

# Sugar beet growing in Romania

## ROMANIA



◆ Sugar factories

■ Main beet growing regions

### A- Sugar beet growing in Romania

#### 1) History and geography

Romania is situated in the S-E of Europe, it covers an area of 237,502 km.

Agricultural area is 14,856,840 ha

- arable land is 9,379,740 ha (63,2 %)

Optimal pedo-climatic conditions for growing sugar beet can be found on large surfaces in our country. Favourable regions are in Transilvania, in the western part of country and in the north- eastern part of Moldavia (as it is shown in the annexe map), 4 sugar factories which process sugar beet at present are situated in these areas.

In the southern part of the country there are large area favourable for growing sugar beet but need irrigation conditions. Most of the sugar factories in this region were closed because major irrigation systems are out of use. In this area are still operating a single sugar factory (Corabia) which process sugar beet and also refines row sugar.

The largest beet area per farm is found in N-V country region (Satu Mare county), and the smallest beet area per farm is found in Moldova (East of country)

Sugar beet was grown for the first time in our country in the fourth decade of the nineteenth century when were built two factories of small capacity for producing sugar. In the period 1905-1985 in Romania were cultivated the following areas and were obtained the following production:

Year	Beet area (ha)	Tones of beet/ha	Beet production (t)	Sugar production (t)
1905	12,000	18.1	217,000	19,000
1925	64,000	15.4	988,000	94,000
1935	37,000	17.5	648,000	100,000
1955	145,000	12.7	1,840,000	130,000
1977	255,000	24.5	6,246,000	713,000
1985	276,000	22.3	6,145,000	582,000

## 2) Structural data

Until 1989 sugar beet used to be cultivated in Romania over areas that exceeded 240,000 ha annually. After 1990 the cultivated areas started decreasing, the most dramatic decrease being registered in the last years.

Year	Beet area (ha)	Tones of beet/ha	Beet production (t)	Sugar production (t)
1989/90	240,290	27.2	6,535,900	506,600
1990/91	158,940	22.0	3,496,700	327,000
1994/95	130,050	25.2	3,272,900	212,500
1996/97	136,680	19.1	2,544,400	194,370
2003/04	26,640	19,8	528,470	54,520
2004/05	9,710	40,5	393,360	51,250
2005/06	19,165	30,9	592,730	74,750
2009/10	19,			

The main causes that led to the decreasing of the sugar beet cultivated areas and to closing of the sugar factories are:

- The large imports of raw sugar from cane without custom duties and at low prices (in 2002 , 405.000 tones were registered)
- The factories that processed raw sugar sold the sugar at a dumping price under the cost of the sugar from the beet, causing great financial losses to the factories that processed beet.
- Crumbing the cultivated areas by moving the land of the big exploitations to the small private owners, very many of these ones cultivating under 0.5 ha sugar beet annually
- The low price of beet as a consequence of the low price of sugar on the market.
- Strong de capitalisation of sugar factories.

The small cultivators' financial problems concerning the fertilizers and herbicides and low endowment equipment for crop mechanization (mainly sowing machine and harvesting combine ) caused small productions of beet per ha.

There were 242 100 beet growers in Romania between 1994/95 and 1996/1997 against 39.420 in 2002/03 and 18 440 in 2005/06.

The average area under contract was 0.55 hectares between 1994/95 and 1996/97 against 0.68 hectares between 2002/03 and 2004/05 (+19.3%).and 1,04 ha in 2005/2006.

At the present, the beet-cultivated area by a cultivator varies between min, 0,6 ha and max. 300 ha annually.

Over the period 1994/95 and 2004/2005 :

- sugar beet production has decreased from 3.272 900 tonnes to 393.360 tonnes (-88,0%)

- beet yields per hectare have increased from 25.2 tonnes to 40,5 tonnes and
- sugar yields per hectare have increased from 2.06 tonnes to 5.28 tonnes (%).

### 3) Main characteristics

Sugar beet is spring-sown (from 25 March to 30 April ) and harvested from 1<sup>st</sup> of October to 10 November.

The principal crops grown in rotation with beet are cereals, corn, potatoes, soybeans, sunflowers .The frequency between two beet crops is 4 years.

**Influence of the weather on the crop** .In 2003 in Romania the sugar beet crop was strong affected by the dry weather .In 2005 between May and August fall many strong rains. We had this year 4 large floods (in May, in June, in July and in August too) which partial affected large area with sugar beet. These largest floods had an bad impact on yield and sugar content.

