

*National Institute of Research and Development  
for Potato and Sugar Beet  
(NIRDPSB) Brasov, ROMANIA*



## **INSTITUTIONAL EVALUATION PROCESS**

**General aspects concerning the Structure, Resources and Results  
of NIRDPSB Brasov**

**Brasov 27 – 28 April 2012**

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### **Content:**

1. Agriculture in Romania
2. Structure of NIRDPSB
3. Resources
4. Management of research environment
5. Results
6. Institutional development plan

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## General data regarding the agriculture in Romania



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Romania is situated in the South-East part of Europe, at the intersection of principal axis of communication North-South and East-West.

With a total area of 238391 km<sup>2</sup>, almost as large as United Kingdom (244100 km<sup>2</sup>), Romania is the ninth largest country in an enlarged European Union with 27 members states.

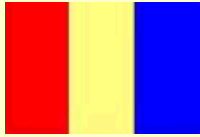
It represents 5.4% from area and 4.7% from the EU population (MARD, 2011).





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- **Romania has joined the EU in 2007**
- **Accession to EU / important factor for a rapid reform**
- **Many implications for rural economy and agriculture**

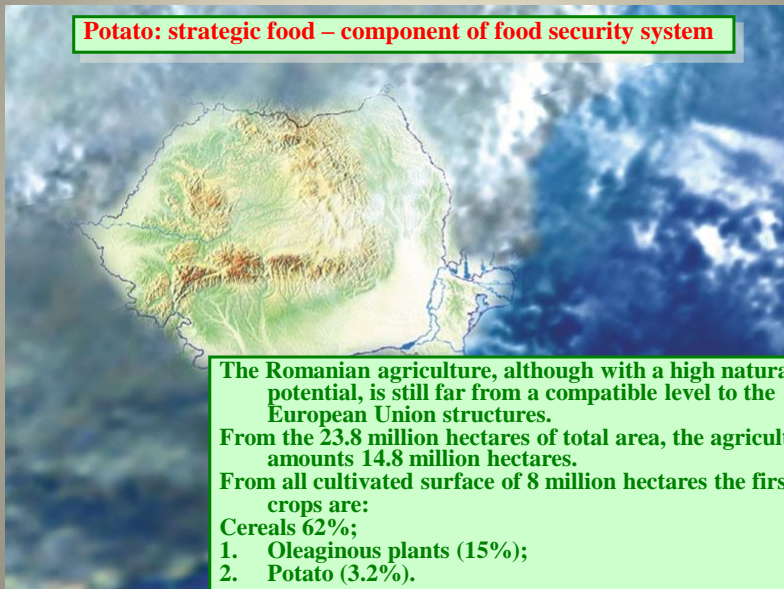


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### **Potato: strategic food – component of food security system**



The Romanian agriculture, although with a high natural potential, is still far from a compatible level to the European Union structures.  
From the 23.8 million hectares of total area, the agriculture amounts 14.8 million hectares.  
From all cultivated surface of 8 million hectares the first three crops are:  
Cereals 62%;  
1. Oleaginous plants (15%);  
2. Potato (3.2%).



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## **SHARE OF AGRICULTURE IN GDP (2007-2011)** (thousands lei)

