



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

Academy of Agricultural and Forestry Sciences

**NATIONAL INSTITUTE OF RESEARCH AND DEVELOPMENT
FOR POTATO AND SUGAR BEET**

45 years of Research and Development



1967 – 2012



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

➤ **NIRDPSB was founded on 2005**

➤ **Law 209/2002**

➤ **G.D. 57/2002**

➤ **Law 324/2003**

➤ **G.D. 1882/2005**

➤ **Law 45/2009**

➤ **Law 72/2011 (reconfirmed the status
National Institute only one focusing on
potato a sugar beet)**

➤ **Applied research-development institute
which must be market orientated**



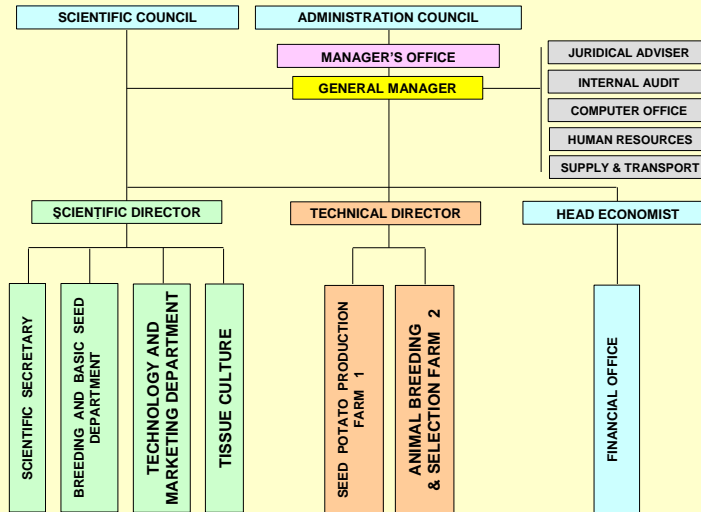


National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

ORGANIZATIONAL CHART 2011

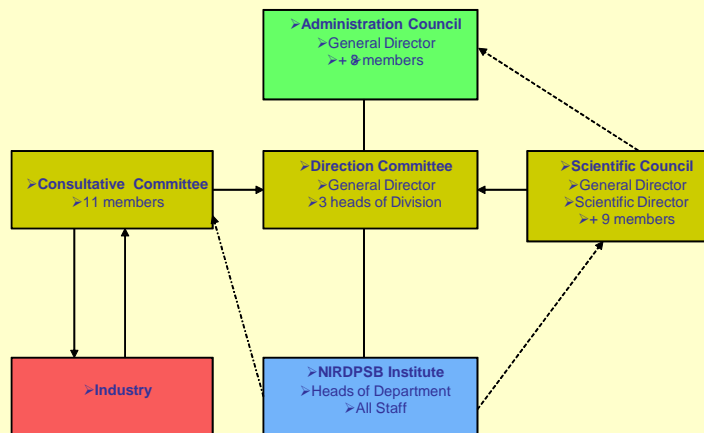
Approved by AASF

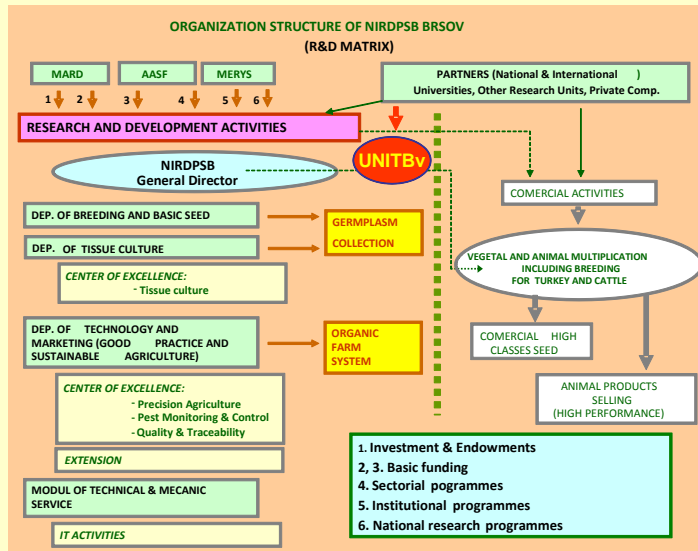


National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

Relationship between Institute (AC, DC, SC) and Industry (CC)





MAKIS = Modernizing Agricultural Knowledge and Information System
Component 2: Support for agricultural research institutional reform component

NIRDPSB Brasov was included in MAKIS (2005) Project following a analysis performed by:

- World Bank
- Academy of Agricultural and Forestry Sciences
- Ministry of Agricultural and rural development
- Foreign consultants (UK, France)

Time: 5 years

Funds: 3.0 million Euros

Aims: Research reform Plan



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

Main tasks according to G.D. and regulations of functions (ROF).

