

# ACTUAL TRENDS IN EDIBLE OILS PRODUCTION AND MARKET

## TENDINȚE ACTUALE ÎN PRODUCȚIA ȘI PIAȚA ULEIURILOR VEGETALE COMESTIBILE

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**Abstract.** According to USDA\* and WTM\* there are recognized 17 commodity oils, of which 4 are of animal origin. Of the total production of oils and fats, about 80% is used for food purposes, 6% is used in animal feed and 14% is used in oleochemical industry. The trade in vegetable oils and fats is geographical divide into four categories: countries with small population that produce and exports the largest amounts of edible oil, dominating the world market (Malaysia, Canada, Australia), countries with large population, producing significant amounts of edible oil and ensure their requirements (USA, Brazil, Indonesia), countries with large of population, which despite local production are still major importers (China, India); the fourth category are the states of the EU that produce, consume, import and export these commodities.

**Key words:** oil market, oil production, oil consumption

**Rezumat.** Conform USDA\* și WTM\* sunt recunoscute 17 tipuri de uleiuri comestibile, dintre care 4 de origine animală. Din producția totală de uleiuri și grăsimi vegetale, aprox. 80% sunt utilizate în scopuri alimentare, 6% ca hrană pentru animale și 14% sunt utilizate în diferite industrii. Piața uleiurilor și a grăsimilor vegetale este structurată geografic, pe 4 secțiuni: țări cu populație redusă, dar care produc și exportă cele mai mari cantități de ulei comestibil, dominând piața mondială (Malaezia, Canada, Australia); țări cu populație numeroasă, care produc cantități semnificative de ulei și își asigură cerințele proprii (USA, Brazilia, Indonezia); țări cu populație foarte numeroasă, care în ciuda propriilor producții sunt și mari importatoare (China, India); ultima categorie aparține statelor din UE, care produc, consumă, importă și exportă în egală măsură uleiuri comestibile.

**Cuvinte cheie:** piața uleiurilor, producerea uleiurilor, consumul uleiurilor

## INTRODUCTION

World production of oils and fats comes from vegetable and animal sources, currently about 119 million tones per annum, with a annual increase between 2 and 6 mil tones. In 2008, the global needs of vegetable oils has been covered mainly by the following plants: palm 40 mil tones, soybean 38 mil tones, rape/canola 18 mil tones, sunflower 10 mil tones. The soy bean oil, palm oil, canola oil and sunflower oil dominate at the moment the oil world market, while the cotton seed oil, the peanut oil and the olive oil have lost market share over the past 20 years, despite the increases in production.

## MATERIAL AND METHOD

The world market of the oil seeds and oils is, in geographical terms, is divided into four categories (countries/regions). The first category belongs to countries with small populations that produce large amounts of oilseeds/oils and fats are the world's largest exporters of these commodities and dominate world trade. Examples include Malaysia, Argentina, Canada and Australia. The second category belongs to countries with large populations that produce large amounts of oilseeds/oils and fats. These countries need to feed their large populations but are still significant exporters. Examples are the US, Brazil and Indonesia. The third category belongs to countries with very large populations which, despite local production of vegetable oils, are still major importers. China and India and other highly populated countries in Asia belong to this category. Finally there are countries/regions which are essentially traders, belonging to EU, countries that play a major role in vegetable oil trade market. EU countries produce, consume, import and export these commodities.

## RESULTS AND DISCUSSIONS

According to ISTA Mielke of Hamburg there are globally recognized 17 types of oils and fats. ISTA provides data on the weekly oil (Oil World) and annual (Annual World Oil). There are covered 13 varieties of vegetable oils and 4 types of animal fats. The 13 vegetable oils for which is provided information weekly and annual are subdivided into 3 categories: oils coming from by-products: cotton, germs, soy; oils coming from perennial crops: palm, palm kernel, coconuts, olive and oils coming from annual crops: *canola*, sunflower, peanuts, linnen, sesame, castor.

### Trend in the production and consumption of the vegetable oils

According to World Trade Market in the last 7 years it has been record an important annual increase both for production and consumption of the vegetable oils (table 1).

