NATIONAL INSTITUTE OF RESEARCH - DEVELOPMENT FOR MACHINES AND INSTALLATIONS DESIGNED TO AGRICULTURE AND FOOD INDUSTRY
- INMA Bucharest -

- EXCELLENCE CENTER –

ACTIVITY REPORT
- 2013 -

BUCHAREST

CONTENTS

1. IDENTIFICATION DATA

1.1. Denomination

NATIONAL INSTITUTE OF RESEARCH - DEVELOPMENT FOR MACHINES AND INSTALLATIONS FOR AGRICULTURE AND FOOD INDUSTRY
- INMA Bucharest -

1.2. The establishing document with the subsequent amendments

- HG 1308/1996;
- HG 823/2004;

Accreditation to carry out research and development activities financed from public funds according the NASR Decision no. 9634/14.04.2008

1.3. Registration number in the Register of potential contractors

2421, according the Annex 1 of Info package of the Excellence Research Program – CEEX 2006:436

1.4. Adress

Bucharest, Sector 1, 6, Ion Ionescu de la Brad Blvd , Postal Code 013813, ROMANIA

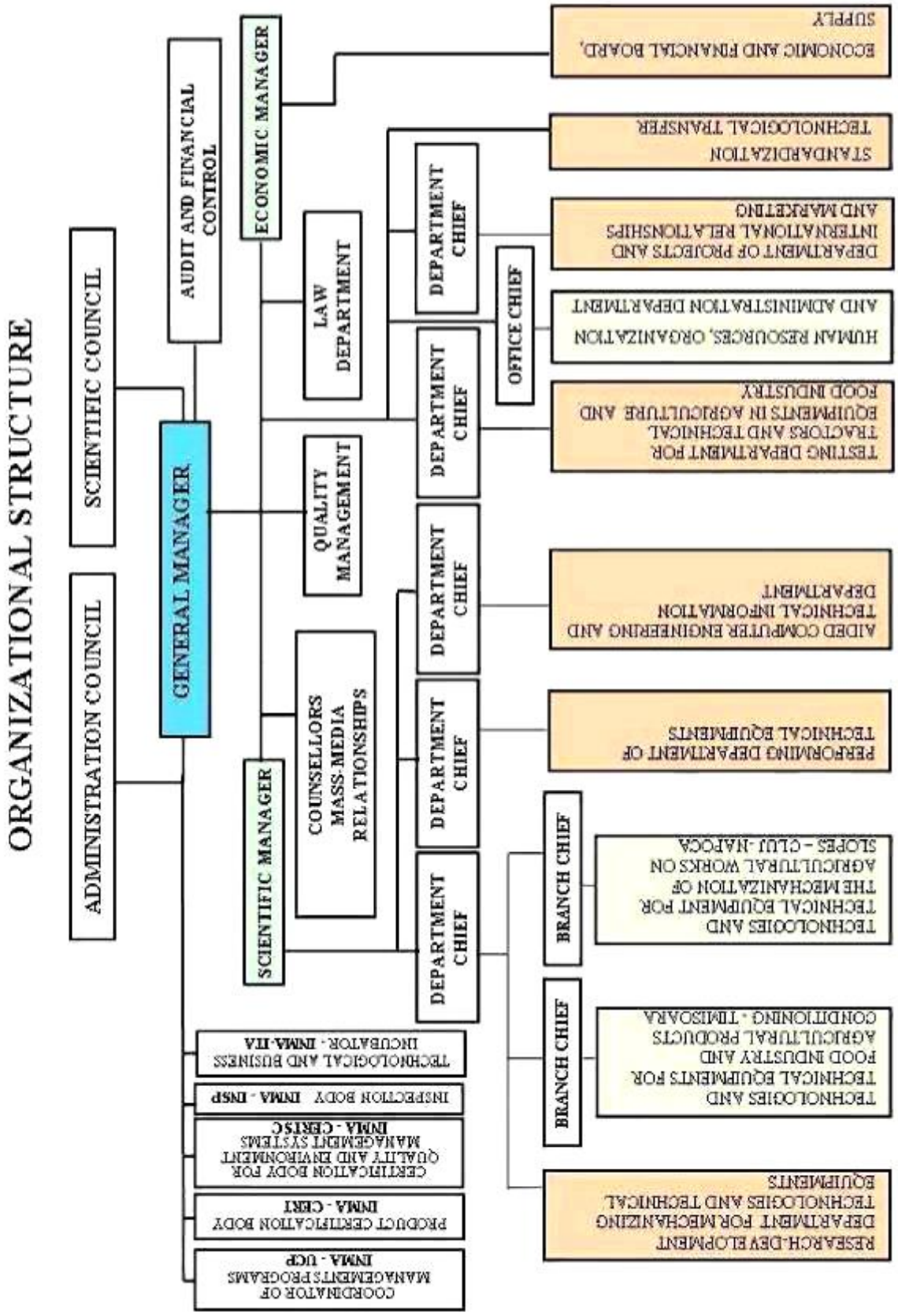
1.5. Phone: 021 269.32.69
Fax: 021 269.32.73
webpage: http://www.inma.ro
E-Mayl: icsit@inma.ro

2. SHORT PRESENTATION OF NIRD

2.1. HISTORIC

ORGANIZATIONAL EVOLUTION	TARGETS
1927 – Setting up „**TESTING CENTRE FOR AGRICULTURAL MACHINES AND TOOLS**"-BĂNEASA within the INSTITUTE FOR FORESTRY RESEARCHES IN ROMANIA by the Establishing Law **ICAR** (M.O no. 97/05.05.1927).	- Performing scientific and experimental researches on"the machines and equipment the most suitable for Romania soil and climate"; - Testing the machines recently brought in the country.
1930 - Decision no. 2000/1930 of ICAR Manager - GHEORGHE IONESCU ŞIŞEŞTI related to **operating** standards and **the role of TESTING CENTRE FOR AGRICULTURAL MACHINES AND TOOLS** "	- Creating and endowing the first laboratory for testing agricultural machines; - Establishing rules of experimental research and chosing the types of machines suitable to Romania agriculture; - Establishing the testing methodologies and programmes; - Publishing the results of agricultural machines testing; - Regional demonstrations with state-of-the art agricultural machines.
1952 - Setting up the institute of SCIENTIFIC RESEARCHES FOR AGRICULTURE MECHANIZING AND ELECTRIFYING - ICMEA by transforming the TESTING CENTRE FOR AGRICULTURAL MACHINES AND TOOLS within ICAR (HCM no.543/16.04.1952).	- Elaborating the agro-technical requirements for machines and equipment appropriate to agricultural processes; - Elaborating the systems and types of machines necessary to mechanizing the agricultural processes; - Experimental researching and improving the technical and manufacturing solutions.
1982 - Joining ICMEA Băneasa to INSTITUTE FOR DESIGNING AGRICULTURAL MACHINES OTOPENI and establishing the NATIONAL INSTITUTE OF RESEARCH-DEVELOPMENT FOR MACHINES AND INSTALLATIONS DESIGNED TO AGRICULTURE AND FOOD INDUSTRY ICPITMUA Băneasa (Decree of State Council no.386/27.10.1982).	- Performing scientific research, designing and manufacturing experimental models and prototypes of agricultural machines and equipment; - Elaborating the mechanizing technologies; - Elaborating the machines and equipment classes designed to agricultural processes.
1996 - Establishment of National Institute of Research - Development for Machines and Installations Designed AGRICULTURE AND FOOD INDUSTRY-INMA (HG 1308/25.11.1996, Official Monitor no. 329/1996) coordinated by the Ministry of Education and Research;	- Fundamental research on the structure and the strength of materials used in the construction of technical equipment; the relation TE, plant, environment (air, water, soil); - Applied research in order to develop and achieve mechanization technologies and performant technical equipment for agriculture and food industry; - Technological development through experimental models and prototypes of technical equipment; - Standardization, typification and organological unification of technical equipment for agriculture TC 77; - Testing and certification of technical equipment; - Practical demonstrations, dissemination and technical assistance at implementation; - Incubation and Technology Transfer; - Training and professional training; scientific careers; - Substantiation of partnerships and consortia, thematics for EU-funded projects (FP7, EUREKA, COST, TRANS-BORDER etc.)
2008 - **INMA** was accredited to carry out R & D activities financed from public funds in accordance with the GD 551/2007, Decision of NASR no. 9634/2008	
2010 – **INMA** was authorized to carry out activities of training / qualification and specialization / professional improvement, in accordance with the Authorization Series B no. 2795310 from 17.02.2010;	- Activities for qualifying and perfecting within the training center.
2011 – INMA has been authorized to develop activities of: - skills training for AGRICULTURAL MACHINERY MECHANIC I, code COR new 723309, Acord to. Aut. Series B no. 0004500 from 24.03.2011 - perfectioning for SPECIALIST ÎN AIDED-COMPUTER DESIGN position, code COR new 251401, Accord to. Aut. Series B No. 0004501 from 28.04.2011;	- Professional training activities for adults
2012 – **INMA** was authorized through the Center for Evaluation and Certification Professional Competencies to carry out activities for the qualification of "**miller**", COR code 816020, according Aut. Series C no. 00260 from 31.08.2012	