Rules of organization and operations

- Maintaining and improving the genetic base (potatoes, sugar beet, medicinal plants, turkeys and cattle)
- Breeding and selection new varieties and lines (potatoes, sugar beet, medicinal plants, turkeys)
- Producing high class biological material (potatoes, sugar beet, medicinal plants, turkeys) for end users
- Development of integrated technologies
- Technical knowledge transfer to farmers
- Supporting policy-makers (national and local authorities) for establishing new strategies
- Scientific publications and patents
- Adopting EU standards for seed production and quality



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

a. Institute mandate

- **NIRDPSB Brasov:**
- **Became National Institute (GD 1882/2005).**
- **Re-accredited by MERI in March 2008 due to fulfilling the scientific criteria in accordance with EU requirements.**
- **The institute is able to compete at national and international level (GD 551/2007)**
- **Law 45/2009**
- **NIRDPSB provides:**
- **Scientific support for integrate agricultural system for upland in Romania with a view to EU integration**
- **Necessary technology aid, advice, and know-how transfer to clients (end-user)**



a. Institute mandate (con.)

➤ **OBJECTIVES AND TARGETS:**

- Mainly focused on potato, sugar beet and medicinal plants
- Developing of germoplasm collection and obtaining new varieties to meet Romanian market farmers requirements
- Genetic amelioration and selection for turkey and cattle
- Production of Pre Basic and Basic seed and collaboration with independent companies (production of commercial seed)

➤ **OBSERVATIONS:**

- The present mandate could be changed based on MAFRD & AAFS research strategy



b. Institute governance structure

- As envisaged in MAKIS PAD, a new governance structure is established and functional:

- ❖ INCDCSZ Council,
- ❖ Board of Directors,
- ❖ Scientific Council,
- ❖ Stakeholder Consultative Council (consultative body into decision making process)



c. Research Organization and Management

Change the organizational structure of the Institute according to the reform plan

➤ The Research Division – 2009 (new structure* related to crisis and improvement efficiency):

- ❖ Breeding Department
- ❖ Technology Department
- ❖ Tissue culture Department
- ❖ Institute still has in its network 2 research stations

➤ Continuously improvement of the structure of department business plans according to up to date research objectives market oriented (end-users & potato industry)

* 3 new department instead of 5



d. Revised focal area of research activities

- ❑ In order to give appropriate technical and economic recommendations to clients in the agri-food sector to reach RO & EU regulatory and market environment a dynamic approach of area of research activities has been developed
- ❑ The Institute as a part of EUROCROP Project (EU funds) participated in 2007 (Edinburgh) to the definition of EU agricultural research strategy in which potato and sugar beet are two of the most important crops (8 crops have been identified)
- ❑ According the National Strategic Plans of MAFDR, MERI and demands of NFP-R and NFSBG the Institute starting with 2008 develops new researches



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

e. Modernization of Research Infrastructure

- **Rehabilitate the institute's building / facilities**
- **Construction of biotechnology module**
- **Needed equipments**



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

➤ **f. Human resources development**

- **Recruit and retain good scientific staff**
- **Strategic actions regarding payment and reward**
- **Training related to staff performance**
- ❖ **A new pay and reward system (6% bonus / year on basic salary depending on research performance)**
- ❖ **A reward payment (9% to 27%) depending on importance of new research project**
- ❖ **4 recruit sessions**



EVALUATION OF RESULTS

As indicated in annex 3 of the project appraisal document (PAD)

- ✓ According to the annex 3 of the MAKIS PAD the Institute has developed a cost effective system for potato and sugar beet research, technologies compatible with EU standards and services in assisting farmers and agro-industry to raise their competitiveness
- ✓ The Institute based on direct links with NPF-R, FSBG, FMPG contributed to the main subjects of project proposals for sectoral and NUCLEUS Programs
- ✓ The majority of Institute's results have been items for know- how transfer



TECHNOLOGIES AND KNOWLEDGE DEVELOPED

by the Institute and provided to farmers, agro-processors
and / or extension workers and others (2007-2009)

