described. The oilseed rape market development was evaluated by using statistical methods, and described from the economical point of view. The commodity competitiveness was analyzed on the basis of profitability and effectiveness of agricultural trade by using the terms of trade indicator.

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Key words:

Oilseed rape, supply, demand, competitiveness, profitability, terms of trade

INTRODUCTION

Growing of oilseeds has a long tradition in the Czech Republic and their importance is still increasing. In 2005/2006, the production of oilseeds reached the highest amount in the Czech history (about 1 108 185 tons). The biggest share took oilseed rape (84.3%), followed by sunflower (7.5%), mustard (3.9%) and poppy seed (2.2%). Considering the fact, that oilseed rape is the most important oil crop in the CR, the paper pays special attention to this particular commodity.

Entering the EU brought about principal changes for Czech farmers. Tariff protection was abrogated, and the Czech market was opened for oilseed rape import from Poland, Ukraine and other countries. The system of subsidies was changed, too. At present, it is essential to pay attention to commodities enabling farmers to keep their position on extended common market. Oilseed rape belongs to the most perspective commodities.

OBJECTIVES AND METHODS

This paper sets a task to evaluate oilseed rape supply and demand in the Czech Republic, and to depict their development in the period from 2000/2001 to 2005/2006. The paper also aims to describe the significant changes closely associated with the Common Agricultural Policy.

The data are based on the "Green Reports" published by the Ministry of Agriculture of the Czech Republic from 2001 to 2005, enriched using the cited literature.

Total supply and demand are calculated according to the following relations:

Total supply = the sum of opening stock, production and import;

Total demand = the sum of total domestic consumption and export.

The statistical analyses of oilseed rape supply and demand development is based on index analysis, on the basis of calculation of basic and chain index in the monitoring period. Basic indexes have a fixed base number (as an indicator of *k* period), called q_k, and a time-comparing indicator, called q_j, where *j* represents the time-period from *1* to *n*. The row of indexes arises as follows:

$$I_{j/k} = \frac{q_j}{q_k} \ [\%].$$

Chain indexes have a variable base number. On the basis of the chain index it is possible to compare indicators of each period with their value in the previous period. The row of indexes arises as follows:

$$I_{j/j-1} = \frac{q_j}{q_{j-1}} \ [\%].$$

The commodity competitiveness was analyzed on the basis of economical effectiveness:

$$Profitability = \frac{\text{profit}}{\text{costs}} \times 100 \ [\%],$$

where … profit = producer prices [CZK per ton] – average costs [CZK per ton],

$$Terms\ of\ trade^{4} = \frac{\text{sales} + \text{subsidies}}{\text{costs}} \times 100 \ [\%],$$

where … sales = producer prices [CZK per ton],
subsidies = direct payment and input subsidies [CZK per ton].

RESULTS

Supply and demand of oilseed rape in the Czech Republic

Oilseed rape production is significantly influenced by weather conditions, which were extremely unfavourable in 2002 and 2003. Thus, fluctuations in areas and yields are typical. Nevertheless, the amount of proceeded oilseed rape for food and non-food use is rising gradually. Oilseed rape price is considerably dependent on the price of the main oilseed on the market – soybean. High soybean production causes a fall in soybean and oilseed rape prices.

Table No. 1 illustrates, that supply exceeded demand on the Czech oilseed rape market in the period of 2004/2005 and 2005/2006. World soybean supply was high. In Europe,

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* According to [1].

oilseed rape stock was neither processed, not exported, because of higher European oilseed rape price and lower world soybean price.

Table No. 1: Development of oilseed rape supply and demand in the CR from 2000 to 2005

Item	Data unit	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Total supply	**tsd. tons**	**849.40**	**988.30**	**750.70**	**412.80**	**985.56**	**968.58**
Basic index	*%*	*100.00*	*116.35*	*88.38*	*48.60*	*116.03*	*114.03*
Chain index	*%*	-	*116.35*	*75.96*	*54.99*	*238.75*	*98.28*
Total demand	**tsd. tons**	**849.40**	**988.30**	**740.70**	**412.80**	**818.36**	**852.00**
Basic index	*%*	*100.00*	*116.35*	*87.20*	*48.60*	*96.35*	*100.31*
Chain index	*%*	-	*116.35*	*74.95*	*55.73*	*198.25*	*104.11*
Closing stock	tsd. tons	0.00	0.00	10.00	0.00	167.20	116.58