2.2. INMA ORGANIGRAM



2.3. SPECIALIZATION AREA OF INMA

a. According to UNESCO classification

3313 – Mechanical technology and engineering;
3102 – Agricultural engineering (technologies and equipment)
3309 – Tehnologies/equipment for food industry;
3328 – Technological processes;
3308 – Engineering and technology of environment.

b. According to CAEN classification

7219 – Research-development of physical and natural sciences;
7120 – Activities of testings and technical analyses;
6201 – Editing programmes;
6203 – IT data processing;
7022 – Activities of business and management consultancy.

2.4. DIRECTIONS FOR RESEARCH AND DEVELOPMENT / RESEARCH OBJECTIVES / RESEARCH PRIORITIES

2.4.1. R & D Directions

- INMA performs activities of scientific research (fundamental and applicative), innovation and development in the field of processes, technologies and technical equipment of mechanization and automation of agricultural and food industry operations within the context of harmonizing the institute whole activity to the policies applied by the National Agency for Scientific Research in Romania.

a. Mayn doMayns of research-development

- Scientifically substantiating the processes in agriculture, food industry and creating new technologies, technical devices and equipment competitive and appropriate to European research area, specific to concepts of SUSTAINABLE AGRICULTURE, FOOD SAFETY AND SECURITY;
- Renewable sources of energy (biomass, biofuels) technologies and technical equipment for using them efficiently, ensuring life, health and environment protection;
- Rural development and life quality improvement by technological transfer and outcomes demonstrations performed by the institute.;
- Strengthening the research infrastructure (human resources, logistics, researching instruments) and achieving partenerships for joining ERA, including the compliance with European technological platforms.
- Activities of training, professional specialization and personnel certification in the field of mechanizing technologies.

b. secondary research doMayns

- Assessing and certifying the conformity of technical equipment in regulated and non-regulated field of EU.;
- Performing periodical technical controls of mechanizing technologies and TE for agriculture and food industry;
- Technological transfer and innovative business through the accredited technological icubator: INMA-ITA.

c. Services/microproduction

- testing technical equipment;
- certifying the products conformity;
- training and competences evaluation;
- performing periodical technical inspections for all types of motor vehicles;
- manufacturing plastic components.

2.4.2. Research Objectives

- Highly valorisation of the production potential of agricultural lands by the substantiation, development and implementation of intelligent technical systems of mechanization and automation, adapted to climate change;
- Promoting the development of bio-industries in the rural area in the context of increase of the added value of the non-food products and the improvement of the quality of life;
- Enhancing of the continues professional training and acquiring of new competencies for the personnel from the rural area.

2.4.3. Research Priorities

- The development of mechanization technologies and of the innovative technical systems intended for soil tillage, establishment, Mayntenance and harvesting of agricultural crops, horticultural, agro-zootechnical and agro-forestry under the conditions of environmental resources conservation, combating of desertification and droughts;
- The substantiation and development of new technical systems, intelligent, specific to the concept of "PRECISION AGRICULTURE" for the superior capitalization of the production potential of agricultural lands under conditions of sustainable exploitation;
- Development of expert technical systems to achieve of production virtual maps, monitoring of agricultural crops and applying of an appropriate management;
- The substantiation and development of new technologies for mechanization and automation in agriculture and food industry: conditioning, processing, storage and storage of primary agricultural products, non-agricultural and aquaculture under conditions of efficiency, safety and security;
- Efficient technical solutions for the development of bio-industries in the rural area for the superior capitalization of non-food bio-resources;

2.5. STRATEGIC CHANGES IN THE ORGANIZATION AND OPERATION OF THE NIRD - NOT

3. MANAGEMENT STRUCTURE

3.1. CONSILIUL DE ADMINISTRAŢIE

1. **Prof.PhD.Eng. PIRNĂ Ion - president**
2. **PhD.Eng. MURARU VERGIL - vicepresident**
3. **Ec. CHITUC NICOLETA - member**
4. **Ec. MASARIU MIOARA - member**
5. **Ec. HALALAIE ELENA - member**
6. **Prof.PhD eng. NICULIŢĂ PETRU - member**
7. **Ec. ŞEULEANU DRAGOŞ - member**
8. **Legal adviser CÂRCEL CRISTINA - secretary**
9. **PhD.Eng. NEDELCU MIHAIL - permanent guest**

REPORT about the INMA Managing Board activity conducted in 2013 - Synthesis (Annex 8)

3.2. THE GENERAL MANAGER

- **Prof.PhD.Eng. PIRNĂ ION**

REPORT on the fulfillment of performance indicators, presented in Annex 1 to the "Management Contract" from 19.12.2012" (Annex 9)