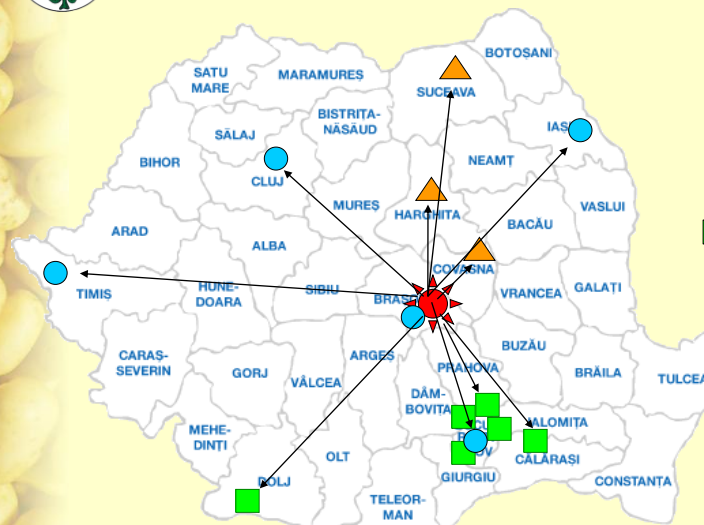
➤ Know-how transfer

- ☐ The institute has improved its capacity of transferring knowledge to the farmers by the field days organized at regional and national level (7 / 2 per year).
- ☐ Extension through leaflets for farmers (300 per year)
- ☐ Publication of journals 'Cartoful in Romania' to disseminate technology to farmers quarterly
- ☐ Providing consultancy to potato producers (70)
- ☐ Providing training to OJCA staff (3)
- ☐ Conference organized where have been invited farmers, agro-processors, input suppliers (green day of potato – 300 participants / year)
- ☐ The Institute organized 3 regional field days for the farmers (50 - 60 farmers / per field day)
- ☐ In 2008 Institute organized 17th Triennial Conference of EAPR with the financial help of MAFRD, UMP, WB, MERI and private sponsors (345 scientists & potato experts from 42 countries)



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro



NATIONAL PARTNERSHIP (research units & universities)

UNIVERSITIES

Transilvania Brașov
USSAMV București
USAMV Cluj Napoca
USAMV Iași
USAMV Timișoara

RESEARCH INSTITUTES

INCDA Fundulea
INMA București
IBNA Balotești
IBA București
ICDPP București
CNCDPCN Dăbuleni

RESEARCH STATIONS

SCDC Tg. Secuiesc
SCDC M. Ciuc
SCDA Suceava

Agreement for
researches
Students practice
Associated professors
Ph.D cotutela
Master of science



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro



INTERNATIONAL COOPERATION

NIRDPSB Brașov

INTERNATIONAL COOPERATIONS

CRA LIBRAMONT (Belgium)
INORDE (Spain)
SOLANA (Germany)
GNIS (France)
AGRICO (Netherlands)
WUR Wageningen (Netherlands)
MVCRI Plovdiv (Bulgaria)
CIP A Modena (Italy)
CAAS China
Kyungpook University Korea
Agr.Univ. Kishinev (R.Moldova)
RAAS Sweden

Affiliation to:

- EAPR (European Association of Potato Research)
- IFIA (International Federation of Inventors Association)
- ICEBG (International Confederation of European Beet Growers)
- WABCG (World Association of Beet and Cane Growers)
- NPPS (National Plant Protection Society)
- RHS (Romanian Horticultural Society)
- RABDSP (Romanian Association of Breeders, Dealers and Seed Producers)
- RAST (Romanian Association of "BR"- Siemmental Type)



EuroCrop
Potato Working Group Meeting,
27-29 03 2007, Edinburgh, UK

Aim:

to define a common vision for the future of research and development related to Arable Crops (AC)

General approach:

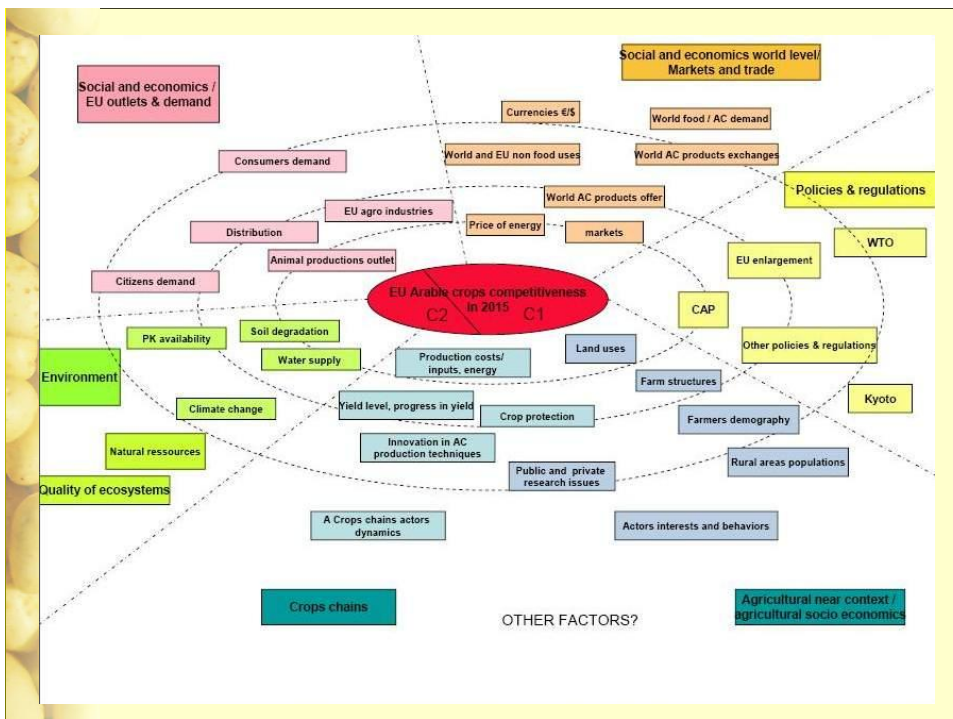
- Arable crops

(Cereals, Minor cereals (burley, rye...), Oilseeds, **Sugar beet**, Fibre crops, **Potatoes**, Grain legumes, Maize)

