

PALMA-TUMYS, Joint Stock Company, Bratislava - Main Processing Company of Rapeseed in the Slovak Republic

Stefan BUZINKAI and Jan KOCUN

Palma-Tumys, Racianska 76, 836 04 Bratislava, Slovak Republic

The Palma-Tumys joint stock company is the dominant producer of vegetable fats, oils, soaps as well as technical oils in the Slovak Republic. Our company started its own operation in the twenties of this century. From 1951 to 1970, the company was restructured several times, the production programme extended, and newer processing technologies were introduced. After changes in the whole Czechoslovak Federative Republic in 1989 also the ownership relations in Palma were led to change substantially. The Henkel-Palma joint venture was founded in 1991 and Palma-Tumys joint stock company in December 1991. Above all the workers of Palma-Tumys are the shareholders. Technical and technological changes were implemented immediately after the start of the joint stock company. In the first year of its existence under new economic conditions, this joint stock company innovated the production of edible vegetable oils. The implementation of progressive technologies in combination with local prescriptions enabled to extend the product durability, to provide their microbiological purity, and opportunities were provided to penetrate the competitive market. The Palma-Agro Secovce, another joint venture, started operation in 1994. This company basically solves the relations with agricultural primary production orientated towards oil raw materials in the region of Eastern Slovakia.

For the five years of its existence, Palma-Tumys joint stock company has substantially increased its orientation towards company production fully subordinated to market requirements and satisfaction of customers' needs. These efforts were accompanied by a company turnover increase and from 1994, as far as performance

was concerned, Palma-Tumys was evaluated as the largest entrepreneurial entity within the food processing industry in the Slovak Republic. The production is organized in three production divisions. The production programme for processing oilseeds is orientated towards rapeseeds - 66% of the processing capacity, sunflower, corn sprouts, and from 1996 oil flax.

An important moment of the production process is the timely provision of oil seeds of prescribed quality and sufficient quantity with economically acceptable conditions. Since 1994 we have used the relation of processor and the agricultural primary production, - implemented for the first time.

The main features are :

- * the supply of oil seeds from the primary production according to a contract (directly from growers) or using the agricultural purchase companies
- * to provide the grower with agreed quantity and price of contracted oil seeds
- * Palma-Tumys as the processing company provides growers with a supply of high quality seed varieties for sowing of rape seeds which is paid by the grower by crop. Our joint stock company provides a financial contribution to purchase fertilizers and chemical rapeseed protection, which is compensated by crop deliveries.
- * Own agricultural service of Palma-Tumys which provides a practical professional consulting assistance to oil plant growers over the whole vegetation period in the whole territory of Slovakia.

Table 1. Development of harvest areas and production of rapeseed in the Slovak Republic

year (mt)	sowing area (ha)	harvest area (ha)	harvest production (T)
1988	34 490	27 850	75 660
1989	31 620	30 060	73 500
1990	33 100	31 730	75 850
1991	40 160	38 100	97 350
1992	45 700	26 900	48 100
1993	47 800	37 250	58 000
1994	47 210	44 670	94 220
1995	70 020	67 480	148 450
1996	93 080	74 880	142 710
1997	90 170	?	?

It is clear from Table 1 that between 1988 and 1996, the harvest area of rapeseed increased by 268 %, and the total production of the Slovak Republic, by nearly 190 %. It is positive that Palma-Tumys as the processing company receives exclusively rapeseed from growers working in the Slovak Republic.

Let me present now the composition of varieties of rapeseed in the Slovak Republic as was provided by our joint stock company to contract growers over the last three years (Graph 1, 2, and 3).

Over the last two years, the assortment of rapeseed varieties grown in the Slovak Republic has been extended. It can be expected that in the next period, the Lirajet variety occurrence will decrease and new varieties sowing will increase. We are interested in delivering or recommending such rapeseed varieties which provide growers with appropriate economic performance and for Palma-Tumys, the aim is to obtain the requested yield and good quality of final products. Results of analysis of purchased rapeseed seeds showed a decrease in erucic acid and glucosinolate contents; oil yield and yield are stabilized (Fig. 1 and 2).