3.3. SCIENTIFIC COUNCIL

1. **PhD. Eng. Muraru Vergil - president**
2. **PhD. Eng. Ciupercă Radu - vicepresident**
3. **PhD. Eng. Ganea Ioan - secretary**
4. **Prof.PhD. Eng. Pirnă Ion - member**
5. **PhD. Eng. Voicu Emil - member**
6. **PhD. Eng. Vlăduţ Valentin - member**
7. **Eng. Ioniţă Ghiţă - member**
8. **PhD. Eng. Muraru Cornelia - member**
9. **PhD. Eng. Găgeanu Paul - member**
10. **PhD. Eng. Pop Augustin - member**
11. **PhD Std.eng. oţa Constantin - member**
12. **PhD. Eng. Constantin Nicolae - member**
13. **PhD. Eng. Drâmbei Petronela - member**
14. **PhD. Eng. Marin Eugen - member**
15. **PhD. Eng. Bădănoiu Bianca - member**
16. **PhD. Eng. Nedelcu Mihail - member**
17. **PhD Std.eng. Matache Mihai - member**
18. **Eng. Neagoe Valerica - member**
19. **PhD. Eng. Păun Anişoara - member**

3.4. STEERING COMMITTEE

1. **General Manager - Prof.PhD. Eng. Pirnă Ion - president**
2. **Scientific Manager - PhD. Eng. Vlăduţ Valentin - member**
3. **Economic Manager - Ec. Rusu Mircea - member**
4. **Head of Research Development Innovtion Department: - Ph.D. Eng. Păun Anişaora - member**
5. **Head of Testing Department – PhD std.eng. - Matache Mihai - member**
6. **Manufacturing Division - Eng. Marian Mihai - member**
7. **Head of IT Department - PhD. Eng. Muraru Vergil - member**
8. **Head of Projects & International Relations Department - PhD. Eng. Drâmbei Petronela - member**
9. **Head of Department I.T.A. - PhD. Eng. Muraru Cornelia - member**
10. **Head of SMCS Collective - PhD. Eng. Bădănoiu Bianca - member**
11. **Head of Financial Accounting Office - Ec. Gheorghe Mariana - member**
12. **Head of Admin. Office, Personnel, Organization - Eng. Dumitru Cristinel - member**
13. **Legal adviser - Cârcel Cristina - member**
14. **Head of Office Plan - Eng. Neagoe Valerica - secretary**
15. **Representative of employees from INMA – PhD. Eng. Nedelcu Mihail - permanent guest**

4. ECONOMIC AND FINANCIAL SITUATION OF INMA

4.1. The patrimony established based on the financial reports on December 31, 2013

	2012	2013
The patrimony established based on the financial reports on December 31	746,494	746,494

4.2. Total income, of which:

	2012	2013
Total incomes	13,499,811	11,560,303
- Incomes realized from RD contracts publicly funded (distributed on national and international sources)	9,073,538	7,529,410
- Incomes realized from RD contracts funded from private funds (specifying the sources)	112,089	451,943
- Incomes from economic activities (services, microproduction, exploitation of intellectual property rights)	4,267,382	3,554,562
- Subsidies / transfers	-	-
- Financial incomes	46,802	24,388

ANNEX 1

- **Incomes realized from RD contracts publicly funded**

Annex 1.1

Crt. No.	Contract No.	Project Title	INMA role in the project	Total Value 2013 (lei)	from which:	
					INMA	Partners
PROGRAM PARTNERSHIPS IN PRIORITIES AREAS				***506,400***	***312,544***	***193,856***
1.	35	Promoting in Romania of energetic willow cultivation technology (SALIX VIMINALIS) as an alternative source of clean energy	holder	506,400	312,544	193,856
IDEAS PROGRAMME				***185,111,25***	***185,111,25***	***-***
2.	284	Research on improvement of physical and mechanical properties and of the structure of biodegradable materials for packing from indigenous materials	holder contractor	185,111,25	185,111,25	-
INNOVATION PROGRAM: SUBPROGRAM Support Services for innovation - Innovation Checks				50,000	50,000	-
3.	164 CI	Elaboration of an innovative methodology for crushing wooden materials technology in order to increase the extraction of bioactive substances	services provider	*50,000*	*50,000*	-
INNOVATION PROGRAM: SUBPROGRAM Development of Products - Systems - Technologies			-	***197,214***	***197,214***	-
4.	30 DPST	Development of innovative technical equipment for rational recovery technology of grasslands in terms of climate change	Partner	*136,364*	*136,364*	-
5.	20DPST	Innovative multifunctional self-propelled equipment, with equipment for working, intended for the works from the small farms	Partner	*60,850*	*60,850*	-
SECTORIAL PLAN OF THE MINISTRY OF AGRICULTURE				***468,005.39***	***393,141***	***74,864,39***

Crt. No.	Contract No.	Project Title	INMA role in the project	Total Value 2013 (lei)	from which:	
					INMA	Partners
AND RURAL DEVELOPMENT						
6.	135	Innovative technology and technical equipment with active driven organs for loosening in depth and increasing of soil fertility	Holder contractor	100,395	100,395	0
7.	311	Technology of mechanization and technical equipment for conditioning and calibration of apples, intended for semi-subsistence fruit growing farms	Holder contractor	193,141,06	147,246	45,895.06
8.	736	Mechanization technologies and technical equipment suitable for harvesting, transportation and conserving of forage plants efficiently	Holder contractor	174,469.33	145.500	28,969.33
NUCLEUS PROGRAM				***5,013,969***	***5,013,969***	***0***
9.	15 N	**PN 09 - 15 01 09** Innovative technology and achieving of a of a complex technical equipment for packaging in sacs of finished agricultural products within the milling establishments of small and medium size	Holder contractor	918,570	918,570	-
10.	15 N	**PN 09 - 15 02 03** Research on mechanization and automation of manufacturing processes of the pellets and agri-pellets	Holder contractor	1,980,000	1,980,000	-
11.	15 N	**PN 09 - 15 03 02** Research for the development of the technology on the achievement from renewable resources of biodegradable materials intended for obtaining of environmentally friendly products used in agriculture and food industry	Holder contractor	880,000	880,000	-
12.	15 N	**PN 09 - 15 03 03** Innovative Technology on the continuous flow dosing with granular and powdery products for alimentary consumption to ensure the quality and food safety	Holder contractor	1,100,000	1,100,000	-
13.	15 N	**PN 09 - 15 05 05** Extensive research on the use of agricultural equipment tires using new methods for automated and computerized verification	Holder contractor	135,399	135,399	-
SECTORIAL OPERATIONAL PROGRAMME FOR HUMAN RESOURCES DEVELOPMENT 2007 – 2013, POSDRU				***439,899.76***	***439,899.76***	
14.	POSDRU/83/5.2/S/53508	Valorisation of human capital in rural areas of Romania, through the acquisition of skills and knowledge with high added value	Partener	57,508.76	57,508.76	-
15.	POSDRU/81/3.2/S/58103	Professional training in the field of new materials with applications in Mechanical Engineering & Mecatronics	Partener	382,391	382,391	-
SECTORIAL OPERATIONAL PROGRAMME INCREASING ECONOMIC COMPETITIVENESS - POS CCE				***147,750***	***147,750***	-
16.	130	Static and fatigue test of the prototypes subjected to destructive tests: frames of motor bogie and carrier	Partener	147,750	147,750	-
CROSS BORDER COOPERATION PROGRAMME ROMANIA - BULGARIA 2007 – 2013				***267,988.89***	***267,988.89***	-
17.	1052	Development of a management system for environmental protection by enhancing the use value of animal dejections in the Teleorman-Veliko Tarnovo crossborder area	Partener	261,128.37	261,128.37	-
18.	54121	Biofuels - Source of common sustainable development in the cross-border cooperation area	Partener	6,860.52	6,860.52	-
CROSS BORDER COOPERATION PROGRAMME ROMANIA – HUNGARY,2007 – 2013				***40,827.13***	***40,827.13***	-
19.	HURO 0802037AF	Joint hydrobiology and fish biology research center in Szarvas and Timisoara – Hurofish	Partener	40,827.13	40,827.13	-
LEONARDO DA VINCI PROGRAMME				***69,093.67***	***69.093.67***	-

