

PRODUCTION OF RAPESEED IN THE UNITED KINGDOM, IN THE ZONAL AND EUROPEAN CONTEXT (2010-2012)

Radu Lucian PÂNZARU, Dragoş Mihai MEDELETE

University of Craiova, Faculty of Agriculture and Horticulture, 19 Libertăţii, 200421, Craiova, Romania, Phone: +40 251 416 595/146, Fax: + 40 251 418 475, E-mail: rlp1967craiova@yahoo.com, medelete @yahoo.com

Corresponding author: rlp1967craiova@yahoo.com

Abstract

Rapeseed is currently one of the world's most important oil species. Rapeseed oil contains varying proportions of saturated and unsaturated fatty acids: Oleic - 20%, linoleic 15%, linolenic - 9% -15% erucic, casenoic - 8%, palmitic - 4%, 1% stearic acid. Erucic acid from rapeseed oil used in diet has negative effects on the human body because it retards the growth of young organism causing diseases of the circulatory system and the adrenal glands, liver and thyroid gland. By reducing the erucic acid content has increased proportion of oleic acid, from 14-20% to more than 64%, and the percentage of linoleic acid from 13-15% to more than 24%, which increased the food quality of rapeseed oil which can replace in this respect the sunflower oil. It should be noted also that, rapeseed oil low in erucic acid content, has unique effects on serum total cholesterol, serum fatty acids and the level of anti-oxidants, compared to diets high in saturated fat or oil mono- or poly-unsaturated from sunflower. The work was born following the presentation of producer's performance placed in another area of culture, rather than national, through different environmental conditions and production (production structure, way of organizing the activity, degree of capitalization of the producers etc.).

Keywords: rapeseed acreage, average production, total production

INTRODUCTION

Oilseed rape is currently one of the world's most important oil species, cultivating seed is rich in oil 42-48% used in feed people, the preparation of margarine and industry.

Rapeseed oil has iodine index 94-112 and can be used in the textile, leather, plastics, varnishes, paints, inks, detergents, printing industry, lighting or as a lubricant, oil paintings, candles, to manufacture anti-dusting agent, as an adjunct to pesticides, hydraulic fluids.

The oilcake and grist remaining after oil extraction is a valuable fodder for animals, if taken in moderation. It contains 35-40% protein, 32-37% carbohydrate and 8-10% of mineral salts, thus having high biological value. From 100 kg rapeseed afford 30 - 35 kg oil and 50 - 55 kg of grist.

Oilseed rape can be cultivated also for feed purposes, using as green fodder, very late autumn, when it is sown in late summer or early spring when sown in autumn.

Oilseed rape is a very good melliferous plant,

from a hectare of rape yielding 50 kg of high-quality honey, energizing, anti-anemic also digestive.

In organic farming, the infusion of rape (leaves also roots) is used to apricot and plum fighting monilia by splashing in blooming.

Autumn rape also offers a number of agro-phyto advantages for growers: sown and harvested outside busy periods; reacts favorably to fertilization; allow full use of the same type of machine as grain; matures early (June-July), free of weeds also leaves the soil with good fertility, being a very good run for winter cereals or succeeding crops; by the speed of growth and rich vegetation mass, rapeseed largely suppress weeds and soil remains in a good state from physico-chemical and biological; biological circuit remains in soil a large amount of biomass; having small seed dries quickly and reaches 10-12% moisture in the field, reducing the need for artificial drying; is an excellent anti-erosion plant; covers the ground in winter, limiting the risk of nitrate leachate; has a large multiplication coefficient (500 - 1000),

compared with wheat (40-50) or peas. [3]

In the culture of oilseed rape, the need of obtaining superior parameters of profitability and economic efficiency can be achieved by increasing yield per hectare, proper management of production costs and optimize marketing.

a. The increase in yield per hectare. It is directly related to the following factors: soil suitability in terms of compliance with the conditions required by this plant; use of varieties with high oil content; integrated control of weeds, pests and diseases; full mechanization of work, etc.

b. Managing production costs. Improving this aspect is based on: determination, knowledge also operation cost structure throughout the economic cycle; scheduled correlation yields per hectare costs; makers flexibility in light of changing production conditions during the growing season.

c. Optimizing marketing production. Production quality is directly related to harvesting technology in two phases or directly to combine.