- Transversal elements of competitiveness

- Production costs, quality, markets, environmental, socio-economic factors

- Identify research to be carried out from 2010 to address challenges from 2015 onwards



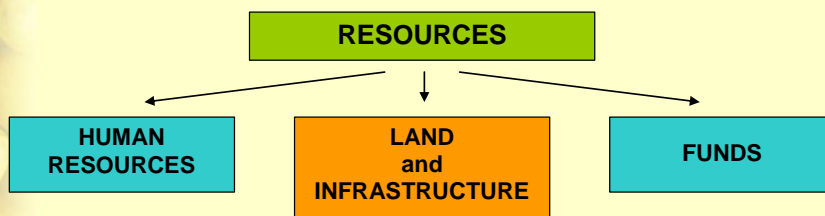
KEY CHALLENGES AND RESEARCH NEEDS

Stake	Key Challenge	Research Need	Expected Outputs
Continued demand	Improved utilisation of potato in processed products	Improved understanding of the functionality of potato as a raw product	Information to improve the selection of varieties or germplasm to: •produce processed products and convenience foods with improved taste and texture •exploit new cooking and/or processing techniques available in 2015 •Potato-based products with low Glycaemic Load
Continued demand	To address consumer demands for healthy food	Nutrigenomics- understand the benefits of compounds in tubers & exploit them in functional foods	•Tools to design better diets for individuals •Improved understanding of the role of compounds in potatoes in healthy diets
Sustainable production	To produce new varieties with improved pest & disease resistance	Develop tools for cost effective marker assisted breeding	•Exploitation of information from global genome sequencing initiative •Potato varieties with multiple trait modifications (not GM)
Sustainable production	Improved resource use efficiency	To understand & exploit Genotype x Environment x Management interactions	•Varieties to tolerate short periods of drought, higher CO ₂ levels, reduced nutrient availability •Ability to predict impact of changing environmental conditions on quality •Improved decision support systems (DSS) with practical utility
Sustainable production	Evolutionary potential of pests & pathogen populations	Utilisation of genomics to improve crop protection	•Information to design durable integrated control programmes
Sustainable production	Evolutionary potential of pests & pathogen populations	Mapping & interpretation of the genetic diversity of key potato pests/pathogens across EU	•EU- wide information exchange to promote best practice for control •Ability to anticipate changes in pest/pathogen population distributions



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro





HUMAN RESOURCES



HUMAN RESOURCES DEVELOPMENT

Year	2007	2008	2009	2010	2011	2015
Total staff	185	175	160	138	130	100
Researchers no.	22	21	22	22	25	30
Researchers average age	49	48	47	46	46	45
Research staff	67	61	60	57	59	60
% researchers vs. total staff	12	12	14	16	19	27
% research staff vs. total staff	36	35	38	41	45	60



HUMAN RESOURCES DEVELOPMENT

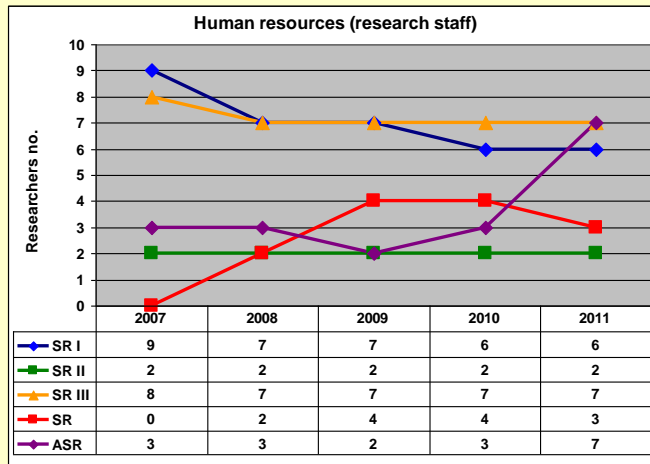
Year	2007	2008	2009	2010	2011	2015
Total staff	185	175	160	138	130	100
Researchers no.	22	21	22	22	25	30
Researchers average age	49	48	47	46	46	45
R & D staff	161	151	140	120	115	88
Admin. staff	24	24	20	18	15	12
% R & D staff vs. adm. staff	15	16	14	15	13	12



Human resources (research staff)

SCIENTIFIC DEGREE	2007	2008	2009	2010	2011
SR I	9	7	7	6	6
SR II	2	2	2	2	2
SR III	8	7	7	7	7
SR	0	2	4	4	3
ASR	3	3	2	3	7
Total researchers	22	21	22	22	25
Supporting staff	45	40	38	35	34
TOTAL	67	61	60	57	59
% res. vs. total research staff	33	34	37	39	42