Crt. No.	Contract No.	Project Title	INMA role in the project	Total Value 2013 (lei)	from which:	
					INMA	Partners
20.	2011-1-es1 leo05-35863/ 01.12.2011	AGRICULTURAL CODE / LEONARDO DA VINCI ,,Training through visual communication on prevention of occupational risks in the use of agricultural machinery "	Partener	*69.093,67*	*69.093,67*	-
INTERREGIONAL COOPERATION PROGRAMME INTEREG IV C				***193.151,33***	***193.151,33***	
21.	1014 R4 / 10.04.2012	Clusters for European Innovation Cross – Linking	Partener	193.151,33	193.151,33	-
TOTAL RESEARCH - DEVELOPMENT CONTRACTS PUBLICLY FUNDED = 21 contracts				**7.529.410,42**	**7.260.690,03**	**268.720,39**

- **Incomes realized from research - development contracts financed from private funds**

Annex 1.2

Crt. No.	Contract No.	Contract name	Value 2013 (lei)
1.	866	Determination of the sound power level for the Moto Pump GP 100 (D 2000/14/EC)	433.11
2.	494	Scientific and technical evaluation, technical support for installation and commissioning of technological installations designed by INMA within the project entitled "Hall for sturgeon growth and building a fishpond with an area of 7.1 ha for aquaculture practicing in the Herneacova area, Timis county"	65,790.00
3.	813	Static and fatigue test of the prototypes subjected to the destructive tests: motor bogie frame - drawing R 130 RSN	330.600.00
4.	1273	Research on determining the technical characteristics by achieving of the experimental models for four-sieves sorting machine and conveyor with belt	37,570.00
5.	1134	Performing the calculation of resistance of the panels to support sides and excavations type BAV2, according to the execution design and of certificates of quality of the materials used in the technological process of these metal structures	2,223.35
6,	1386	Performing of static tests for the telescopic protector of the cabin in voluntary regime according to RS EN 81 -21 2010	222.33
7.	96	Achieving the Romanian version of the standards contained in Annex 1 – List of standards, costs, completion deadlines	854.48
8.	1582	Performing of static tests in voluntary regime according to SR EN 81 -21: 2010 for telescopic guard of cabin made up of three parts and a fixed guard of cabin	446.76
9.	2874	Designing studies necessary for the installation of a greenhouse for research, of coated aluminum foil skeleton	4,032.26
10.	1254	List of standards, costs and completion deadlines	2,916.00
11.	1669	Research, development and innovation – support for the sustainable economic and social development	6,854.84
TOTAL			**451,943.13**

- **Incomes realized from economic activities** (services, microproduction, exploitation of intellectual property rights)

Annex 1.3

Crt. No.	Contract No.	Contract name	Value 2013 (lei)
CONTRACTS REGARDING THE ASSESSMENT FOR THE PURPOSE OF GRANTING THE CERTIFICATION OF PRODUCTS CONFORMITY			**79,326.87**
1.	468(P)	Trailed sprayer machine: MET-1500; MET-2000; MET-2500; MET-3000	3,588.28
2.	469(P)	Universal hammer mill: MCU-1,8; MCU-7,5; MCU-11; MCU-22; MCU-30	3,588.28
3.	460(P)/07.06.2010	Motor pump for clean water GP 100	450.75

Crt. No.	Contract No.	Contract name	Value 2013 (lei)
4.	459(P)/ 28.04.2010	Motor pump for dirty water GTP 80	3,727.22
5.	465(P)/02.07.2010	Motor pump for clean water GP 40	438.25
6.	466(P)/02.07.2010	Family of motor pumps for clean water GP 50; GP 80	482.06
7.	478(P)/31.05.2012	Plow for snow removal model FCS 125, FCS 150, FCS 170, FCS 180, FCS 200, FCS 230, FCS 250	848.62
8.	479(P)/28.06.2012	Electro compressor ECS 60/10	1,684.18
9.	005MA/15.05.2012	Cabin for forestry tractor TAF 2012	4,598.53
10.	480(P)/11.12.2012	Aerodynamic selecturers SAD: 1; 2; 4; 5; 7; 10; 10-01; 12; 15; 20; 30; 40; 50; 70; 100; 150	5,281.66
11.	464(P)/ 10.06.2010	Milling machine for soil RS-1000; RS-1100; RS-1200; RS-1300; RS-1400; RS-1500; RS-1600; RS-1700	6,979.47
12.	463(P)/ 10.06.2010	Seed drills of corn 2 BYF-3; 2 BYF-4	4,122.70
13.	462(P)/ 10.06.2010	Disc harrow 1BQX-1,3; 1BQX-1,5; 1BQX-1,7; 1BQX-1,9; 1BQX-2,0	483.67
14.	461(P)/ 10.06.2010	Plow 1L220, 1L225, 1L320, 1L325	483.67
15.	444/15.07.2008	Machines family for seeds treatment MTS/PC (MTS-3; MTS-5; PC-20)	1,126.54
16.	470(P)/ 30.08.2010	Swinging freezer doors: HINDER 70, HINDER GV, HINDOR 90; HINDOR 120; sliding: SLIDER 70, SLIDER 90, SLIDER GV, SLIDOR 120; technicals: HINDON, WINDON	13,790.67
17.	471(P)/ 30.08.2010	Garden tiller KDT 610C (without accessories),	5,172.43
18.	474(P)/04.11.2010	Centrifugal Air Compressor CCAE 9-125	1,711.83
19.	467P/29.07.2010	Horizontal forages mixer: AO-300; AO-500; AO-1000; AO-2000	943.62
20.	469P/29.07.2010	Universal hammer mill: MCU-1,8; MCU-7,5; MCU-11; MCU-22; MCU-30	882.74
21.	473(P)/ 01.11.2010	Motocultor KDT 410C (without accessories)	5,203.05
22.	468P/29.07.2010	Trailed sprayer machine: MET-1500; MET-2000; MET-2500; MET-3000	1,600.24
23.	475(P)/12.09.2011	Electrocompressor with screw ECS 20/25	1,711.98
24.	481(P)/17.12.2012	Electrocompressor with screw 75/10	5,448.10
25.	477(P)/23.03.2012	Articulated forestry tractor TAF 2012	2,458.12
26.	476(P)/10.01.2012	Motocultor KDT 910E (fără accesorii)	802.85
27.	472(P)/12.10.2010	Carried plows P1-16; P1-20; PR1-16; PR1-20; P2-20; P2-25; P2-L75; P2-L82; PR2-20; PRH2-25; P3-20; P3-25; P3-L75; P3-L82; P4-L82	854.76
28.	343/17.06.2005	Installation of sprinkler irrigation IIA-50; IIA-75; IIA-100; IIA-150	862.60
INCOMES FROM SERVICE PROVISION			**3,475,235.13**
TOTAL			**3,554,562**