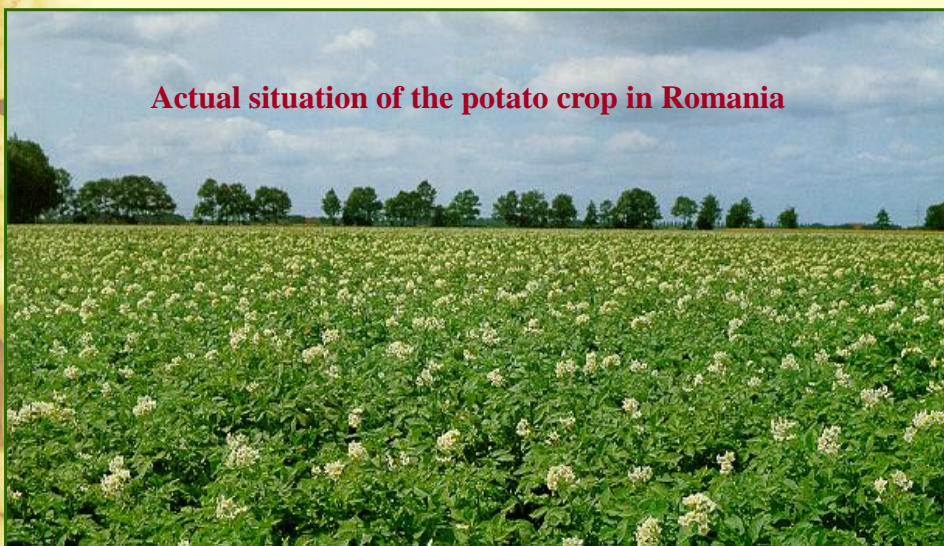
<b>GDP</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Total</b>	<b>412761</b>	<b>335176</b>	<b>491274</b>	<b>348020</b>	<b>578552</b>
<b>Agriculture, forestry and hunting</b>	<b>23454</b>	<b>23966</b>	<b>30768</b>	<b>20817</b>	<b>37838</b>
<b>% GDP</b>	<b>5.7</b>	<b>7.2</b>	<b>6.3</b>	<b>6.0</b>	<b>6.5</b>



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## **Actual situation of the potato crop in Romania**





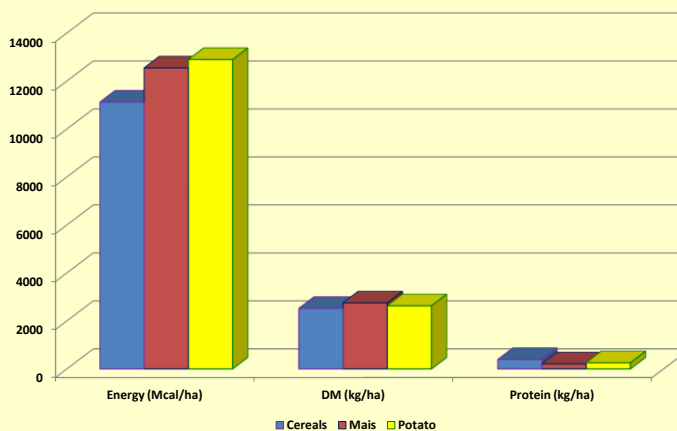


Potato has a relatively long tradition in Romanian

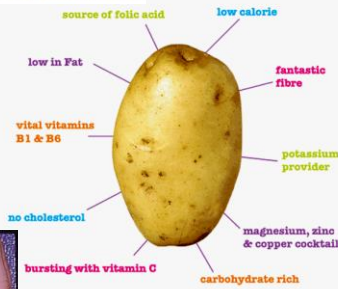
- Practical Knowledge for potato crop - 1760.
- After a severe famine (1800's) "CARTOFUL" was promoted as a staple food crop.
- 2012 – Potato is still the country's "second bred".
- Excepting the years 1970-1990 when the surfaces were concentrated in an industrial system of cultivation, both anterior periods and present had prevailing in potato culture the small plots dimensions.



## Potato importance in ensuring of national food security

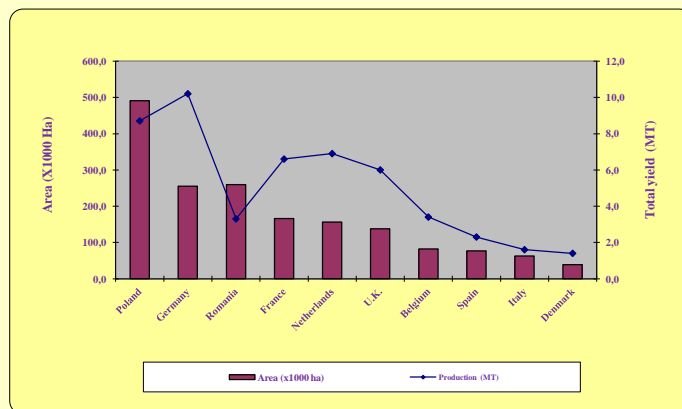


## ➤ Why potato ?



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### The rank of Romania in UE (total yield, 2010)