- doctors: 11
 - PhD students: 1
 - MS students: 2
 - Master of science: 2
 - Students: 60



% res. vs. total research staff

33

34

37

39

42



Training the skills of the personnel (2007-2011)

	No of researchers	Observations
Long term training	4	Belgium, Spain, Holland
Long term training	18	Romania, Holland, Belgium, Spain
Intrnational meetings. Experience exchange visit	24	UK, Peru, Argentina, Spain, Italy, Germany, USA, Canada, France, Italy, Turkey
Long term training	6	Holland, Belgium



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro>

E-mail: icpc@potato.ro

Training supported by MAKIS (World Bank)



WIC, Netherlands, 2007



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro>

E-mail: icpc@potato.ro

Training supported by MAKIS (World Bank)



**NEIKER, Spain,
2007, 2009, 2010**





LAND and INFRASTRUCTURE



NIRDPSB Brasov - Land patrimony

Evolution of land surfaces during 1990-2012

Number	Specification	Using categories				Total area ha
		Arable land ha	Pasture ha	Agricultural total ha	Non- agricultural ha	
1	Existing at 1.01.1190	1569	161	1730	183	1913
2	Entrances, from which	108	0	108	0	108
2.1	- fusion with SRPPSB	108	0	108	0	108
3	Exits from which	141	153	294	29,89	323,89
3.1	- returned L 18/91	26		26		26
3.2	- transferring to ARPS Suceava	78		78	2	80
3.3	- out of the circuit (Barsa)	30		30		30
3.4	- commons art. 44 L 18/91	7	153	160	27	187
3.5	- transfer to Parquet				0,89	0,89
4	Categories changes of using	51		51	-51	0
5	Existing at 1.03.2005	1587	8	1595	102,11	1697,11
6	Taught surface at LC	314		314	5	319



Number	Specification	Using categories				Total area ha
		Arable land ha	Pasture ha	Agricultural total ha	Non- agricultural ha	
7	Area left in the administration (HG 1882/2005)	1273	8	1281	97.11	1378.11
8	The area according the measures in 2006 and perimeter delimitation with ICA Ghimbav	1265.34	36.17	1301.51	54.70	1356.21
9	Exits, from which:	424.35	0	424.35	3.71	428.06
9.1	L 247 Local commission	189.07	0	189.07	2.59	191.66
9.2	Local Council of Brasov (bypass road)	6.40	0	6.40	0	6.40
9.3	CJ Brasov - airport	198.88	0	198.88	1.12	200.00
9.4	Transilvania University of Brasov	30.00	0	30.00	0	30.00
9.5	Local Council of Brasov and Local Council of Harghita	60.07	1.68	61.75	10.09	71.84
10	Area left in the administration on 01.12.2011	780.92	39.49	815.41	40.90	856.31



INFRASTRUCTURE

- Institute facilities:
 - laboratories, offices, meeting rooms 2060 sqm
(under rehabilitation)
 - storage houses
 - for certified seed 5000 tones
 - multi-bay experimental storage facilities 200 tones
 - glass houses 1000 sqm
 - tunnel (under construction) 500 sqm
 - animal stables 1500 sqm
- Field and laboratory equipments



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

Major NIRDPSB investments

Total equipments (2007 – 2011)

Thousand euro

Year	Projects	WB-MAKIS	Total
2007	76.7	120.0	196.7
2008	164.4	171.6	336.0
2009	83.9	65.5	194.0
2010	18.36	165.5	183.9
2011	22.0	276.8	298.8
Total	365.4	799.4	1164.8



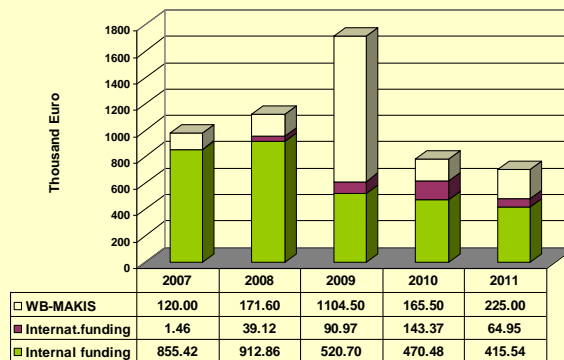
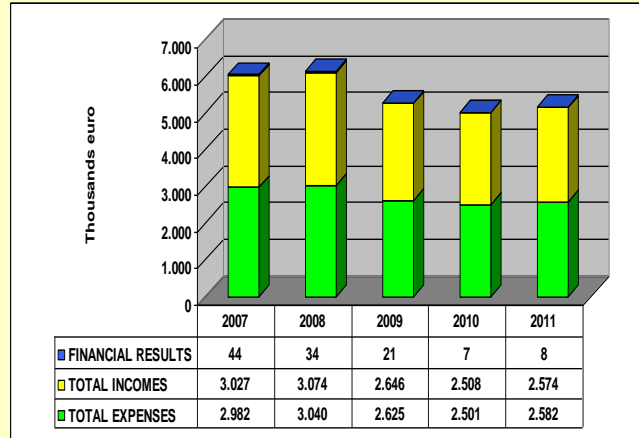
National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

FUNDS



NIRDPSB financial results



Evolution of R&D funding

Low 45 and Low 72. The core funding and institutional funding have not been accomplished until now !!