4.3. Total expenses

	2012	2013
Total expenditures	13,388,009	11,477,317

4.4. Gross profit

	2012	2013
Profit before tax	111,802	82,986

4.5. Gross loss: -

4.6. The situation of arrears: -

4.7. Economic and social policies implemented (cost / effect)

	2012	2013
Economic and social policies implemented (cost / effect):	-	-

4.8. Evolution of economic performance:

	2012	2013
Evolution of economic performance	V_{total} = 13,499,811	V_{total} = 11,560,303

5. STRUCTURE OF R & D HUMAN RESOURCE

5.1. Total personnel, of which:

Year	2012	2013
TOTAL PERSONNEL	***176***	**175**
R&D PERSONNEL, of which:	***141***	**141**
a) R & D attested personnel with higher education	*60*	57
b) number of PhD rulers	-	-
c) number of PhDs	*28*	29

STRUCTURE OF RD PERSONNEL ON PROFESSIONAL DEGREES

Personnel engaged in scientific research		***Personnel who carry out technological development***	
ATESTAT: 57			
CS I	***10***	***TDE I***	***-***
SR II	***11***	***TDE II***	***9***
SR III	***13***	***TDE III***	***3***
SR	***10***	***TDE***	***1***
NEATESTAT: 20			
SRA	***19***	***ENG.***	***1***
TOTAL	**63**	**TOTAL**	**14**

Number of PhDs: 29

Crt.No.	Name and Surname	Professional Degree	Ph.D. thesis year
1.	Alexandru Isabela	SR III	1999
2.	Bădănoiu Bianca	SR II	2004
3.	Bodea Codruţ	SR III	2008
4.	Brăcăcescu Carmen	SR III	2011
5.	Cioica Nicolae	TDE II	2006
6.	Ciupercă Radu	SR II	1999
7.	Constantin Nicolae*	SR I	2000
8.	Cozar Onuc*	SR I	1970
9.	Danciu Aurel	SR III	2013
10.	Drâmbei Petronela	SR I	2003
11.	Ganea Ioan	TDE II	2009
12.	Găgeanu Paul*	SR I	2002
13.	Ivan Gheorghe	TDE II	2009
14.	Koloszvary Constantina	SR III	2008
15.	Manea Dragoş	SR III	2011
16.	Mateescu Marinela	SR II	2004
17.	Marin Eugen	SR II	2004
18.	Muraru-Ionel Cornelia	SR I	1998
19.	Muraru Vergil*	SR I	2001
20.	Nedelcu Ancuta	SR II	2004
21.	Nedelcu Mihail	SR III	2010
22.	Nicolescu Mircea*	SR I	2007
23.	Păun Anişoara	SR I	2004
24.	Pirnă Ion*	SR I	1997
25.	Pop Augustin	SR I	2000
26.	Popa Lucreţia	SR II	2004
27	Sorică Cristian	SR III	2011
28	Vişan Alexandra Liana	SRA	2012
29	Vlăduţ Valentin*	SR II	2004

* Member in doctoral thesis commitees

PhD Students: 27	MA students: 3
1. Vlăduţoiu Laurenţiu **2.** Andrei Sorin **3.** Grădinaru Vasilică **4.** Matache Mihai **5.** Muscalu Adriana **6.** Nagy Elena Mihaela **7.** Sima Daniela **8.** Voicea Iulian **9.** Ciobanu Valeria Gabriela **10.** Postelnicu Elena **11.** David Alexandru Dorin **12.** Radu (Cristea) Oana Diana **13.** Mitu Mariana **14.** Niţu Mihaela **15.** Zaica Alexandru **16.** Dumitraşcu Andrei **17.** Pruteanu (Stanciu) Mirabela **18.** Coşniţă Daniel **19.** Toderaşc Petruţa **20.** Perşu Cătălin **21.** Zaica Ana **22.** Ivancu Bogdan **23.** Lazăr George **24.** Petcu Albert **25.** Cujbescu Dan **26.** David Evelin Anda **27.** Ştefan Vasilica	**1.** Ghilvacs Mădălina **2.** Maria Mihaela Irina **3.** Moraru Bianca

5.2. Information on activities of improving the human resource (personnel involved in training processes - training courses, refresher training)

- **Pedagogical activity**
  - **Associate Professor: 5**
    - U.P. Bucharest - Faculty of Engineering of Biotechnical Systems: Prof.PhD. Eng. Pirnă Ion, PhD. Eng. Vlăduţ Valentin, PhD. Eng. Constantin Nicolae;
    - Babes Bolyai University Cluj-Napoca - Faculty of Chemistry: Prof.PhD. Eng. Cozar Onuc;
    - Technical University of Cluj-Napoca, Department of Road Vehicles and Transports: PhD. Eng. Cioica Nicolae.
  - **Referrers doctoral commissions: 6**
    - Pirnă Ion, Muraru Vergil; Găgeanu Paul, Constantin Nicolae, Vlăduţ Valentin, Cozar Onuc.
  - **Cycle of practical training activities for students:**
    - USAMV Bucharest, Faculty of Biotechnology: 8 students;
    - University Politehnica of Bucharest, Faculty of Biotechnical Systems Engineering: 81 students.
  - **Cycle of documentation and consulting activities for bachelor / master / doctorate:**
    - Polytechnic University of Bucharest, Faculty of Biotechnical Systems Engineering;
    - Transilvania University of Brasov, Faculty of Food and Tourism;
    - University of Craiova, Faculty of Agriculture and Horticulture.
- **Personnel involved in the training process** within the ***Training Center* – INMA**: **30**
  - training program for the occupation „*Mechanic for agricultural machines*" / Piatra Neamţ: 16 trainees / march 2013 - lecturers: *Constantin Nicolae, Marin Eugen, Sorică Cristian, Pirnă Ion, Matache Mihai, Vlăduţ Valentin, Marian Mihai, Nicolescu Mircea*;

- training program for the occupation „*Specialist in the field of computer aided design*" / SC AGMUS SA Iaşi: 17 trainees / march 2013 - lecturers: *Constantin Nicolae, Marin Eugen, Sorică Cristian, Manea Dragos, Cârdei Petru;*
- training program for the occupation „*Specialist in the field of computer aided design*" / SC GRUP ROMET SA Buzău: 10 trainees / aprilie 2013 - lecturers: *Constantin Nicolae, Marin Eugen, Manea Dragos, Cârdei Petru;*
- training program for the occupation „*Specialist in the field of computer aided design*" / East Electric S.R.L. Bucuresti / 7 trainees / June 2013 - lecturers: *Cârdei Petru, Muraru Vergil, Constantin Nicolae;*
- training program for the occupation „*Manager of Innovation*" / CCI DOLJ – Craiova / 6 trainees / septembrie 2013 - lecturers: *Marin Eugen, Muraru Vergil, Cârcel Cristina;*
- training program for the occupation „*Tractor operator*" / TEHNOIND Piatra Neamţ / 17 trainees / septembrie 2013 - lecturers: *Ciupercă Radu, Constantin Nicolae;*
- training program for the occupation „*Specialist in the field of computer aided design*" / UMARO Roman / 13 trainees / septembrie 2013 - lecturers: *Muraru Vergil, Constantin Nicolae;*
- training program for the occupation „*Specialist in the field of computer aided design*" / PIATRA NEAMT / 5 trainees / septembrie 2013 - lecturers: *Marin Eugen, Cardei Petru;*
- training program for the occupation „*Foreman instructor*" / MECANICA Ceahlău Piatra Neamţ / 5 trainees / septembrie 2013 - lecturers: *Ioniţă Ghiţă, Bădanoiu Bianca.*