For both alternatives should be considered the optimal time for starting the harvesting operation.

Preparing production for sale involves bringing indices - hectoliter mass, foreign bodies and moisture to known standards. When negotiating the sale price should be considered also oil content of the seeds. In general, farms must have accurate information on market-especially rapeseed formation and evolution of supply and demand. [2]

MATERIAL AND METHOD

Based on the data used as a source document, the British succeeded in framing under

Table 1. UK - Rapeseed, surface cultivated (thousand ha)

Nr.	Year	Europe	U.E.	North Europe	Great Britain			
					Effective	% beside Europe**	% beside U. E.**	% beside Northern Europe**
1	2010*	8,944,6	7,087,4	1,549,9	642	7.18	9.06	41.42
2	2011*	8,810,1	6,756,5	1,524,1	705	8.00	10.43	46.26
3	2012*	8,240,1	6,206,6	1,538,1	756	9.17	12.18	49.15
4	Average**	8,664,9	6,683,5	1,537,4	701	8.09	10.49	45.60

* <http://faostat.fao.org/site/567/DesktopDefault.aspx?PageID=567#ancor>

** own calculation;

economic and geographical report (according to FAO), making reference to Europe, the European Union (interstate body to which the UK is a party), and in Northern Europe (geographical region used by FAO). In the first body includes countries such as UK, France, Germany, Belgium, Holland, Ireland, Italy, Denmark, Finland, Sweden, Spain, Portugal, Greece, Cyprus, Luxembourg, Malta, Poland, Slovenia, Slovakia, Czech Republic, Austria, Lithuania, Latvia, Estonia, Hungary, Romania, Bulgaria. Northern Europe region consists (according to FAO statistics), a series of countries such as Denmark, Finland, Sweden, Ireland, Norway, Lithuania, Latvia, Estonia.

The method of analysis used for the study is the comparison in time and space, and were used as indicators of cultivated area (thousand ha), total production (thousand tons) also average production per unit productive kg / (ha).

Adequate indicators based on building a dynamic (composed of levels of indicators for the years 2010, 2011 and 2012, to which was added period average), using fixed and mobile based indices (which allowed adequate analysis indicators).

RESULTS AND DISCUSSIONS

Cultivated area. The European continent is characterized by an area planted with rapeseed between 8,240,100 ha in 2012, and 8,944,600 ha in 2010, while the average period reached 8.6649 million ha (Table 1.).

ha in 2010 to 756,000 ha in the year 2012, while the average period reached 701,000 ha (705,000 ha in 2011).

These levels relate to specific situations of the European continent, but also for the European Union (7,087.4, 6,756.5, 6,206.6 and 6,683,3 ha in 2010, 2011, 2012 and period average) respectively Northern Europe (1,549.9, 1,524.1, 1,538.1 and 1,537.4 ha in the years 2010, 2011, 2012 and for the period average) as presented in Fig. 1.

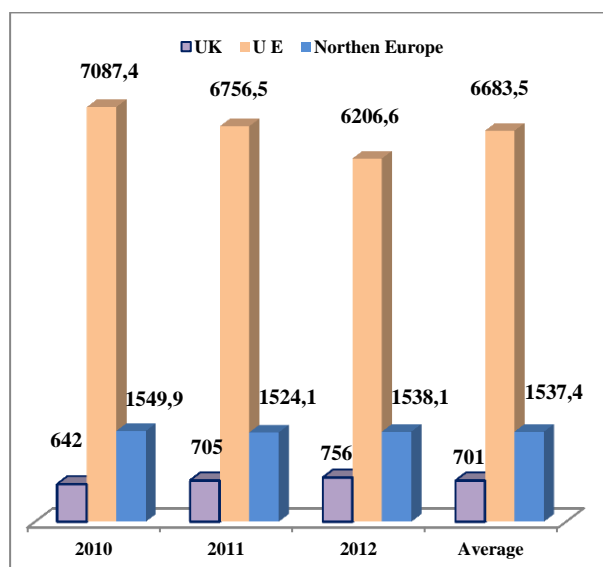


Fig. 1. UK. Rapeseed cultivated surface (thousand ha)

Table 2. Great Britain - Rapeseed, total production (thousand tons)