In 1996, the glucosinolate content amounted to an average of 26 $\mu\text{mol/g}$ without oil substance, which is a decrease by more than one half in comparison with 1992. The erucic acid content decrease to 0,1 % was substantial in

1996 compared to the average of 1,6 % recorded in 1990. The average oil yield amounted to 43,7 % last year.

Palma-Tumys Bratislava plant processes oil seeds by pressing with following extraction of cake. This plant operates during 300 - 310 days annually. The daily processing capacity of oil seeds is 400 mt. Oilseed is milled by a four cylinder grinder before flocking. Physical-chemical and bio-chemical processes are performed in five conditioning basins supporting the increase of oil yield of processed seeds. Pressing is performed by five coil presses (Skett - HSP-26 and Krupp - SVP). Mechanical impurities are removed from produced raw oil in three stages. Cakes with an oil content of 18-20 % are produced using a technological installation of the Extechnik Hamburg. This installation operates using the principle of oil hydration and the following separation of a part of phospholipids removes lecithins from raw oils. A new Top-Degumming lecithin station from Westfalia will start operation in the near future in order to remove the slime from the raw oil. Another press plant for raw oil was constructed in 1995 in the region of Eastern Slovakia. The technology of new generation (Krupp) uses pressing without extraction, using the following system - prepressing and additional pressing. Capacity of this installation is 180 mt/daily.