- **Personnel involved in internal training of personnel within INMA Bucharest, in 2013**: **9**
  - Training of specialized personnel in the occupation of „*Electrician*" / 15.03.2013 / 2 trainees / lecturer - *ing. Pop Florin;*
  - Training of specialized personnel in the occupation of „ *Welder*" / 18.03.2013 / 2 trainees / lecturer - *sing. Marian Mihai*;
  - Training of specialized personnel in the occupation of " *Computer aided design using Solid Works "* / 3-4.04.2013 / 2 trainees / lecturer - *dr. ing. Marin Eugen*;
  - Training of specialized personnel in the occupation of "*Sealing systems in the construction of machines "* / 30.05.2013 / 19 trainees / lecturer - *dr. ing. Ivan Gheorghe*;
  - Training of specialized personnel in the occupation of "*Choice of materials "* / 1-3.10.2013 / 14 trainees / lecturer - *dr. ing. Nedelcu Ancuţa;*
  - Training of specialized personnel in the occupation of "*Workpieces accuracy "* / 7-8.10.2013 / 14 trainees / lecturer - *dr. ing. Nedelcu Ancuţa*;
  - Training of specialized personnel in the occupation of " *Indirect transmissions "* / 10-11.10.2013 / 14 trainees / lecturer - *dr. ing. Păun Anişoara;*
  - Training of young engineers on " *Heat treatments and thermochemicals*" / 21-24.10.2013 / 14 trainees / lecturer - *dr. ing. Popa Lucretia*;
  - Training of specialized personnel in the occupation of " *Choosing tolerances and fits in machine building*" / 31.10.2013 / 14 trainees / lecturer - *dr. ing. Ciupercă Radu.*

5.3. Information on the development policy of research and development human resource

Emergence of advanced research results developed at the institute is possible due to multidisciplinary research teams (technical training engineering, technology, agriculture, management, etc.) and the quality of the human resource.

In this regard the following strategic measures were implemented:

- Attracting young people in the approach research, development and innovation specific to mechanization technologies and construction of technical equipment for agriculture and food industry;
- Supporting young people in shaping careers in the scientific research and the creation of appropriate facilities for information and communication activities;
- Personnel motivation and stimulation concurrently with the qualitative and responsible involvement;
- Encouraging of researchers by doctorate, specialization, training and development;
- The occupation of posts and positions in the research system promoted by the institute is achieved only through competition.

6. R&D INFRASTRUCTURE, RESEARCH FACILITIES

6.1. R & D Laboratories:

- Laboratory for Advanced Research for technologies of agricultural works mechanization;
- R&D laboratory for biofuels;
- R&D laboratory for biogas;
- Laboratory of irrigation and phytosanitary treatments;
- Laboratory of research and development, recovery medicinal plants;
- Laboratory for the assessment of the mechanization technologies;
- R & D Laboratory for technologies for the superintensive fishes rearing in recirculating systems - Branch of Timişoara;
- R & D Laboratory for Biopolymers - Branch of Cluj;
- R & D Laboratory for technologies, installations and technical equipment intended for the storage and processing of cereals and technical plants seeds;
- R & D Laboratory for technologies for food industry – LCTIA;
- R & D Laboratory for mechanization technologies for soil, adapt to climate change at euroregional level and for agricultural crops establishment in conservative system;
- R & D Laboratory for harvesting, transport and handling of agricultural products and forages;
- R & D Laboratory for feedingstuffs harvesting and food preparation in livestock;
- R & D Laboratory for soil fertilization, according the concept of sustainable agriculture;
- R & D Laboratory for afforestation works and the establishment of protective forest belts of agricultural crops.

ADVANCED RESEARCH LABORATORY FOR MECHANIZATION TECHNOLOGIES OF AGRICULTURAL WORKS

DESCRIPTION

The laboratory's mission is to perform advanced research based on information technology, computerized engineering, mathematical modeling and numerical simulation for the mechanization technologies of the agricultural works and adjacent areas and their related. The secondary activity is represented by the participation in all other research themes of the institute (mathematical modeling, simulation, optimization, software development, etc.).

The laboratory has technical equipment of top: PCs of high capacity with licensed software (MATHCAD, COSMOS / M, MATLAB, MATHEMATICA, AutoCAD Civil 3D, FLAC 6.0, 5.1 LIMA, VERIS, including license of Microsoft Office, Visual Studio and Visual FoxPro database) laptops , laser printers, color and black and white A4 and A3, integrator sonometer, mini weather station, penetrometer, moisture meter, water analysis system, GPS, cereal flow measurement equipment at combines, mobile communication unit with amenities of GPRS, SMS and Internet. For the presentation of the activity, the laboratory has performant photo and video equipment.

KEYWORDS: information technology, computerized engineering, mathematical modeling, numerical simulation, optimization, software development

RESEARCH DIRECTIONS

- Interaction of mechanization technologies - agriculture - environment;
- classical and advanced systems and technologies for the precision agriculture, systems and technologies new and advanced in the sustainable agriculture;
- Information System for agriculture, including databases;
- Mathematical modeling and numerical simulation of processes and phenomena related to agricultural mechanization technologies for improvement optimzare, green;
- Structural analysis;
- Environmental problems (erosion, landslides, changes in soil organic matter in the light of changing environmental parameters);
- Experimental data processing services and mathematical modeling of the processes investigated experimentally;;
- precision agriculture; agricultural soil analysis services.

R & D LABORATORY FOR BIOFUELS

DESCRIPTION

The LABORATORY has as its task the research and development de tehnologii moderne de obţinere a uleiurilor vegetale din seminţe oleaginoase (rapiţă, soia, floarea-soarelui, soia, in, ricin, dovleac, camelină etc.).

Instalaţia constă din trei module: pregătirea seminţelor, obţinerea uleiului şi purificarea uleiului, fiecare modul putând funcţiona independent, în cadrul fiecărui modul existând o interdependenţă, echipamentele tehnice funcţionând în sistem de interblocare şi asigură obţinerea uleiului pur fără a fi executată şi operaţia de degumare.

KEYWORDS: pilot installation, biofuel, energy independence, clean energy

RESEARCH DIRECTIONS

- research and development of processes, technologies and of technical equipment designed for processing of oleaginous seeds;
- identification of new resources for obtaining renewable energy resources;;
- promoting the concept of ENERGETIC INDEPENDENCE OF THE ROMANIAN FARMER and also the reduction of the classical fuel consumption, big polluters of the environment due to emissions of greenhouse gases
- new technologies for full recovery of byproducts (groats) resulting at the obtaining of vegetable oils;
- new strategies for the capitalization of research results in small and medium farms.

