

Summary report on research accreditation

I. General information

Name of organization	Institute of Pedology, Agrochemistry and Soil Protection “N. Dimo”
Organization type (<i>to underline</i>)	Research institute / High education institution / <u>Ministerial research institute</u>
Research mission of organization	Organizing and conducting fundamental and applicative scientific research in the field of soil science, agrochemistry and soil protection, promoting the most effective and advanced methods predestined for agriculture conditions.
Strategic research direction (s)	<ol style="list-style-type: none"> 1. Study of genesis, regularity of geographical spread, improving classification methods for mapping soil and land evaluation, creating the information base for Land Cadastre and Monitoring; 2. Research characteristics and physical, chemical and biological soil regimes to optimize their agricultural production process; 3. Investigation of erosion processes, developing technologies to combat soils erosion and landslides; 4. Study of soil properties and development ameliorative fund of soils by technology improvement, recovery and protection; 5. Study of soil nutrient regimes, balance of nutrients to optimize plant mineral nutrition; 6. Developing technologies for the production, certification and implementation of local organically compost the waste, including organic farming.
Evaluated period	2006-2010
Web of organization	www.agriculture.md/dimo

II. Research capacity (annual average for evaluated period)

Total number of employees	77					
Number of scientific researches	27					
Number of researches who possess honorific titles, scientific degrees, scientific and scientific-didactical titles	ASM full members 2	ASM corresp. members 0	Professor 3	Associated professor 2	Dr.hab. 5	Dr. (PhD) 14
Number of researches involved in international projects	FP7 0	STCU 0		Bilateral 1	Others 3	
Number of young researches (under 35 years old)	Dr. (PhD) 3		PhD students 4		Others 4	
Financial resources (thousand MDL)	Public budget 4278,1		International projects/grants 137,9		Research contracts 334,2	
Distribution of expenditures	Salary 2220,7		Infrastructure development 1427,7		Other 350,0	

(thousand MDL)			
Expenditures for infrastructure development (thousand MDL)	Equipments 562,9	IT infrastructure 75,0	Endowment of experimental resorts 932,6
List of 3 basic research methods, installations, technologies (per accredited field)	<ol style="list-style-type: none"> 1. Installation to perform the control fluid leakage 2. Atomic absorption spectrophotometer-800 A-analyst 3. Technology for cultivation of crops in strips on fields across the slope 		
List of provided scientific services	<ol style="list-style-type: none"> 1. Mapping of agricultural soil and agrochemical units of various sizes and types of ownership, determination of soil quality rating note. 2. Methods and technologies to work according to soil chemical properties, physical and biological specificity of the plant. 3. The application of mineral, organic, and microbiological fertilizers in crop rotation field. Diagnosis of complex soil-plant mineral nutrition to achieve planned yields high-quality winter wheat (Gluten 25-26%). 4. Methods to combat erosion of surface and deep soil, the consolidation of land affected by landslides. 5. Measures to prevent and combat soil degradation by irrigation and advanced technologies to improve the soil salt and salinity. 6. Preparation of compost from organic materials of different origin. 7. Making microbiological tests. 		
List of editorial activities	Co- foundation of journal "Stiinta Agricola" (Agricultural Science)		

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

Institutional projects	2006 6	2007 6	2008 6	2009 6	2010 6
Projects in the frame of State Programmes	2006 2	2007 3	2008 3	2009 0	2010 0
Technological transfer projects	2006 0	2007 2	2008 3	2009 1	2010 0
Projects for equipment procurement	2006 0	2007 0	2008 0	2009 0	2010 0
Projects for young researches	2006 0	2007 0	2008 1	2009 0	2010 0
Projects in the frame of bilateral programmes	2006 0	2007 0	2008 0	2009 0	2010 1
International projects/grants	2006 1	2007 1	2008 1	2009 0	2010 0
List of 3 representative international projects/grants	International grant: 053023 TF "Pollution Control in Agriculture". Compartment IV. Environmentally friendly practices and soil quality monitoring (2004-2008).				
Research contracts	2006 17	2007 15	2008 9	2009 5	2010 13
List of 3 representative research contracts	<ol style="list-style-type: none"> 1. Introduction of soil quality monitoring (2006). 2. Agrochemical soil testing in young plantation of fruit and vineyard for development the recommendation concerning fertilizers application (2009). 3. Experimental research and evaluating effect of amending the solonet automorphy and ameliorative works for improvement soil fertility irrigated by local sources (2008). 				