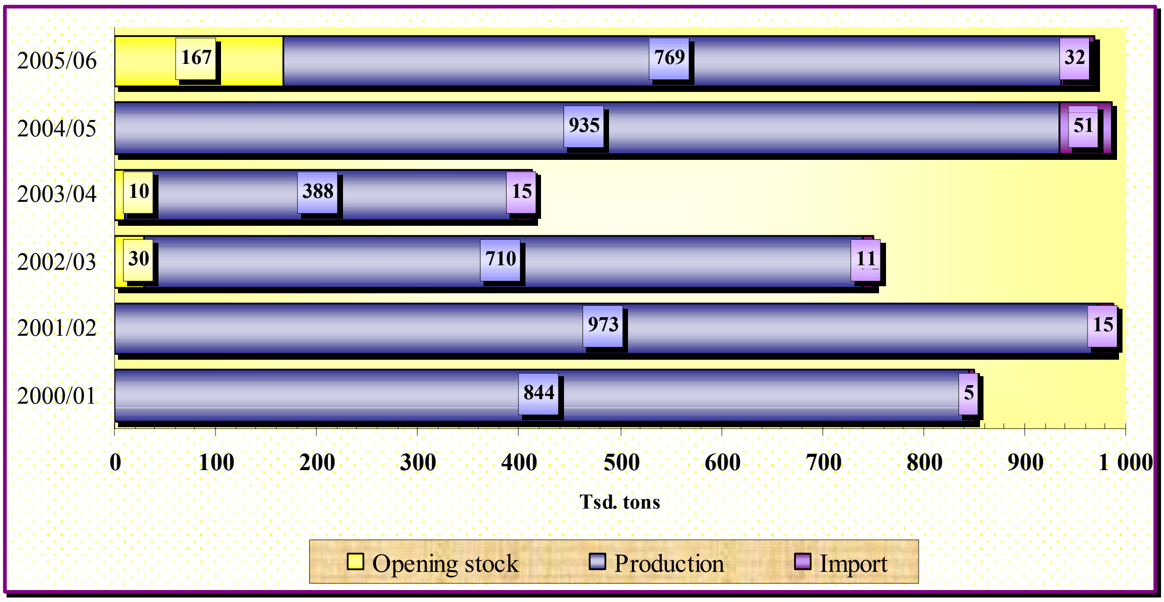
Source: [1] and own calculation

As the basic and chain indexes show, the decrease of total supply and demand in 2003 was followed by an increase back to the level of a base period. The deepest year-to-year fall was noticed in the period of 2002/2003 (about 56%).

The oilseed rape market is significantly influenced by biodiesel production. Raw materials for biofuel production provide a potential new outlet for Europe's farmers. Reform of the Common Agricultural Policy from 2003 encouraged growing of crops as a source of renewable energy, and brought about a signal for oilseed rape producers. Nevertheless, production of biofuel is not competitive to fossil fuel and requires state subsidies.

The total supply (see Graph No. 1) was influenced especially by domestic production, followed by import. The trend was growing from 2000 to 2004. After entering the EU, the oilseed rape import was higher compared to previous years. This fact was caused by two factors, the extreme climatic conditions and the EU import policy. The opening stock, which depends on the closing stock of the previous year, was mostly at zero level.

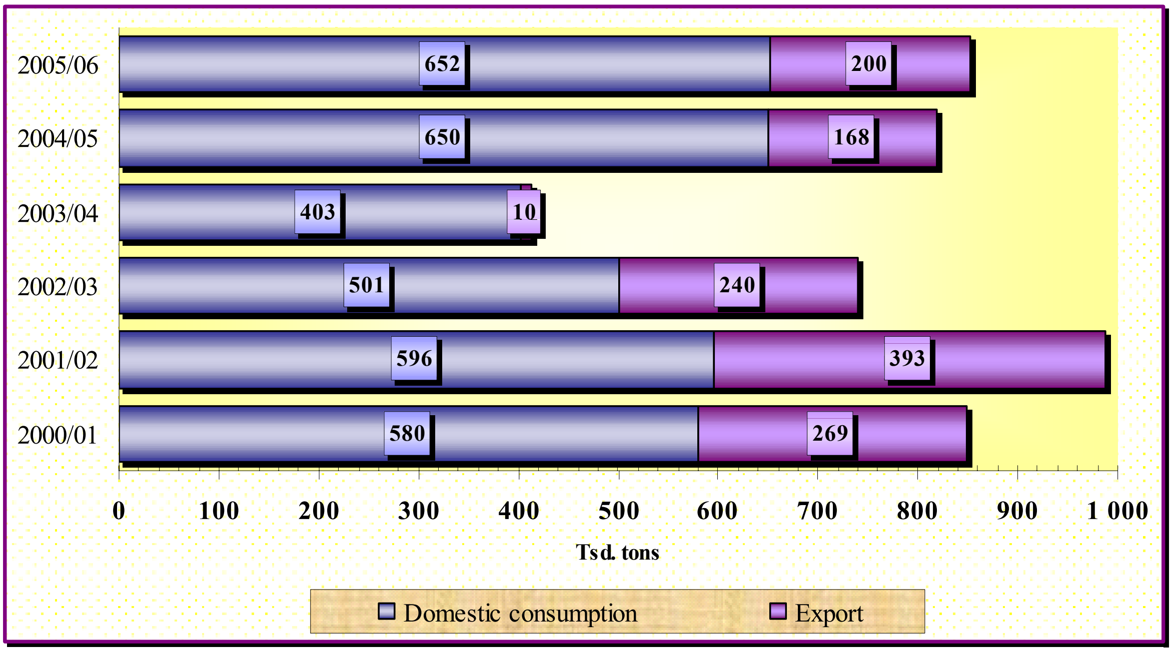
Graph No. 1: Volume of oilseed rape total supply and its factors between 2000 and 2005