R&D LABORATORY FOR BIOGAS

DESCRIPTION

The laboratory has the task the R & D orientată to the creation of new recipes for mixes in order to obtain biogas, in different fermentation regimes. It has a modern research base consisting of a pilot plant for biogas obtaining in small and medium-sized farms, equipped with monitoring and control system for converting biogas into electricity and photovoltaic system capable of ensuring the energy independence of the installation. The monitoring and control system of biogas pilot station allows the user to modify the operating parameters of the installation and anaerobic fermentation process specific parameters.

KEYWORDS: biogas, pilot installation, energy independence, environmental protection

RESEARCH DIRECTIONS

- identification of new sources of biomass with fermentative potential for obtaining of renewable energy;
- realization of biogas recipes with various fermentative substrates, for different fermentation regimes, to meet the demands of small and medium farmers;
- microbial and viral inactivation technologies for digestate;
- valorisation in the form of natural fertilizer of the digestate resulted after the anaerobic fermentation;
- management strategies on the integrated capitalization of biogas in the nsmall and medium-sized farms.

LABORATORY OF IRRIGATION AND PHYTOSANITARY TREATMENTS

DESCRIPTION

The LABORATORY has as its task the research-development and investigation of irrigation and equipment systems and the application of phytosanitary treatments in agriculture.

The system for investigating of the application of irrigation in agriculture include automated pumping stands of various powers, a data acquisition and control system with SCADA station, transducers for, flow, temperature and a testing equipment to determine the coefficient of variation of the droppers of dripping irrigation lines, flow - pressure curve and the response at hydrostatic pressure.

The system for investigating of the application of phytosanitary treatments of agricultural crops includes testing equipment phytosanitary machines in high culture, a testing equipment of phytosanitary machines for vineyards and orchards and a combined stand for testing of pumps and manometers and the flow rate calibration of phytosanitary machines in the high culture, orchards and vineyards.

KEYWORDS: irrigations, phytosanitary treatments, testing, environment protection

RESEARCH DIRECTIONS

- research and development of processes, technologies and technical equipment for crop protection in the context of a sustainable agriculture;
- increasing the accuracy of determination of qualitative indices for irrigation, in order to implement in the INMA laboratory of the requirements of EU regulations;
- verification in order to fulfill the conditions which must comply the machines for the application of phytosanitary treatments in relation to hazards relating to the safety of the operator performing the testing, to the potential danger of environmental contamination and to the optimal protection of the plants by the application of an optimal amount of plant protection substances;
- identification, development and testing of new systems of irrigation of agricultural crops in the context of the energy crisis and of the more obvious danger of desertification at Romania level and of the central area of the European Union;
- elaboration of management systems for irrigation processes and of data collection and of mechatronic systems for monitoring of of the irrigation process parameters.

R & D LABORATORY FOR CAPITALIZATION OF MEDICINAL PLANTS

DESCRIPTION

The LABORATORY has as its task the research and development directed towards the full capitalization of the medicinal and aromatic plants in the form of teas, volatile oils, tinctures, food additives etc. requiring the diversification and modernization of technological processes and the realization of thechnical equipment with high technical and economical parameters. For this it is necessary that in Romania to exist an as diversified offer of technological installations complying with the rules and regulations in force in the EU on quality, life safety and environmental protection. In this portfolio of offers must be and the primary processing installations of this natural wealth, cultivated plants or from the spontaneous flora, which can contribute to the increasing of quality of life in rural areas.

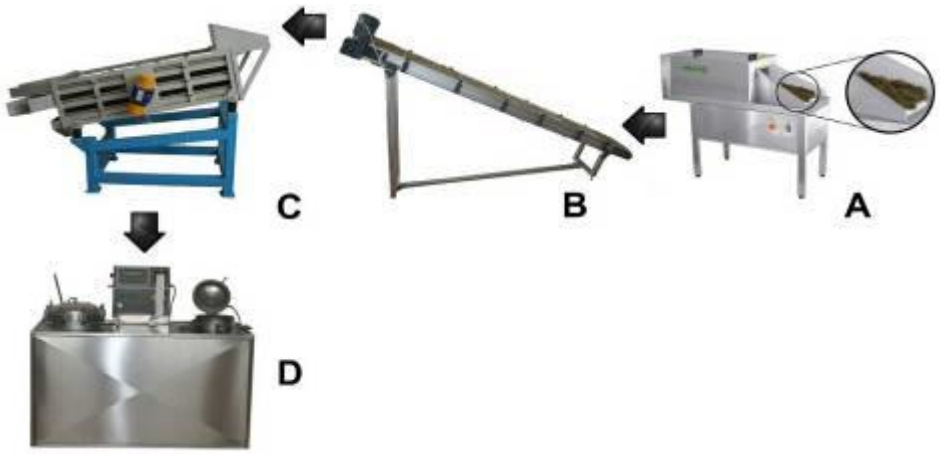
The equipment for primary processing of medicinal and aromatic plants take plant material successively subjected to processing, primary processing equipment being placed in line, it can be placed in different forms, depending on site or available to the premises using such equipment. The line for primary processing of medicinal and aromatic plants contains the following equipment:

- cutting machine for plants;
- inclined conveyor with band;
- sorter of cut plants;
- trickling filter.

KEYWORDS: medicinal plants capitalization, extracts biologically active, food supplements

RESEARCH DIRECTIONS

- better use of local plant resources;
- identifying new sources of medicinal plants cultivated or wild flora potentially beneficial to human health;
- the primary processing of different types of medicinal plants to obtain different kinds of bioactive extract containing various types of biochemical substances beneficial to the health of the human population;
- the identification of new bioctive substances with beneficial role on human health
- the realization of new extracts with role of food supplements;
- the opportunity subsequently of a range of machines with different processing capacities to adapt to local conditions in terms of plant species and quantities to be processed;
- management strategies regarding the superior capitalization of medicinal plants of the territory of Romania.



LABORATORY FOR THE EVALUATION OF MECHANIZATION TECHNOLOGIES

DESCRIPTION

The LABORATORY has as its task the research and development of studies and researches in the field of mechanization technologies of the workings in agriculture (soil tillage, crop establishment and Mayntenance) adapted to regional conditions and aligned to the concept of sustainable agriculture.

KEYWORDS: tillage, establishment, Mayntenance, agricultural crops, sustainable agriculture.

RESEARCH DIRECTIONS

- research on the processes, technologies and machinery for mechanization and automation of workings in agriculture and food industry adapted the concept of *sustainable agriculture;*
- studies and research on the impact of soil works mechanization technologies, establishment and Mayntenance of crops, in order to adopt those systems sustainable use of agricultural land adapted to regional conditions which prevent or minimize soil degradation, restore the productive capacity and life processes degraded soils and provide while increases of food production.




R & D LABORATORY FOR TECHNOLOGIES FOR THE SUPERINTENSIVE REARING OF FISHES INTO RECIRCULATING SYSTEMS

DESCRIPTION

The LABORATORY has as its task the research and development of new technologies for the superintensive rearing of fishes in a recirculating system with the optimization of technological parameters and assuring of sanitary veterinary protection.