Table 1

**World share assortments (2001) and annual average growth between 2001-2008 (%)**

Specification	Palm oil	Soy bean oil	Canola oil	Sunflower seed oil	Peanut oil	Olive oil
Share 2008	30,0	28,4	13,6	7,5	3,6	2,2
Increases 2001-2008	71,9	42,4	29	13,3	-0,3	17,9

Indonesia and Malaysia are the world biggest producers in vegetable oils (over 20 mil tones, 2008) and they are the world biggest exporters, also (tables 2 and 3). China is on the third place in the world for the production of the vegetable oils and it is also the biggest world consumer and importer, followed by the EU with an annual consumption of 22,05 mil tones and by India (tables 4 and 5). Until 2005, the soy bean oil was on the first place of the world level production for the vegetable oils. In the present time, the soy bean oil is on the second place,

after the palm oil. The soy bean oil is produced mostly produced in USA, China, Argentina, Brasil, EU-27. Argentina is the biggest exporter for the soy bean oil (5,76 mil tones) and the biggest importer is China (2,72 mil tones). The soy bean oil is consumed by the most countries of the world, China is the most important consumer (9,6 mil tones), followed by Brazil, EU-27, India, Argentina (table 5).

Table 2

**World production of vegetable oil  
(mil. tones), according to WTM**

<b>Production</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>
Indonesia	18,26	19,37	21,28
Malaysia	17,50	17,20	19,70
China	14,76	14,17	14,58
EU-27	12,80	13,67	14,28
SUA	10,39	10,41	10,51
Argentina	7,63	7,71	8,52
India	6,80	6,43	6,99

Table 3

**World exporters of vegetable oils  
(mil. tones), according to WTM**

<b>Export</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>
Indonesia	13,41	13,53	15,44
Malaysia	13,90	14,16	14,10
Argentina	6,89	7,17	7,96
Brasil	2,55	2,54	2,34
Canada	1,12	1,29	1,28

Table 4

**World importers of vegetable oils  
(mil. tones), according to WTM**

<b>Import</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>
China	6,96	8,49	9,21
EU27	8,03	8,34	8,42
India	4,89	5,58	5,82
USA	2,39	2,52	2,60
Pachistan	2,26	1,73	2,05
Bangladesh	1,23	1,22	1,27
Egypt	1,23	1,22	1,27
Iran	1,20	1,21	1,18
Turkey	1,05	0,55	1,13
Malaysia	1,24	0,78	0,90
Other	13,95	14,45	14,84
<b>Total</b>	<b>44,31</b>	<b>46,14</b>	<b>48,76</b>

Table 5

**World consumers of vegetable oils  
(mil. tones), according to WTM**

<b>State</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>
China	21,51	23,37	24,33
EU-27	19,89	21,23	22,05
India	12,02	12,65	12,70
USA	11,17	11,78	12,39
Indonesia	5,35	5,57	5,70
Malaysia	4,46	4,73	5,56
Brasil	3,66	4,06	4,21
Pachistan	2,91	2,97	3,05
Russion Federation	2,71	2,81	2,71
Japan	2,19	2,20	2,20
Mexic	1,98	1,98	2,09
Turkey	1,71	1,60	1,98
Nigeria	1,58	1,60	1,62
Bangladesh	1,24	1,44	1,55
Egjpt	1,40	1,52	1,52
Other	21,43	22,04	23,06
<b>Total</b>	<b>115,21</b>	<b>120,93</b>	<b>126,66</b>

The palm oil is for the past three years on first position in world production. Palm oil production and export market are dominated by the two South East Asian countries. Malaysia has over 50% of the palm oil production and over 60% of palm oil exports; Indonesia has levels corresponding to 30% and 26% respectively. As indicated previously, Indonesia has a much larger population than Malaysia. Other states as Thailand, Coulombia and Nigeria produce lower level of palm oil. The palm oil covers the needs of the increasing countries populations: India, China, Pakistan, which are also the world level most important consumers.

Rapeseed/canola oil now occupies the third position in rank order of production of oils. Using local seeds and/or imported seeds the oil is produced mainly in China , India, Canada, Japan and EU-27. Only 12% of the oil is then exported, mainly from Canada which accounts 48% of all rapeseed oil exports. The major importer and consumer is China (4545 mil tones consumption, 2008), followed by India (1989 mil tones consumption, 2008) (7). Sunflower seed oil is the last of the group of four major oils. It maintained its share at about 9% of the total (2000-2001), but has achieved very variable levels over the past seven years at about 10% of the total (2007-2008). Major countries involved in the production are: Russian Federation (2247 mil. tones, 2008), Argentina (1815 mil. tones, 2008) (7).

World consumption of vegetable oils record annual increases between 2-6 mil. tones, for the year 2008 the world consumption was 125,20 mil tones (table 5). The consumption of vegetable oils is increasing in Latin America (Brazil and Mexico) and in some countries in East Europe, while in Africa and in East Asia the consumption is stable.

Annual consumption of vegetable oils ranks on the first place palm oil, moving from second place in recent years.