Private/international funds

Thousands euros

		2007	2008	2009	2010	2011	total
Patents		25.8	19.4	52.7	164.1	40.2	302.2
Foreign companies		37.9	36.4	19.2	14.4	47.3	155.2
WB	endowments	0.0	0.0	150.0	150.0	-	300.0
MAKIS	equipments	120.0	171.6	65.5	165.0	276.8	798.9
WB-CGS		0.0	68.0	75.0	107.0	30.0	280.0
Structural funds		0.0	0	-	76.5	-	76.5
TOTAL		183.7	295.4	362.4	677.0	394.3	1912.8



Management of the research environment



STAFF EVALUATION AND MOTIVATION

- application of an annual evaluation plan of the employees performance
- the performance is assessed using a system that has direct influence on salaries paid
- assess past establish current and maintain and improve standard of job performance
- set target for the future
- new system of salaries proposed by SC and approved in AC (2007-2009)
- research stimulation accorded for supplementary projects (6 % reported to row salary)
- a reward found 20 % from profit
- plan of training and development needs
- permanent instruction of the entire personnel
- participation to conferences, symposium and work-shops



ADMINISTRATIVE PROCEDURES

Clear administrative procedures for:

- transfer of administrative decisions elaborated by AC, SC and DC to departments and individuals
- compulsory juridical advisor accord on different agreements
- the flow of documents related to ROF and regulations



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

ADMINISTRATIVE OPERATIONAL EFFICIENCY

- in the last five years the salaries have been paid in time
- supply of materials in due time (less 15 days)
- nomination of a responsible for each project to interact with authorities
- effective system for documentation
 - o library
 - o Internet, Intranet
 - o ANELIS+ (common platform for knowledge exchange between universities and research units, in function from 2011)



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

TRANSPARENCY OF DECISIONS

- all decisions taken on administrative levels are made known to all staff
- all decisions respect the ROF and national regulations



INVOLVING STAFF IN DECISION MAKING

- all the decisions are based on discussion on different levels
 - o teams
 - o departments
 - o divisions
 - o SC and AC
- in each AC meeting the representative of trade union is presented
- the moral ethics rules have been respected and until now we have not registered complains



AVAILABILITY OF ADMINISTRATIVE AND AUXILIARY STAFF

- both administrative and auxiliary staff are involved in supporting and helping R&D staff
- during MAKIS Project implementation we have introduced to the inner regulation some best practices recommended by World Bank
- some of practice which are in Romanian Law 319/2003 are similar to some practice from the European Chart for Researchers



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

RESULTS



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

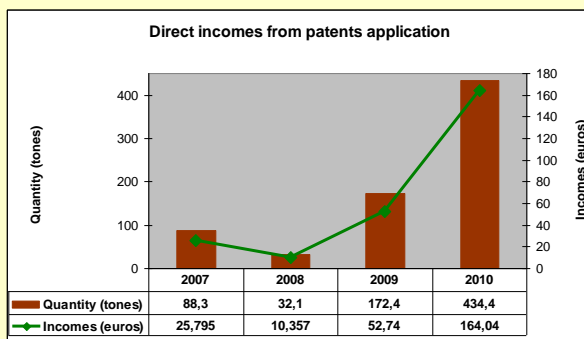
PATENTS (NATIONAL)

Year	2007	2008	2009	2010	2011	2012
PATENTS	-	-	2	3	4	-
Pending patents	-	-	-	-	2	5



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro



1923 Varieties – 2 MAIKONING

EDELROSEN

1930-1945 Varieties – 3

ARDEAL

SOMESAN

NAPOCA



1950-1986 Varieties – 8

BUCUR

COLINA

POIANA

CARPATIN



1967- 2000 Varieties – 30

**SUPER
ROCLAS**

**REDSEC
ROBUSTA
SUCEVITA**

2007-2011 Varieties – 9

TRANSILVANIA

CUMIDAVA

ZAMOLXIS

RUXANDRA

TAMPA

CHRISTIAN

KRONSTAD

RUSTIC ROMANESC

ROCLAS BRASOV



MAIN ACHIEVEMENTS

Achievement	2007	2008	2009	2010	2011
BREEDING LINES *)	10	13	11	14	21
METHODS	1	-	1	2	-
STRATEGIES	2	-	1	1	-
SERVICES	62	62	47	36	42
NATIONAL PROJECTS	16	17	17	17	8
INTERNATIONAL PROJECTS	2	4	4	4	3
PUBLICATIONS	ISI	1	1	-	3
	Relative AIS	1.724	0.152	-	2.450
	Other	15	41	26	45
				35	