Nr.	Year	Europe	U.E.	Northern Europe	Great Britain			
					Effective	% beside Europe**	% beside U. E.**	% beside Northern Europe **
1	2010*	23,236.3	20,576.7	4,079.1	2,230	9.60	10.84	54.67
2	2011*	22,307.0	19,249.3	4,560.2	2,758	12.36	14.33	60.48
3	2012*	22,355.1	19,247.0	4,592.3	2,557	11.44	13.29	55.68
4	Average**	22,632.7	19,691.0	4,410.5	2,515	11.11	12.77	57.02

* <http://faostat.fao.org/site/567/DesktopDefault.aspx?PageID=567#ancor>

** own calculation

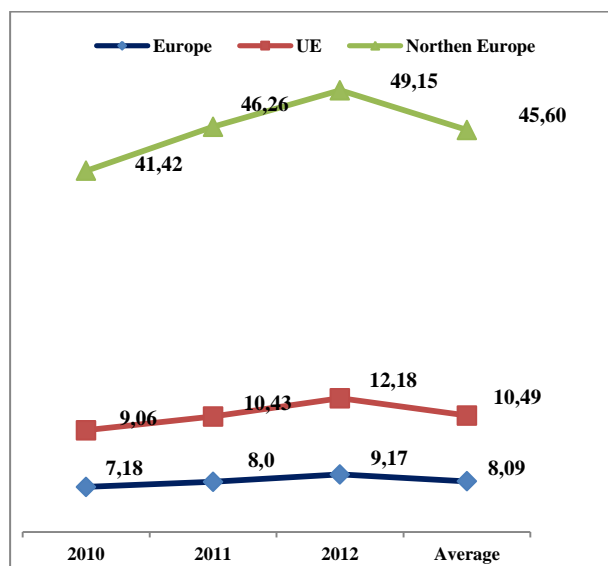


Fig. 2. UK. Rapeseed acreage, European and regional percentage (%)

in the European and regional context (2010-2012)

Referring to the cultivated area in the UK, one can observe the variation thereof, from 642,000

It is worth to note that Great Britain has held varying weights to the three levels of reporting.

a. compared with the continental situation: from 7.18 to 9.17% (2010 and 2012), with a share of 8.09% of the average period (Fig. 2);

b. compared to the specific situation of the European Union: 9.06% in 2010, 10.43% in 2011, 12.18% in 2012, 10.49% compared with the average of the period (Fig. 2);

c. reported to Northern Europe: 45.60% average share, 41.42% in 2010, 46.26% in 2011, 49.15% in the year 2012 (Fig. 2).

Total production. Regarding the total European production of rapeseed (Table 2), it can be seen that this was an average of 22,632.7 thousand tons, annual sequential levels of 22,307.0 thousand tons in 2011, 22,355.1 thousand tons 2012 and 23,236.3 thousand tons for 2010.

If we analyze specific data of total British production, variation on indicator is found to 2.23 million t in 2010 to 2.758 million t in 2011.

The average of the period 2.515 million t (while the indicator reached 2.557 million t for 2012) as shown in Fig.3. The total production will be reported to the state of things specific to Europe, the European Union (20,576.7, 19,249.3, 19,247.0 and 19,691.0 thousand tons in 2010, 2011, 2012 and for the period average) and Northern Europe (4,079.1, 4,560.2, 4,592.3 and 4,410 thousand tones t in the years 2010.2011, 2012 and for the period average) as presented in Fig. 3.

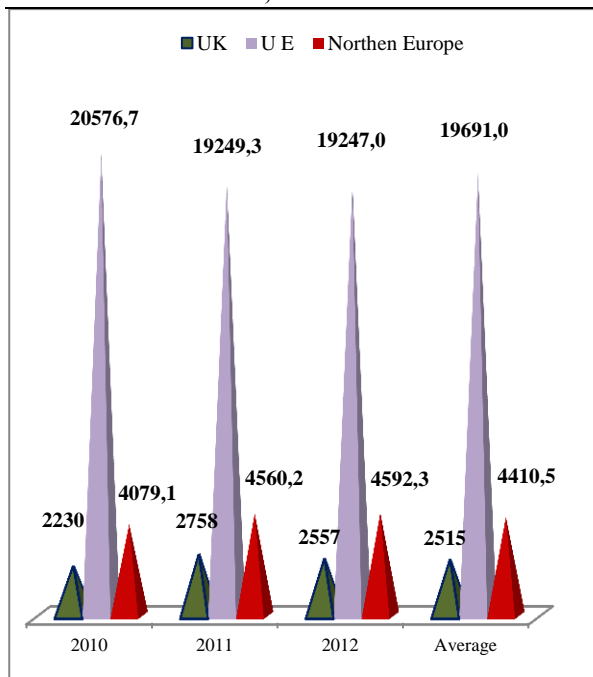


Fig. 3. UK. Rapeseed Total production (thousand tons) in the European and regional context

