

## Summary report on research accreditation

### I. General information

Name of organization	<b>Research Institute of Field Crops “Selectia”</b>
Organization type ( <i>to underline</i> )	Research institute    Institution of higher education <u>Ministerial research institute</u>
Research mission of organization	<p><b><i>The mission of the Research Institute of Field Crops “Selectia”</i></b></p> <ul style="list-style-type: none"> <li>- breeding of high productive varieties and hybrids of field crops, tolerant to main diseases and pests with improved biochemical indicators for basic production; tolerant to unfavorable environment conditions;</li> <li>- the maintenance, multiplication and study of crops genofond as basis for creation of valuable breeding material;</li> <li>- primary production of seeds and growing of high quality seeds together with seed-producing farms;</li> <li>- elaboration of ecologically safe technologies with reduced input and minimum negative influence on the environment;</li> <li>- researches on ecological agriculture by using long - term field experiments with crop rotations, permanent crops, systems of soil tillage, fertilization, irrigation, etc.</li> <li>- improving sustainable farming systems in order to provide stable production, reproduction of soil fertility and production of ecological safe products;</li> <li>- the influence of irrigation on crops yield and soil fertility;</li> <li>- improvement of integrated system of crop protection;</li> <li>- testing of phyto-sanitary substances and fertilizers for including in State Register;</li> <li>- training of high qualified specialists for receiving PhD on specialties: plant breeding and seed production, crop science and agriculture, agroecology, crop protection.</li> </ul>
Strategic research direction (s)	The national strategic direction in which the institute projects are included: 04. Agricultural biotechnologies, soil fertility and food security.
Evaluated period	2007-2011
Web of organization	<a href="http://www.agriculture.md">www.agriculture.md</a>

### II. Research capacity (annual average for evaluated period)

Total number of employees	<b>219.00</b>					
Number of scientific researches	<b>39.6</b>					
Number of researches who possess honorific titles, scientific degrees, scientific and scientific-didactical titles	ASM affiliated members	ASM corresp. members	Professor	Associated professor	Dr.hab.	Dr. (PhD)
	-	1	2	8.8	2	16.2
Number of researches involved in international projects	FP7	STCU	Bilateral	Others		
	-	-	4	-		

Number of young researches (under 35 years old)	Dr. (PhD) -	PhD students 6.2	Others -
Financial resources (thousand MDL)	Public budget 5523.0	International projects/grants 30.6	Research contracts 3379.9
Distribution of expenditures (thousand MDL)	Salary 4715.1	Infrastructure development 9506.0	Other 520.2
Expenditures for infrastructure development (thousand MDL)	Equipments 747.5	IT infrastructure 3235.5	Endowment of experimental resorts 5523.0
List of 3 basic research methods, installations, technologies (per accredited field)	- long-term field experiments (50 years old) with crop rotations, permanent crops, systems of soil tillage, irrigation and fertilization in crop rotations; -researches in polyfactorial experiments regarding transition to a more sustainable farming system, including ecological farming.		
List of provided scientific services	Determining the quality of products, biological and biochemical analysis. Responsible Dr.Taran Mihail; Trials of pesticides. Responsible – Dr.habilitate Vronschih Mihail. Trials of mineral fertilizers in the technologies of growing field crops. Responsibles: Dr.Nica Leonid, Crivceanschi Victor, Serghei Titu.		
List of editorial activities	<p><b>1. Andrieș, S.; Boincean, B.; Jigău, Gh.; Batcu, M.; Galupa, D.</b> Code of good agricultural practices. Chișinău, 2007, 99 p.</p> <p><b>2. Krupenikov, I.; Boincean, B.; Dent, D.</b> The Black Earth. Ecological Principles for Sustainable Agriculture on Chernozem Soils. London: Springer, 2011. 138 p. (ISBN 978-94-007-0159-5).</p> <p><b>3. Vronschih M.</b> Climate change and risks for agricultural production in Moldova. Ch.: Grafema Libris, 2011. 560 p. (ISBN 978-9975-52-107-9).</p> <p><b>4. Vronschih, M.</b> Crop protection (Field crops). Ch., 2011. 120 p. ISBN 978-9975-78-957-8.</p> <p><b>5. Vronschih M, Vronschih G.</b> In the orchard, in the garden. Guide for the owners of summer houses and individual plots. 2011. 190 p. (ISBN 978-9975-78-461-0).</p> <p>6. International scientific – practical conference “Sustainable, including ecological agriculture – achievements, problems and perspectives”, June 21-22, 2007.</p> <p>7. International scientific – practical conference “Technical crops in modern agriculture”, August 7-8, 2008.</p> <p>8. International scientific – practical conference “Integrated crop protection of field crops”, June 18-19, 2009.</p> <p>9. International conference “The role of leguminous and forage crops in agriculture of Moldova”, June 17-18, 2010.</p> <p>10. International conference “Sugar beet – strategic crop for sustainable development of agriculture in Moldova”, June 7-8, 2011.</p>		