*) continuously research work (12 – 14 years)



EVOLUTION OF SEED PRODUCTION (2007 – 2011)

Year	POTATOES	WHEAT	TRITICALE	SPRING BARLEY
	Clonal material & certified seed	PB I, PB II, B	PB I, PB II, B	PB I, PB II, B
2007	568	416	392	104
2008	488	198	118	76
2009	807	234	101	60
2010	583	274	160	14
2011	913	210	145	-

■ NIRDPSB is the only unit in Romania using tissue cultures in seed potato production



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

EVOLUTION OF ANIMAL BREEDING MATERIAL
(2007 – 2011)

Year	Bull Mother Candidates (BMC)	Nominated Bull Mother (BM)	Heifers & breeding animals	Turkey Chickens
2007	44	15	230	14100
2008	24	15	200	12400
2009	18	16	150	13200
2010	32	24	100	10000
2011	38	28	100	10000



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

Extension activities



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

Technology transfer and dissemination

No.	Activity	Date	Quantity	Responsibility	Obs
1	Annual scientific meeting	Oct/Nov 2007-2011	1/year	NIRDPSB	75 participants/year National/international level Researchers, students, farmers
2	International and national meetings	2007-2011	3/year	NIRDPSB Self-resp.	2-3 researcher/meeting
3	National meeting "Green day of potato"	July 2007-2011	1/year	NIRDPSB, NFPR	200 participants/year (2007, 2009; 250 participants/year (2008, 2010, 2011); National and international level; Main actors of potato chain
4	Open-day for potato, sugar beet, med. plants	June-July-Sept. 2007-2011	2/crop/year	NIRDPSB, NFPR, FSBG, FMFG	20-25 participants /crop/day Farmers, process specialists
5	Demo-fields Work-shops	July-Sept. 2007-2011	1/crop/year	NIRDPSB, NFPR, FSBG, FMFG	15/group farmers
6	Publications	2007-2011	30/year	SC and self resp.	National level International (ISI, CABY.)
7	Basic seed of potato and medicinal plants	2007-2011	150T/year	NIRDPSB	Research units, Private companies, farmers are the buyers
8	The 17 th Triennial conference of the EAPR	July 06-10 2008	1	NIRDPSB EAPR National authority	320 participants 5 continents Researchers, students, farmers, international actors of potato chain
9	The 18 th Triennial conference of the EAPR	July 29-29 2011	1	EAPR	220 participants, 7 Romanian, participants with papers
10	The work-shop on Clavibacter	August 10 2011	1	NIRDPSB AAFS	35 Participants -researchers -national authorities -farmers, students,



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro>

E-mail: icpc@potato.ro

✓ Know-how Transfer

- technology transfer to farmers, farmer associations and the wider agricultural industry in conjunction with ANCA



✓ Know-how Transfer

Farmer day, Vadul Motilor Alba, 2007



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro>

E-mail: icpc@potato.ro

Green Day in Harghita (2007), Covasna (2009), Brasov (2010)





National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro>

E-mail: icpc@potato.ro



www.eapr2008-brasov.com



The 17th Triennial Conference of the EAPR July 06 – 10 Braşov, ROMANIA



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro>

E-mail: icpc@potato.ro

The 17th Triennial Conference of the EAPR July 06 – 10, 2008 Braşov





**SCIENTIFIC MAIN OBJECTIVES OF NIRDPSB Brasov
(2012 – 2015)**

THE INTENTION FOR THE NEXT FOUR YEARS:

To become an integrated Institute for upland agriculture Based on:

- Potato
- Sugar beet
- Medicinal plants
- Livestock
- Forage and pastures

The Institute will provide agricultural knowledge, skills and information:

- Products
- Technologies
- Models
- Services
- Strategies
- Publications



To the main actors of different chains
To the policy-makers
To AAFS and MARD

Purpose: to support our upland farming system
to meet EU directives related to new CAP

The activity will be orientated on market to offer technical solutions for and end-users
The activity will be based on a research plan created by Institute and approved by AASF



Strategic directions

1. To carry out R&D activity orientated on the market
2. To co-ordinate R&D on potato, sugar beet and medicinal crops. These will include:
 - a. **Genetic breeding** of potatoes and medicinal crop species and varieties adapted to climate of Romania. This will include development and adoption of new technologies for breeding (MAS, QTL) and foundation seed production at NIRDPSB
 - b. **Development of modern technologies** and agronomic systems to improve yield and quality of potatoes, sugar beet and medicinal plants and the promotion of ecological crops and green energy
 - c. **Provision of high quality foundation and basic seed** for the potato, and medicinal plant industries.
3. To develop an understanding of economic systems of agriculture (crops and animals) in upland areas. It will include:
 - a. **Genetic amelioration, selection and conservation** of "Baltata Romaneasca" cattle and the provision of genetic material of this breed to farmers and associations
 - b. **Genetic amelioration, selection and amelioration** of local lines of turkey hens and the provision of genetic material of this breed to farmers and associations.
4. Technology transfer to all sectors such as crops production and animal bred of the farming community.