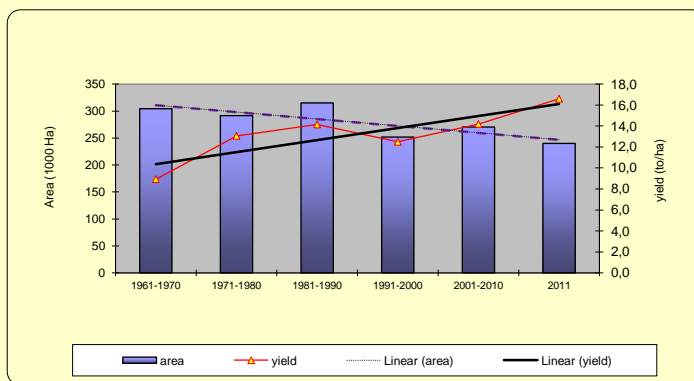
(Statistical Yearbook of Romania and FAO Database, 2010)



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## Evolution of potato area and average yield in Romania in the last 50 years (1957-2010) and 2011



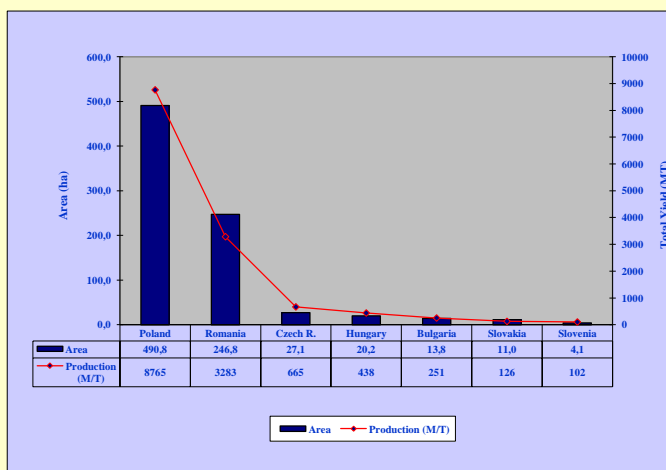
Source: FAO Databases, 2010 and MARD, 2011



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## Area and potato production in seven Central & Eastern countries



Source: FAO Databases, 2010 and MARD, 2011



### **Limiting factors in potato production**

- Reduced size of agricultural exploitations;
- Sanitary quality of planting material;
- Poor supply of financial sources for potato growers;
- Low education level of potato growers;
- The climatic conditions of last years.



### **The reduced sizes of land areas (2010)**

Agricultural exploitation type	Number of landowners	Potato surface average (ha)
Individual growers	2261000	0.3
Family associations	1197	13.7
Companies	498	25.6
Research-development units	5	86.0

*Source: MARD, 2010*

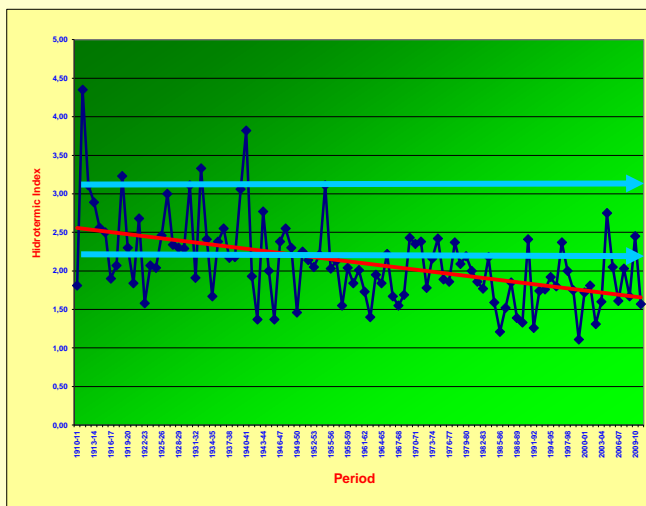




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### Evolution of hydrothermic index in last 100 year in Brasov area