### III. Distribution and number of research projects and themes during the evaluated period

Institutional projects	2006 1	2007 1	2008 1	2009 1	2010 1
Projects in the frame of State Programmes	2006 3	2007 6	2008 7	2009 -	2010 -
Technological transfer projects	2006 -	2007 1	2008 2	2009 -	2010 -
Projects for equipment procurement	2006 -	2007 -	2008 -	2009 -	2010 -
Projects for young researches	2006 -	2007 1	2008 1	2009 -	2010 -
Projects in the frame of bilateral programmes	2006 -	2007 -	2008 -	2009 -	2010 -
International projects/grants	2006 1	2007 1	2008 1	2009 1	2010 -
List of 3 representative international projects/grants	<p>1. Resource conserving agriculture, Swiss College of Agriculture, 2009-2012.</p> <p>2. Demonstrative utilization of alternative sources of energy in Moldova through crop cultivation experimentation, State University of Udine, Italy, 2006-2007.</p> <p>3. Transboard cooperation on foundation a regional center for formation of experts in studying, conservation and management of vegetal genetic resources, Iasi, Romania, 2008-2009.</p>				
Research contracts	2007 13	2008 12	2009 11	2010 11	2011 8
List of 3 representative research contracts	<p>1. Nr.01-32/05-5 Agreement on June 18, 2010. State trials for determining the biological effectiveness of the preparations, their action on yields for approval and registration by State Commission and subsequent use of chemical "Rangoli", ("Superus Co. Ltd", Nanjing, China. Contract Amount 15 000 dol. U.S., State Center for Certification and Approval of Plant Protection Products and Fertilizers.</p> <p>2. Contract nr.23-02/07 from September 12, 2007. Sale of seeds of higher categories for winter wheat and winter barley. Contract amount – 1710000 lei.</p> <p>3. Contract No.24-0207 from 12 September, 2007. Sale of seeds of winter wheat of higher categories. Contract amount – 115 5 000 lei.</p>				

### IV. Scientific publications

Total number of publications abroad	Books 2	Chapters in books 2	Journal papers 5
Total number of publications in ISI journals and books	Books -	Chapters in books 2	Journal papers -
Total number of publications in the country	Books 7	Chapters in books -	Journal papers 230
Total number of conference abstracts	International 7	International in the country 31	National -
List of 5 representative publications (per accredited field)	<p><b>1. Andries, S.; Boincean, B.; Jigau, GH.; Batcu, M.; Galupa, D.</b> Code of Good Agricultural Practice. Chisinau, 2007, 99 p. (in Romanian)</p>		

	<p><b>2. Krupenikov, I., Boincean, B., Dent, D.</b> The Black Earth. Ecological Principles for Sustainable Agriculture on Chernozem Soils. London: Springer, 2011. 138 p. ISBN 978-94-007-0159-5.</p> <p><b>3 Vronski, M.</b> Climate change and agricultural production risks in Moldova. Ch.: Grafema Libris, 2011. 560 p. ISBN 978-9975-52-107-9 (in Russian)</p> <p><b>4. Petcovici, I.</b> Adaptation of sunflower hybrid seed production schemes to modern industrial conditions. Agricultura Moldovei. Ch., 2008, nr.5-6, p.16-19 (in Russian)</p> <p><b>5. Vozian, V.; Postolati, A., Taran, M.</b> The role of variety in reducing the negative impact of drought on yield and quality of winter wheat. Agricultura Moldovei, 2009, nr.9-10, p.19-21 (in Russian)</p>
List of 5 citations	