Source: The Green Reports 2001 – 2005, The Ministry of Agriculture of the Czech Republic

Total demand (see Graph No. 2) has a similar development as the total supply. The lowest level of oilseed demand (412 800 tons) was in 2003/2004. Because of the low supply, export was on an extremely low level (only 10 000 tons). Nevertheless, that year was an exception in the traditionally high level of oilseed rape export.

Graph No. 2: Volume of oilseed rape total demand and its factors between 2000 and 2005



Source: The Green Reports 2001 – 2005, The Ministry of Agriculture of the Czech Republic

Significant changes in competitive environment of oilseed producers

The chapter addressing agriculture was a very complicated part of the negotiations before the accession of the Czech Republic to the EU. Lots of farmers feared new competition, lower sales and even bankruptcy. The majority of farmers maintained their position on the Czech market. The key problem consists in finding an appropriate demand for a given supply. The EU Single Market also determines strict rules considering the quality of products.

The system and the level of agricultural subsidies have been changed after May 2004. Pre-accession programs (e.g. SAPARD, ISPA, Phare) helped the candidate countries in solving specific problems regarding the introduction of acquis communautaire, concerning the Common Agricultural Policy and the structural changes in agricultural sector and rural areas. At present, Czech farmers can use subsidies in the form of direct payments or subsidies from the structural funds (e.g. Horizontal Rural Development Plan).

The level of direct payments is divided into two parts – an amount from the EU sources and an amount from the national budget. In 2004, Czech farmers received 25 percent of EU15 direct payment level from EU budget, and maximum 30 percent from the national budget. The EU payments are going to increase by 5 percent per year until 2007, and thereafter by 10 percent per year until 2013 (see Table No. 2).

Table No. 2: EU direct payments and their supplementing from the national budget (%)

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU	25	30	35	30	50	60	70	80	90	100
CR	0 - 30	0 - 30	0 - 30	0 - 30	0 - 30	0 - 30	0 - 30	0 - 20	0 - 10	0
Total	25 - 55	30 - 60	35 - 65	40 - 70	50 - 60	60 - 90	70 - 100	80 - 100	90 - 100	100

Source: [2]