IV. Scientific publications

Total number of publications abroad	Books 0	Chapters in books 0	Journal papers 63
Total number of publications in ISI journals and books	Books 8	Chapters in books 0	Journal papers 5
Total number of publications in the country	Books 7	Chapters in books 9	Journal papers 108
Total number of conference abstracts	International abroad 28	International in the country 38	National 17
List of 5 representative publications (per accredited field)	<p>1. Andries, S. Optimization of soil nutritive regimes and plant productivity. Ch.: Pontos, 2007. 384 p. ISBN 978-9975-102-23-0.</p> <p>2. Donos, A. Nitrate accumulation and transformation. Ch.: Pontos, 2005. 206 p. ISBN 978-9975-72-036-6.</p> <p>3. Krupenicov, I. Chernozems. The appearance, perfection, tragedy of degradation, the way of protection and restoration. Ch.: Pontos, 2008. 288 p. ISBN 978-9975-102-66-7.</p> <p>4. Cerbari, V. Soil system classification of Pamir. Climate change and landscape evolution in the Central Asian Mountains and the surrounding Basis. Past, Present and Future. Tashkent and Dushanbe. 2008, p.59-76.</p> <p>5. Leah, T. pollution of eroded soils by excess and deficiency of copper. Collection of scientific articles "Horticulture", LIII (53), Iasi.: Ed."Ion Ionescu de la Brad",2010, p. 569-572. ISSN 1454-7376-73-76.</p>		
List of 5 citations	<p>1. Krupenikov, I.A, Boinchan, Chernozems and Ecological agriculture, 2004, p. 47-49 (Andrieş S. Optimizarea regimurilor nutritive ale solurilor și productivitatea plantelor de cultură. Chişinău: Pontos, 2007.-384 p.).</p> <p>2. Andries S. Optimization of soil nutrient regimes and productivity of crop plants. Chişinău: Pontos,2007.- 384 p (Donos, A. Accumulation and transformation of nitrogen in the soil. Chişinău: Pontos, 2008. - 208 p).</p> <p>3. Kirilyuk, V.P. Trace elements in the components of the biosphere. Chisinau, 2006, p.70-87 (Popov, L. Soil degradation processes from pollution. Chemistry Journal of Moldova. General, Industrial and Ecological Chemistry. V. 7, No. In 2012, p.50-53).</p> <p>4. Andries, S., Cerbari, V. S.A. Erosional processes to conserve soil fertility. In: Mitigating the impacts of extreme climatic factors on crop plants. Ch: s.n, 2008, p.55-66 (Rotaru, S., Popov, L., The influence of forest strips on soil erosion in southern Moldova. Materials of International Symposium "Sustainable development - new goals and priorities", 2011, Ch : Print-Caro SRL, p 46-50.</p> <p>5. The Black Earth. Ecological Principles for Sustainable Agriculture on Chernozem Soils.(Andries SV. and Zagorcea CL . 2002. Soil Fertilizing agriculture and agricultural service. Bulletin of the Academy of Science of Moldova: Biological, Chemical and Agricultural Sciences, Chisinau 2, 42-44).</p>		

V. Innovation outputs

Total number of patents	Registered in the country 9	Registered abroad 0	Implemented 1
Total number of new developed methods and technologies	Registered 5	Non-registered 3	Implemented 1
Total number of new scientific products	Registered 0	Non-registered 0	Implemented 0
Total number of scientific outputs for central and local authorities (draft of law, strategies etc.)	Draft of Soil Law; Program of activities of Government; Action plan for realization of Program “Moldovan Village”; National Strategy for development in 2008-2011; Government Priority of activities; Program “The conservation of soil fertility in Republic of Moldova”.		
Total number of scientific outputs for educational institutions	Handbooks for high education 1	Handbooks for pre-university institutions 2	Delivered university courses 3
List of 5 representative innovation outputs (per accredited field)	<ol style="list-style-type: none"> 1. Measures and technologies for combating of soil erosion. 2. Recommendation on amelioration of automorph solonetztes 3. Recommendation on fertilizers application on the different types and subtypes of soil under agricultural plants. 4. Methodological instructions concerning evaluation and increasing resistance of soil biota in condition of soil degradation. 5. Recommendation concerning optimization of soil nutritive regimes of sweet sorghum cultivation. 		

VI. Major scientific and innovation achievements

Short description of main scientific results and its confirmation (by awards, citations, development of international projects etc.)	Soil quality monitoring (development of soil polygon network in zones of Moldova. Award of ASM, Cerbari V., Leah T., 2010. Soil Erosion. Diploma of Excellence of AASF “Gheorghe Ionescu - Sisesti”, 2006.				
Number of organization' invited speakers at international conferences	2006 5	2007 5	2008 4	2009 5	2010 7
Short description of technological transfer and innovation results and its certification by implementation	<ol style="list-style-type: none"> 1. Combating fatigue of soils in orchard. Patent 3922 (13) C2 (MD), nr.6, 2009.06.30. 2. Structuring process of soil. Patent 3872 (13) C2 (MD), nr.4, 2009, 04.30. 3. De-phosphating process waste water. Patent 3978 (13) C2 (MD), nr.11, 2009.19.14. 4. Process of alkalin soil improvement. Patent 269 (13) VS, nr.09, 2010.05.12. 				
Number of defended dr.hab. and dr. theses per year	2006 0	2007 0	2008 0	2009 0	2010 3

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

Cooperation: Food, Agriculture and Biotechnology (Developing technologies for the production and use of renewable energy sources in the raw materials and agricultural waste; recommendation concerning optimization soil nutritive regimes of crop plants);

Ideas: The international scientific projects in the soil protection, combating soil degradation and erosion processes.

People: Areas of knowledge; Science in the society (The soil degradation hazard assessment and development measures to combating soil erosion and environment pollution).

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

Soil resources: assessment, protection, improvement and increase soil fertility - 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)

1. Assessing changes of physical, chemical and biological parameters of chernozem under influence of phyto-ameliorative measures and action of organic fertilizers.
2. Determination of parameters outlets grass coverage in dependence of slope size of the soil.
3. Research on drip irrigation action on typical and leached chernozems.
4. Evaluation of crop plant productivity by natural nutrient regimes and fertilization system on different soil types and subtypes of climate conditions.
5. Studying the chemical composition and appreciation fertilizer potential of new forms of rural household's animal waste from wineries stations and sewage treatment.