The beet diseases typical of Romanian sugar beet growing are :Cercospora beticola ,Erysiphe betae, BYV, Rhizomania.

The main beet parasites are:Agriotes, Botynoderes,Aphis fabae, Myzus persicae, Chectonema sp.

## B- Romanian sugar industry

### 1) Origin and history

The first little sugar factory in our country was built in 1831 in the county of Cluj and the second was built in the county of Sibiu in 1835.

In 1873 Romania adopted a law on the encouraging the sugar industry, act that was considered as the basis of the Romanian sugar industry. The first factories of a larger capacity for there time (800 tonnes/24 hours) were built and began to work in 1875 ( a Sascut in county of Bacau and at Chitila in the county of Bucharest.).In the period 1889 -1924 was built the others 7 sugar factories (one of them was destroyed in 1917 in the time of the war).

Between the two world wars, there were 8 sugar factories in Romania and they succeeded in providing the necessary need of sugar for the internal consumption (relatively reduced).

After 1960 the sugar industry dynamically increased and new factories were built. In 1970 there were in Romania 13 sugar factories processing 29.000 /24 hours and total quantity of beetroots was 5.520.000 tonnes.

New irrigation systems in the southern part of the countries increased the surfaces for growing sugar beet and led to the building of new sugar beet factories. In 1987 there existed 33 sugar factories in Romania (each of them has 1000- 4000 tonnes/24 hours capacity), having an overall 83,000 tonnes/24 hours processing capacity. Over the period of 78 days of full processing campaign these factories used to produce over 500,000 tonnes of sugar annually, ensuring the population consumption and the industrial consumption from the internal production.

In 1995 there still existed 26 sugar factories and in 2000 there were only12 sugar factory left.

### 2) Situation in 2014

In 2005 there are **9** sugar factories in activity: 2 factories which work with sugar beet; 2 factories which work with sugar beet and refined row sugar( sugar cane) **and 4** factories which only refined row sugar .

The campaign usually starts at 1<sup>st</sup> of October and finishes at 10-25 December.

The length of the campaign is on average 60-80 days.

Since 2004 EU gave us a white sugar quota, row sugar quota and isoglucose quota :

- sugar by sugar beet : 109.164 tonnes/ year
- row sugar for refiners : 329.636 tonne/year

- isoglucose : 9.981 tonnes/year

**In 2014 our quota is 104.668 tonnes white sugar for sugar beet.**

Quota was divided between the factories; in each factory the quota will be divided between the sugar beet growers.

In Romania now are operating 7 companies :

- **Agrana Romania,**
- **Pfeifer &Langen (Germany),**
- **Tereos (France),**
- **Darcom Romania,**
- **Mimo Trading Bucuresti,**
- **Lemarco Bucuresti,**
- **Argirom International.**

Sugar production in Romania has averaged 274 660 tonnes between 1994/95 and 1996/97 against 58 000 tonnes between 2002/03 and 2004/05 74.000 tonnes in 2005/06 and 150.000 tonnes in 2013/14.

**3) Beet growers' participation in the sugar industry.** The beet growers do not hold shares in the sugar factories.

#### **C- Pulp and alcohol/bio-ethanol production**

Pulp is used as feed for cattle and sheep.

**Alcohol/bio-ethanol production from beet :** there are not yet any framework conditions for the production of bio-energy.

#### **D- Romanian beet growers association**

In present all the sugar beet growers are the members of Romanian Sugar Beet Growers Federation ( FCSZR) which has 6 regional Sugar Beet Growers Association. Our Federation sign every year inter professional agreement with employers sugar factories organisation. The inter-professional agreement for 2013/14 has been signed .

Between 2000-2005 Romanian Sugar Beet Growers Federation was observer member of CIBE. Since September 2005 FCSZR is member of CIBE.

#### **E- Organisation for sugar beet research**

The main Romanian organisation for sugar beet research is **National Research and Development Institute for Potato and Sugar Beet Brasov** which for sugar beet has the main objectives:

- Coordinates the national research and development programmes in the field of sugar beet production, storage and marketing.
- Carries out the research activity in laboratories, greenhouses experimental fields and its own pilot farms or in co-operation with other research units

Activities:

- Co-ordination of the national R&D programme for sugar beet;
- Basic and advanced research for its own development, in co-operation with other research units and agricultural universities;
- Production of high valuable planting material (pre-base and base) for Romanian varieties of sugar beet;
- Training of sugar beet growers;
- Consulting and feasibility studies;
- International co-operation.