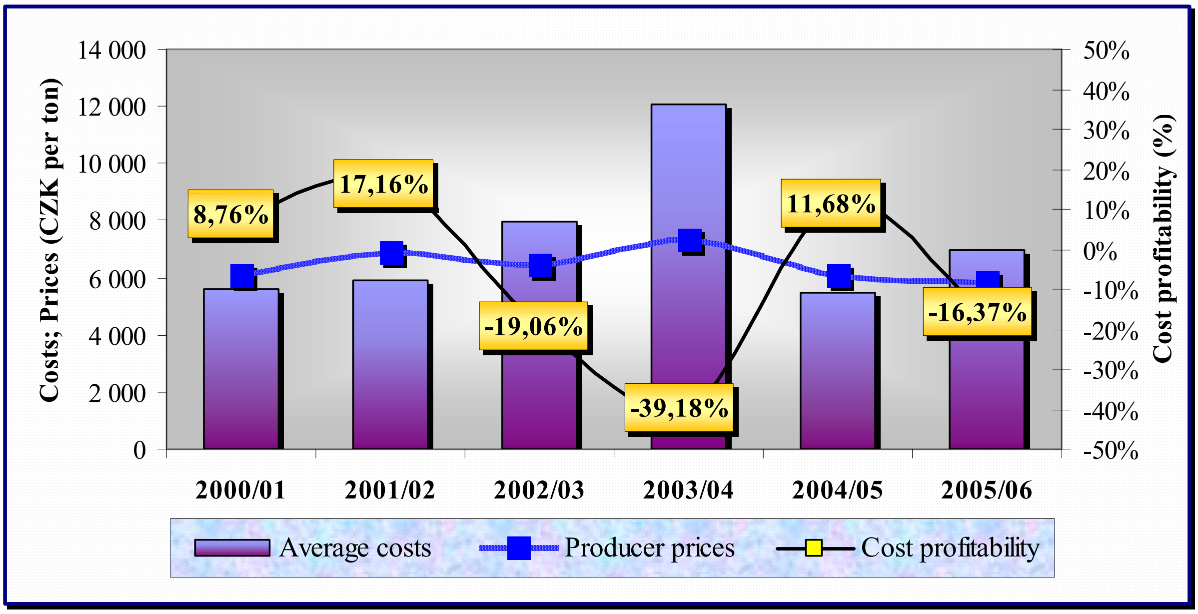
Input costs remained approximately at the same level as before entering the EU (except from fuel and rape seed corn prices). The greatest changes occurred in sales, especially in their structure. The share of subsidies in oilseed rape sales has risen (on an average about 20%) and the share of revenue from sales has decreased to 80% because of lower product prices. The higher share of subsidies in the sales structure could rectify the stability of farming businesses, especially in less favourable areas.

Economic evaluation of oilseed rape production

Average costs of oilseed rape production are connected with yield per hectare. If yields are high, the costs are reduced. Thus the main factors influencing the oilseed rape costs are climatic conditions, intensity of production, and level of farming management. Producer prices are influenced by volume of production, export and import.

Graph No. 3 depicts the relation between costs, prices and profitability of oilseed rape production, which was profitable within the range of average costs lower than 6 thousand CZK per ton. Nevertheless, sustainable profitability relies on yield of 2.8 – 3 ton per hectare and depends on the price development.

Graph No. 3: Development of oilseed rape profitability from 2000 to 2005



Source: The Green Reports 2001 – 2005, The Ministry of Agriculture of the Czech Republic, own calculation

Economy of oilseed rape production is deduced from the relations between average costs and producer prices (see Table No. 3). The changes of profitability depend on the above mentioned factors. If the direct payments were included, the economy of oilseed rape production would improve, as the terms of trade indicator shows.

Table No. 3: Economy of oilseed rape production in the CR between 2000 and 2005

Item	Data unit	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Average costs	CZK/ton	5 608	5 893	7 990	12 081	5 487	6 988
Producer prices	CZK/ton	6 099	6 904	6 467	7 348	6 128	5 844
Direct payments 1)	CZK/ton	x	x	500	987	916	1 600
Cost profitability	%	8,76	17,16	-19,06	-39,18	11,68	-16,37
Terms of trade	%	108,76	117,16	87,20	68,99	128,43	106,53
CIF price Hamburg 2)	CZK/ton	5 090	7 683	9 330	9 371	6 734	6 346
Direct payments 3)	CZK/hectare	2 911	2 466	8 735	9 228	9 246	8 634

Notes:
1) SAPS + TOP UP
2) Oilseed rape "00" European production
3) Incl. input subsidies EU - arable land
Source: [1] and own calculation

According to the balance of oilseed rape demand and supply (Table No. 1), closing stock was left in storage in 2004/2005 (167.2 thousand tons) and 2005/2006 (116.58 thousand tons). With regard to producer prices, it represents a fall in sales of approximately 1.02 billion CZK in 2005 and about 0.68 billion CZK in 2006. The producer prices are lower than the EU market prices CIF Hamburg (except the year 2000/2001), and opens the possibility of export.

CONCLUSIONS

New economical conditions influence farming businesses in the Czech Republic after the EU enlargement. Oilseed rape is one of the commodities, significantly influencing the enterprise economy. Oilseed rape is an important cash crop, desired on the market. In spite of relatively high production costs, this crop is mostly profitable.

The prime goal of a business in a market economic system is to achieve profit. An observation and evaluation of direct costs are of great importance, because the cost's level in relation to the market price determines the profitability of a commodity. The benchmark of success in oilseed rape growing is the proportion of costs per unit of production to market prices. From this point of view, oilseed rape is one of the most financially interesting crops.

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