Fig. 1 : Glucosinolates in rape seed seeds

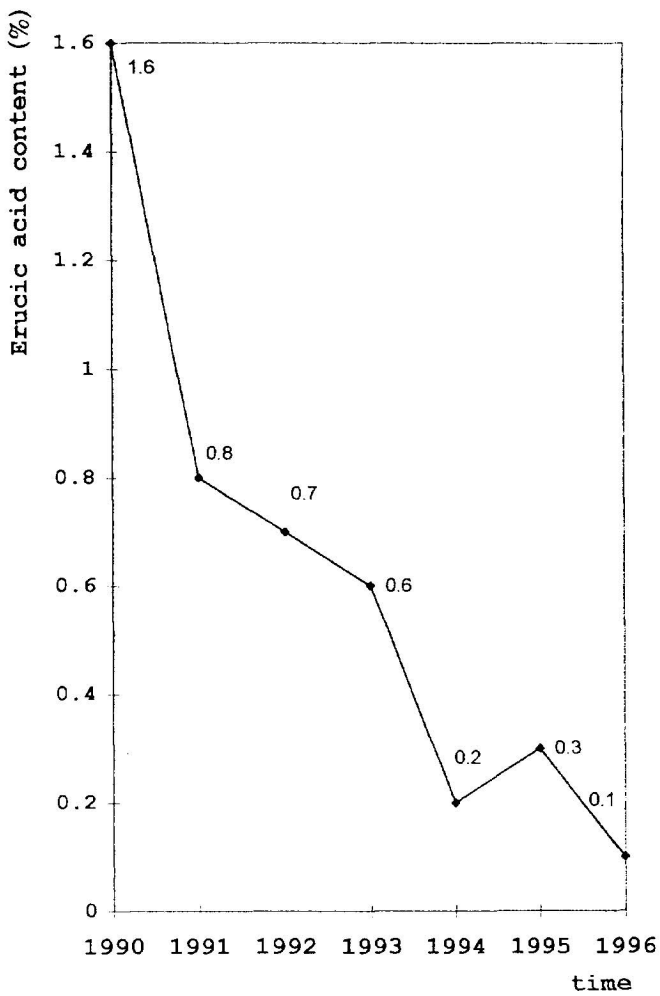
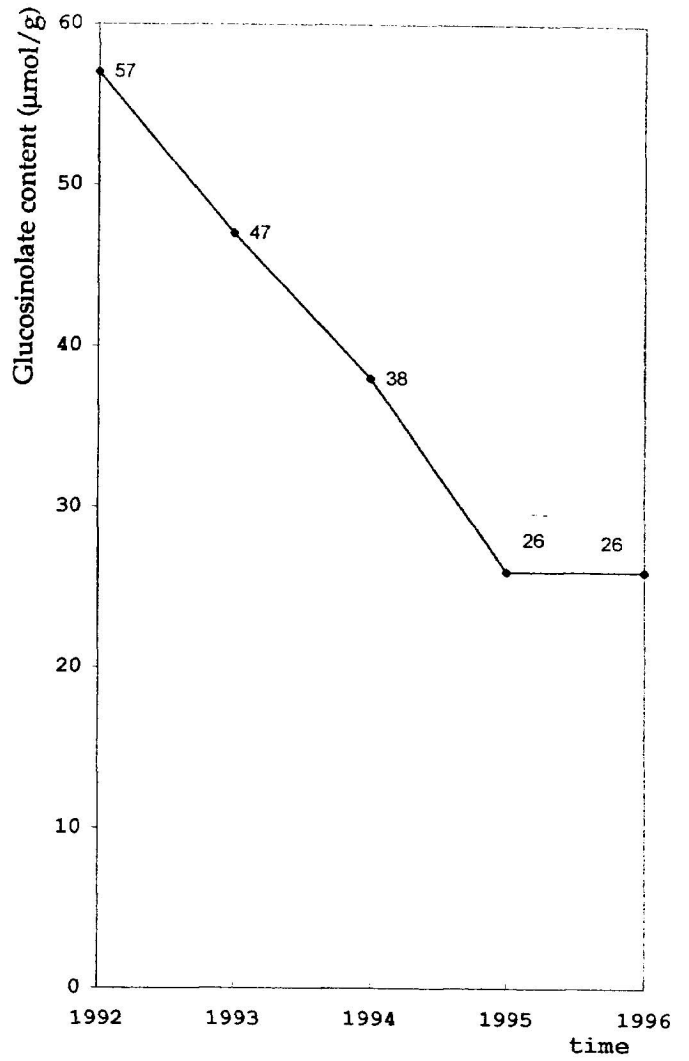
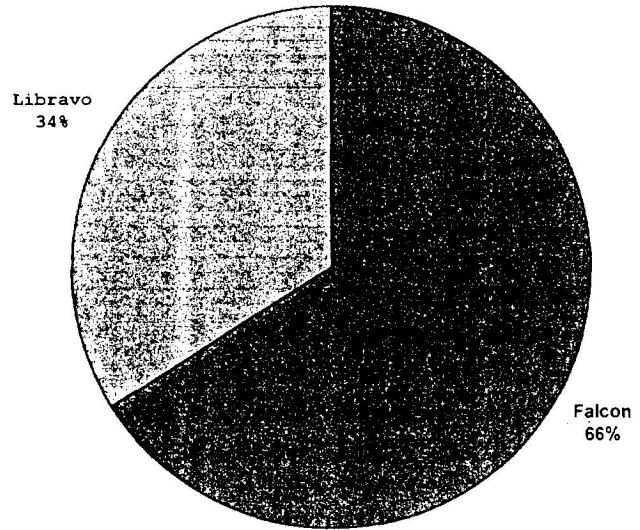
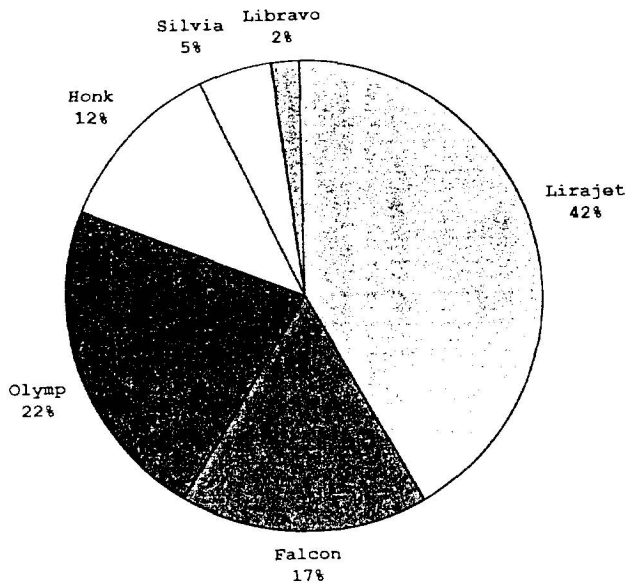


Fig. 2 : Erucic acid content in the rape seed seeds

Year 1995



Year 1996



Year 1997