## V. Innovation outputs

Total number of patents	Registered in the country 28	Registered abroad -	Implemented 28
Total number of new developed methods and technologies	Registered 86	Non-registered 22	Implemented
Total number of new scientific products	Registered 52	Non-registered 20	Implemented 32
Total number of scientific outputs for central and local authorities (draft of law, strategies etc.)	4		
Total number of scientific outputs for educational institutions	Handbooks for high education 1	Handbooks for pre-university institutions -	Delivered university courses 7
List of 5 representative innovation outputs (per accredited field)	-winter wheat variety <b>Bastina</b> -winter barley variety <b>BT 14/02</b> - soybean variety <b>Enigma</b> - peas variety <b>Valex</b> -fodder beet variety <b>Ciugur</b>		

## VI. Major scientific and innovation achievements

Short description of main scientific results and its confirmation (by awards, citations, development of international projects etc.)	<p>The scientific results laid down on the elaboration of the project “Alter-energy”, which was prepared jointly by the State University Udine, Italy and the Research Institute of Field Crops “Selectia”.</p> <p>The project “Alter-energy” was implemented in the frame of <i>TACIS Cross-Border Co-operation. Small Project Facility (Tacis CBC SPF)</i> in 2007-2008. Besides the Research Institute of Field Crop “Selectia” and State University Udine (Italy), in the project have been involved the State Agricultural University in Iasi, and executive committees of Balti and Falesti. The total grant value was 300 000 Euro. Due to this project, it was proven a real possibility of using bio-diesel in agriculture of Moldova.</p> <p>The varieties of field crops selected by the Research Institute of Field Crops “Selectia” have been mentioned by diploma and medals at the</p>
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	exhibition Info-Invent: gold medals and diploma for varieties of winter wheat Capriana and BT 23/05; for variety of soybean Enigma and the variety of peas MZ-7-06; the silver medal and diploma for the variety of alfalfa Medisa, winter barley Stralucitor; fodder beet Ciugur; the bronze medal and diploma for the varieties of peas Sandrina, variety of winter wheat Bastina and Lautar.				
Number of organization' invited speakers at international conferences	2006 3	2007 1	2008 -	2009 4	2010 1
Short description of technological transfer and innovation results and its certification by implementation	32 new varieties of: winter wheat (Select, Balada, Podoima, Avint, Vatra, Bastina, Avantaj, Accent, BT 9/04, Lautar); winter barley (BT14/02, Stralucitor, Spumos, Scinteia); peas (Valex, MZ-7-06); beans (Enigma, Medisa); hybrids of sunflower (HS-9729, HS 20032, HS 04/28, Ortac, Andrian, Florisan, Bucium, Valeria); hybrids of sugar beets (Scorpion, Vodolei); hybrids of fodder beets (Ciugur); millet (Blesc). In the frame of two projects of technology transfer, 121 tons of seeds of varieties of winter barley (Mugurel and Ciuluc), spring barley (Sonor and Ionel) were produced. In another project seeds of alfalfa variety Ilan in volume of 3000 kg were produced.				
Number of defended dr.hab./dr. theses per year	2006 0/0	2007 0/1	2008 0/0	2009 0/1	2010 0/0

**VII. Present/further involvement in the Seventh Framework Programme (FP7):** specific programmes (Cooperation, Ideas, People, Capacities) of interest and its sub-divisions.

**VIII. Accredited research field and its evaluation by the National Council for Accreditation and Attestation of the Republic of Moldova (very good/good/satisfactory)**

**Evaluation: good**

**IX. Category (A/B/C) attributed by the National Council for Accreditation and Attestation of the Republic of Moldova to the organization**

**Category B**

**X. Institutional development actions planned for the next 5 years (maximum ½ page).**

Research Institute of Field Crops "Selectia" is one of the oldest research institutions in Moldova. We will continue our breeding programs for different field crops (winter wheat, winter barley, peas, soybeans, drybeans, sugar beet and sunflower). Simultaneously high quality seeds will be multiplied according the demands of farms producing basic and prebasic seeds.

Due the fact that processing and packaging seeds are one of the narrowest links in the whole system of seed production, the institute will build a technological line for seed calibration and packaging. Simultaneously, the association of seed producers will be organized aimed to promote seeds of local varieties and hybrids of high quality.

Renewing the equipment for laboratory analyses and field works is the other task which should be done in the next 5 years.

The average age for researcher is advanced, which requires measures for improving this situation. The intention is to educate young researchers through master and PhD thesis in cooperation with the State University “Alecú Russo” in Balti. This will allow integrating our research programs with different European and world programs.

Exchange of specialists, especially young researches, will be intensified.