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### Evolution of potato crop in seven Central & Eastern countries (2000-2010)

Country	Area (ha x 1000)				Total Yield (t x 1000)			
	Average 2000-2010	2010	Difference	%	Average 2000-2010	2010	Difference	%
Poland	733.76	490.85	242.91	67	13358.04	8765.96	4592.08	66
Romania	271.48	246.80	24.68	91	3829.61	3283.87	545.74	86
Czech R.	38.53	27.10	11.43	70	906.34	665.20	241.14	73
Hungary	29.16	20.42	8.74	70	668.99	439.89	229.10	66
Bulgaria	30.36	13.80	16.56	45	413.15	251.10	162.05	61
Slovakia	20.13	11.00	9.13	55	312.72	125.90	186.82	40
Slovenia	6.20	4.12	2.08	66	133.38	101.20	32.18	76

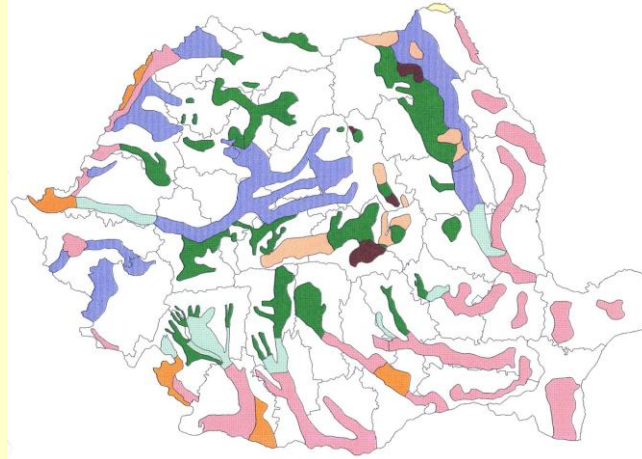
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## Specialized areas for potato crop in Romania



Autumn-winter consumption  
Autumn-winter consumption & processing  
Summer & autumn-winter consumption  
Autumn-winter consumption, only in irrigation cond.  
Very early and early consumption & autumn-winter consum. in irrigation cond.  
Very early and early consumption  
Seed potato production



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## FUTURE OF POTATO CROP IN ROMANIA (2012-2020)

- One of means to fight against the famine and poverty in the world (UNO, 2008)
- Improving utilization of potato in processed products
- To address consumer demands for healthy food
- Role of food security crop for Romania

- Predicted area under potato crop: 200.000 ha
- Average yield: 20 t/ha
- Total yield: 4,000,000 to



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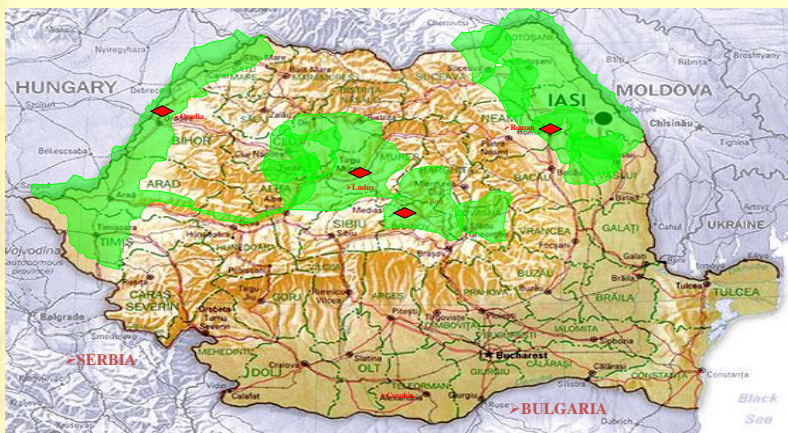
## Actual situation of the sugar beet crop in Romania