On the second place is the soy bean oil, consumed in the major world states. The rape/canola oil (III) recorded a slightly increase and the sun flower seed oil recorded for the past years a stable increase. The peanut oil and the cotton seed oil (V, VI) are produced and consumed mainly in China and India (70%). The olive oil (VIII) is consumed mostly in the Mediterranean countries, but the demand increases in the countries of the North Europe and also in US (table 6).

Table 6

**World consumption for the mail vegetable oils  
(mil. tones), according to WTM**

<b>Oil</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>
Palm	<b>35,35</b>	<b>36,61</b>	<b>39,53</b>
Soy	33,46	35,58	38,05
Rape	16,83	18,05	18,59
Sunflower seed	9,69	10,39	9,89
Cotton	4,66	4,82	4,84
Olive	2,78	2,93	2,94
Coco	3,41	3,32	3,37
Palm kernel	4,04	4,34	4,56
Peanut	5,01	4,90	4,90
<b>Total</b>	<b>115.21</b>	<b>120.93</b>	<b>126.66</b>

Trade market of the vegetable oils in Romania

Romania was considered the third producer of sunflower in Europe, with an output of over 1.5 million tons, after this period as production continues to decline. Until 2004, Romania, was considered the third producer of sunflower in Europe with an output of over 1,5 mil. tones, after this period the production continues to decline (table 7). In Romania, the production of edible oils was in 2006, of 338,000 tons (tables 8), and the consumption of vegetable oils (corn, sunflower, soy) was 9 kg per capita (for NE region of approximately 10 kg).

Table 7

**Production of the oil seeds growing in Romania (thousand tons)  
(The Romanian Statistical Year Book 2007)**

<b>Plant</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Sunflower	823,5	<b>1002,8</b>	<b>1506,4</b>	<b>1557,8</b>	<b>1340</b>	<b>1526</b>
Rape	101,8	35,9	8,1	98,7	147	175
Soy	72,7	145,9	224,0	298,5	229,4	344,9
Linseed for oil	2,0	1,8	1,5	2,5	-	0,3
<b>Total</b>	<b>1005,5</b>	<b>1194,5</b>	<b>1760,4</b>	<b>1995,5</b>	<b>1803</b>	<b>2050</b>

Table 8

**Production of the vegetable oil in Romania (thousand tons)  
(The Romanian Statistical Year Book 2007)**

<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
29600	228000	243000	258000	264000	338000

With an average consumption of about 11 liters of oil per capita, Romania one of the European countries with the highest consumption of vegetable oils.

Thus, a Romanian consumes annually approximately four liters more compared to Bulgarian or Hungarian neighbors, who consume only seven kilograms per capita per year. Austrians and Germans consume 6 kg of oil per capita per year. In Italy, consumption of vegetable oils is higher than in Romania, the Italians are also in the Europe top consumption, with approximately 13 kg of oil annually, but it comes almost entirely from the olive (9). At the present, in our country sunflower oil has only 80,4% of the total market. Olive oil has 8% of the total market values, the brands of the refined corn oil have a market share of 0,2%, while the soy oil is 0.1%. The rest (11,3%) is covered by other types of edible oils, such as coconut, peanuts, grape seeds, mixt oils (10). The palm oil registered an increase in trade up to 0,68% of the market in the first half of 2008, the soybean oil has reached an increase up to 0,57% of the market and the mixt sunflower an olive oil reached an increase up to 0,33% of the market (10).

## CONCLUSIONS

1. The world production and consumption of vegetable oils are increasing. China remains the largest consumer of vegetable oils, followed closely by the EU-27.

2. The main oils (palm, soybean, *canola*, sunflower) are rigorously maintained in the global marketplace and increasing considerably their production every year - especially the palm oil followed by the rapeseed oil

3. Romanians are big consumers of vegetable oil, especially sunflower, but the romanian market has enriched with new sorts, there for the romanian people know and consume the olive oil, peanut oil, palm oil, grape seeds oil.

## REFERENCES

1. Gunstone Frank D., 2002 - *Vegetable Oils in Food Technology*. Blackwell Publishing
2. Gunstone Frank D., 2004 - *The Chemistry of Oils and Fats*. Blackwell Publishing
3. Shahidi F., 2005 - *Bayley Industrial Oil and Fat Products*, II Ed. Willey and Sons Press
4. xxx, 2007 – *Anuarul statistic al României*
5. xxx – [www.fas.usda.gov/oilseeds/circular/Current.htm](http://www.fas.usda.gov/oilseeds/circular/Current.htm)
6. xxx, 2009 – *Săptămâna financiară* (on line). Martie/2009.