Realizing a comparison in space, we can see that Great Britain has held varying weights beside the terms of comparison, as follows:

- a. 9.60, 12.36, 11.44 and 11.11% beside the continental situation for 2010, 2011, 2012 and period average (Fig. 4);
- b. 10.84, 14.33, 13.29 and 12.77% compared to the situation characteristic of the European Union for the years 2010, 2011, 2012 and for the period average (Fig. 4);

Table 3. Great Britain, Rapeseed average production (kg / ha)

Nr.	Year	Europe	U.E.	Northern Europe	Great Britain			
					Effective	% beside Europe**	% beside U. E.**	% beside Northern Europe**
1	2010*	2,598	2,903	2,632	3,474	133.72	119.67	131.99
2	2011*	2,532	2,849	2,992	3,912	154.50	137.31	130.75
3	2012*	2,713	3,101	2,986	3,382	124.66	109.06	113.26
4	Average**	2,612	2,946	2,869	3,588	137.36	121.79	123.89

* <http://faostat.fao.org/site/567/DesktopDefault.aspx?PageID=567#ancor>

** own calculation

In terms of average production per productive unit (ha), UK averaged 3,588 kg, 3,382 kg variation limits in 2012 and 3,912 kg in 2011 (3,474 kg in the case of 2010) as shown in Fig. 5.

The indicator levels evolved into a continental and regional context, quite variable (2,903, 2,849, 3,101 and 2,946 kg for the European Union in 2,632, 2,992, 2,986 and 2,869 kg for Northern Europe in the years 2010, 2011,



Fig. 4. UK. Rapeseed - Total, European and regional percentage%

c. 54.67, 60.48, 55.68 and 57.02% for the years 2010, 2011, 2012 and for the period average compared to Northern Europe (Fig. 4).

European **average yield** (Table 3) was one that consistently exceeded the level of 2,500 kg / ha (average of the period reached 2,612 kg) as follows: 2,532 kg / ha in 2011, 2,598 kg / ha for 2010 and 2,713 kg respectively / ha for 2012.

2012 and for average of the period, as shown in Fig. 5).

Compared to the continental and regional Great Britain is positioned, in terms of average production, as follows:

- a. It exceeds by 24.66%, 33.72%, 37.36% and 54.50% the continental level in 2012, 2010 for the average of the period and the year 2011(Fig. 6);

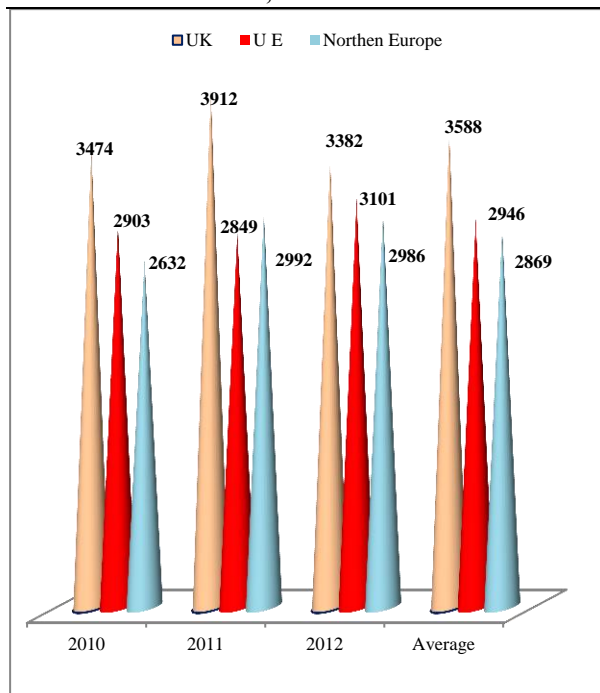


Fig. 5. UK. Rapeseed Average yield (kg / ha) in the European and regional context