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

OUR MAIN ACTIVITIES

- ✓ breeding of new potato varieties with export potential and selection of sugar beet and medicinal plants adapted to local conditions
- ✓ improving the methods for potato foundation and basic seed
- ✓ improving integrated, precision, environment friendly technologies
- ✓ improving the genetic-pool of cattle (Baltata Romaneasca race) and turkey (Romanian races) and providing highly valuable livestock to upland farmers
- ✓ training and information of farmers and farmer associations regarding a profitable, sustainable and safe upland agriculture
- ✓ the production of scientific papers and knowledge transfer publications



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

THE ESTIMATED RESULTS

- **EXCELENCE CENTRES**
 - The tissue culture module
 - The precision agriculture module
- **ACCREDITED LABS**
 - Quality
 - Monitoring and control of the diseases and pests
- **TRANSFER OF KNOWLEDGE**
- **ORGANIZATION OF SYMPOSIUMS AND CONFERENCES**
(national and international level)



RESEARCH OUTCOMES

- Production of varieties (2 – 3)
- Provision of foundation and basic seed (150 t/year)
- Technological and practical solutions for economic production
- Systems of agriculture for upland areas
- Animal breeding material
 - heifers 100
 - turkey chicken 8000/year
- 200 farmers in a system of information dissemination
- Scientific papers and knowledge transfer publications (50/year)



HUMAN RESOURCE STRATEGY

- ☐ Total staff: 110 – 100
- ☐ Researchers: 30
- ☐ Professional education program, mainly for young researchers
 - ✓Romania and foreign countries
- ☐ periodically analysis on teams, departments and employee levels
- ☐ salary policy based on performances and good recruitment
- ☐ training:
 - ✓technical
 - ✓Professional
 - ✓management
- ☐ It will be applied the operational manual for the personal (attribution description, obligations, wages rights)

Recruitment policy

To attract newly qualified scientists (including Ph.D.) in to the Institute, the following points should be considered:

- ☐ update NIRDPSB website (to provide good information about the Institute as a place to work and to be used for the advertisement of new post)
- ☐ non pay related benefits such as health care schemes
- ☐ introduction of work-life balance policy (flexible working)
- ☐ financial support for further professional qualification (Ph.D. and MS studies)



Mechanisms for stimulating the appearance of new R&D directions

- The Consultative Committee will ensure focus of research to the up-to date farmer's problems and to orientate it to the market
- The brain-storming with researches and SC debates and the proposal coming from research teams
- The new idea got from different scientific conferences or consultative groups (national, international level)
- New relevant aspects got in personal training
- The Green Day of Potato where by a feed-back system new research directions could be set
- Enhanced cooperation with Universities
- Better exploit the Institute RDI project results, especially international projects



Strategic partnerships

□ National level:

- Authorities (MARD, MERYs, AASF, local and regional ones)
We will supply scientific and technical support for developing new national strategies
- Research units (we will carry out different research projects)
- Universities (Brasov, Bucharest, Cluj Napoca, Timisoara, Iasi)
- National Federations of producers (NFP-R, FSBG, FMPG)
- Private companies

□ International level:

□ Research projects:

- Breeding CRA Libramont Belgium
- Varietal developing (INORDE Spain, GNIS-France, INTERSNAKE, NORIKA, EUROPLANT-Germany; AGRICO-Holland)
- ERA projects (NEIKER Spain, WUR Wageningen Holland)
- Personal training (INORDE Spain, WICC Wageningen Holland, SAC U.K., CIP Lima Peru)

□ Economical projects:

- Private companies (CASP Canada, SC Orhideea South Korea)



National Institute of Research and Development for Potato and Sugar Beet

<http://www.potato.ro> E-mail: icpc@potato.ro

Action to increase the Institute visibility

- Organizing yearly (5-10 July) the Green day of potato (300 participants in Brasov, Suceava, Covasna, Harghita) and Annual Institute Scientific Session (November) with both national and international level
- Attempting to national and international symposium and conferences (Universities, AASF, EAPR, World Potato Congress)
- The scientific results will be publishing in national and international papers (B+, ISI, CABI etc)
- The institute will participate to the different symposia organized by MERYs, AASF, (2-3/year with 5-10 participants from our side)
- The institute will participate to the national and international research and agricultural fairs (INDAGRA, INVENTICA, PROINVENT) (10-15 participants and 2-3 fairs /year
- Organizing demo-fields with Romanian varieties in the country (in farms and research units, 4-5/year in main potato region) and abroad (1-3 in farm from Spain, Republic of Moldova and Belgium)
- Organizing one of the next W.P.C. (World Potato Congress) (2015 or 2018, it is expected more than 500 participants the next will be in may 2012 in U.K-Scotland).