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## Main beet growing regions and sugar factories



◆ Sugar factories

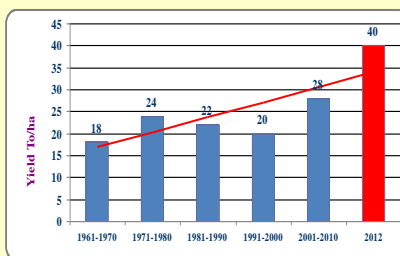
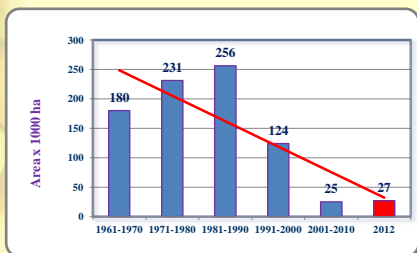
■ Main beet growing regions



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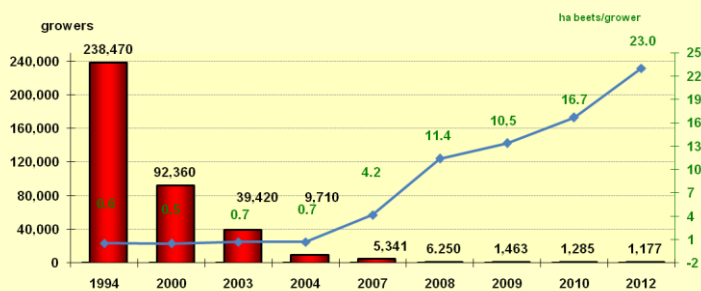
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## Evaluation of the beet area/farm





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## **Predicted sugar beet production in Romania 2012**

➤ <b>QUOTA (UE):</b>	<b>104,668 t sugar</b>
➤ <b>AREA:</b>	<b>27.000 ha</b>
➤ <b>AVERAGE YIELD:</b>	<b>40 t / ha</b>
➤ <b>TOTAL YIELD:</b>	<b>1.080.000 t</b>

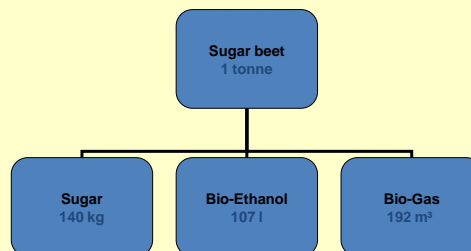


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## **THE FUTURE OF SUGAR BEET CROP IN ROMANIA**

❖ **Sugar beet continues to be one of Romania main crop**



❖ **According to these perspectives**

- **50.000 ha for sugar (NEW CAP)**
- **200.000 ha for Bio-Fuels (EU Renewable Directives)**





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## ETHANOL PRODUCTION

Crop	Yield (t/ha)	Ethanol production (m <sup>3</sup> x 1000 / ha)
Wheat	7,2	2,76
Potato	4,3	3,55
Sugar beet	61,7	6,62



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## MEDICINAL PLANTS (2012-2020)

**One of Romanian's crop for the future**

- Rich national biodiversity: **3700** species
- Consumer demands for healthy products
- National and international increasing market for medicinal plants: **78** species accepted in EU
- Predicted area under medicinal plants: **20000** ha
- New species introduced in crop: **50**





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## **ANIMAL BREEDING**

- Traditional activity of farmers in Romanian upland agriculture
- Meat and milk production - strategic foods for Romania
- Superior way to use the vegetal products in protein conversion
- Predicted no. of cows 2.800.000 in 2020 vs. 2.100.000 in 2011
- Predicted no. of poultry : 100.000.000 in 2020 vs. 70.000.000 in 2011