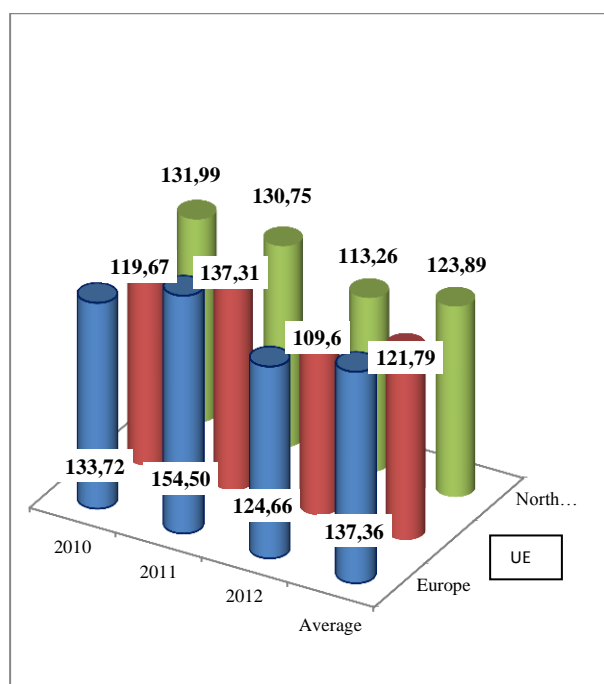


Fig. 6. UK. Rapeseed average production, percentage at European and regional level (%)

- b. It outruns of 1.09, 1.19, 1.21 and 1.37 times the situation in the European Union for the years 2012, 2010, and that the average of the period 2011 (Fig. 6);
- c. Its production is higher by 13.26%, 23.89%, 30.75% and 31.99% than the specific

level for Northern Europe in 2012, for the period average and year 2011 and 2010 (Fig.6).

CONCLUSIONS

- This study led to the following conclusions:
- a. in terms of cultivated area, Great Britain represents a major player in Europe, beside the European Union and Northern Europe at the level average weights of 8.09%, 10.49% and 45.60% (noting the annual weights evolved ascending in all three reporting cases);
 - b. It is noticeable the upward trend of the surface (from 642 to 756,000 ha - 2010 and 2012), a situation favorable compared to the European Community and north Europe, areas for which the indicator has been descending or more fluctuating (North Europe);
 - c. The British total rapeseed production evolved uneven similar appearance to the European one positive compared to Community downward trend and negative compared with the situation in the North of Europe (characterized by increasing the index from 2010 to 2012);
 - d. The UK has achieved, in average, 11.11% of the total European production (3.02% exceeds the percentage recorded for the area), 12.77% of Community production (+ 2.28% compared to the share at the level of surface), 57.02% of the Europe the northern (+ 11.42% compared with the percentage of the area), which noted special attention given to this crop;
 - e. The uneven development of production has entailed also variable annual weights compared with the terms of reference;
 - f. The average production has recorded an uneven trend during the period under review, increases in 2011 (438 kg compared to 2010), followed by decreases in the case of 2012 (- 530 kg compared with the previous term of dynamic series - 2011) . The appearance is unfavorable compared to the situation specific of the European continent (continuous growth), but similar to that for the European Union and the Northern Europe. This instability is mainly the result of the influence of climatic conditions;

g. It is noteworthy that Great Britain surpasses clearly all the terms for comparison - Europe, European Union, Northern Europe - demotions average of 1.37, 1.21 and the 1.23 times. Exceedances of European situation evolved upward, while towards the European Union and the Northern Europe, overruns were fluctuating.

It can be concluded that the UK is a major player in the European market of rapeseed, at least through the primary potential which it develops. Following are considered beneficial experiences of producers in this area, at least technically and technologically.

REFERENCES

- [1]Pânzaru, R.L., Medelete, D.M., Ștefan, G., 2009, The Economics of crop production, Ed. Universitaria, Craiova, Chapter 2, pp. 68-140
- [2]Ștefan, M., Constantinescu Emilia, 2011, Crop III + IV, Distance learning university Manual, Ed. Universitaria, Craiova, Theme 2, p. 23-41
- [3] <http://faostat.fao.org>