KEYWORDS: acvacole recirculating systems, sturgeons, pike perch reproduction

RESEARCH DIRECTIONS

- fundamental research, applied and technological development in the field of processes, technologies and technical equipment acvacole systems and in systems in case the recirculating acvacole.
- promoting sustainable agriculture to diversify fish production and marketing of valuable species for which there is demand and consumption tradition;
- using heat pumps, solar cells and photovoltaic alternative energy source for heating / cooling and water heating / cooling hall and Annexes;
- promotion and expansion of developed technologies and machinery resulting in the establishment of new farms in aquaculture in Romania to obtain material for consumption and populating fish in a natural environment.



R & D LABORATORY FOR BIOPOLYMERS

DESCRIPTION

The LABORATORY has as its task the research and development of new recipes of mixtures in order to obtain from renewable resources of environmentally friendly biodegradable materials, of the type of bioplastics. It features of a modern research base comprises of an extrusion lamination installation consisting in: laboratory extruder with two co-rotating screws type ZK25x30D, with microprocessor for control with the possibility of adjusting and Mayntaining the temperature in the five areas of work and in the mold; granulation plant and rolling mill, all manufactured by Collins company, Germany. In the component of the installation also enter a volumetric dispenser starch with double screens with continuous regulation of the flow rate between 0.3 and 10 kg/h, two peristaltic dosing pumps for supplying the liquid components, an installation for cooling of rollers and vacuum pumps for degassing. In order to perform of analysis and measurements, the laboratory is equipped with a precision balance Partner type WLC 0.6 / B1, a device for measuring the melting point Kruss KSP 1N Programmable Rheometer Brookfield DV-III Ultra type and a circular bath Brookfield type TC150SD..

The monitoring and control system the installation allows the user to change its operating parameters according to the materials that make up the recipe.

KEYWORDS: biopolymers, bioplastics, extrusion, rolling, environmental protection

RESEARCH DIRECTIONS

- Realization of different recipes of bioplastics with various compositions;
- Research in the field of identification and control processes at nanostructured, especially the compatibility components, physicochemical transformations during processing mixtures and biodegradation products;
- Studies comparing products based on biological materials with non-biological in terms of price, performance, availability and environmental benefits;
- Diversification and increase farmers' income by harnessing the potential of biopolymers based products;
- Studies on user behavior of the renewable biodegradable and their perception regarding benefits realization and their use;
- Management strategies for exploitation of biopolymers in SMEs.



R & D LABORATORY FOR "*TECHNOLOGIES, EQUIPMENT AND TECHNICAL INSTALLATIONS FOR THE STORAGE AND PROCESSING OF CEREAL AND TECHNICAL PLANTS SEEDS*"

DESCRIPTION

The LABORATORY has as its task conducting scientific research (fundamental, applied and technological development) in the field of processes, technologies and machinery storage and processing of grain and seed crops in the context of tracing a healthy food chain and its vision of a healthy and equitable world.

KEYWORDS: primary processing, seed processing, chemical treatment, processing, storage;

RESEARCH DIRECTIONS

- research and development of processes, technologies and machinery for obtaining seeds;
- research and development of processes, technologies and technical equipment for chemical treatment of seeds;
- research and development of processes, technologies and machinery for obtaining concentrated fodder;
- research and development of processes, technologies and technical equipment for the storage of grain and seed crops;
- research and development of processes, technologies and machinery for processing cereal seed.

R & D LABORATORY FOR FOOD INDUSTRY TECHNOLOGIES – LCTIA

DESCRIPTION

The LABORATORY has as its task the research and development in order to substantiate of innovative technologies in the food industry, enabling small businesses to get new products, competitive on market. The laboratory has a comprehensive research infrastructure consisting of modern equipment with multiple functions: Soxhlet extraction system, HEI-VAP Rotavapor type BASIC 1 / G1B, Abbe refractometer manual, hectoliter weight determination moisture analyzer, analytical balance, oven roasting, oven , sieving system, rotational viscometer, bidistillator.

KEYWORDS: food industry, innovative technologies

RESEARCH DIRECTIONS

- Physico-chemical characterization of vegetable oils;
- Determination of fat in foodstuffs;
- Physical characteristics (moisture, ash, grit, density, viscosity, refractive index, surface tension) of food products;
- Research into the identification of functional foods;
- Identification of innovative technologies for processing products direct application in the food industry.

R & D LABORATORY FOR TECHNOLOGIES FOR MECHANIZATION OF SOIL WORKS, ADAPTED TO CLIMATE CHANGES AT EUROREGIONAL LEVEL AND FOR ESTABLISHMENT OF AGRICULTURAL CROPS IN CONSERVATIVE SYSTEM

DESCRIPTION

The Research and Development laboratory has as mission, at the request of farmers, the promotion of new generations of machinery and technologies of tillage mechanization adapted to climatic conditions in reducing emissions of greenhouse gases, to prevent or minimize soil degradation, contribute to the restoration of productive capacity and life processes of soil.

KEYWORDS: agricultural equipment and technologies, soil degradation, climate conditions.

RESEARCH DIRECTIONS

- development of R & D projects in partnership with businesses to transfer research in these undertakings manufacturing products with competitive price and market demand.
- the elaboration of mechanization technologies of high productivity regarding the uncompacting and aeration in depth of the poor soils concomitantly with the administration of nutrient elements;
- promotion of the system of works for soil conservation that ensure competitive production quantitative and qualitative, with low costs and high profit;
- adapting the system of machines for soil conservation works by achieving of new active bodies and technical equipments.
- research and development of processes, technologies and technical equipment intended for the establishment of crops of hoeing plants in the context of a sustainable agriculture;
- research and development of processes, technologies and technical equipment intended for the establishment of cereal crops in sustainable system;
- the elaboration of an mechanization technology of agricultural works to promote the energetic plant Miscanthus in Romania, as a renewable source.

R&D LABORATORY FOR HARVESTING, TRANSPORT AND HANDLING OF AGRICULTURAL PRODUCTS AND OF FEEDINGSTUFFS

DESCRIPTION

The LABORATORY has as its task research, substantiation and development of systems and technical equipment for the harvesting, transport and handling of agricultural and horticultural products, addressed in the context of increasing the quality of works, enhancing the safety in exploitation, of energetic efficiency and the reduction of labor force and financial consumptions.

KEYWORDS: agricultural and horticultural products, transport, harvesting

RESEARCH DIRECTIONS

- Researching of mechanization technologies and of technical equipment for the harvesting of the agricultural and horticultural products;
- Design of experimental models and prototypes of technical equipment;
- Demonstration, dissemination and technology transfer of research results;
- Increasing the quality of work harvesting, transport and handling;
- Development of methods of collection, transport and handling in order to achieve total reliability and safety of operation;
- Protection of soil, environment and transport infrastructure;
- Use of environmentally friendly materials component systems;
- Efficient energy harvesting systems, transport and handling;
- Development of multifunctional technical equipment.

LABORATORY FOR R&D FOR FORAGES HARVESTING AND PREPARATION OF FOOD IN ANIMAL HUSBANDRY

DESCRIPTION

The LABORATORY has as its task the research (fundamental, applied and technological development) in the field of technologies, processes and of technical equipment for the harvesting and fodder conservation, preparation and distribution of animal feed from the zootechnical farms and individual households, for obtaining of productions that correspond to the requirements of the demand for healthy food and of high quality.

KEYWORDS: conservation of feed, food distribution, livestock farms.

RESEARCH DIRECTIONS

- the scientific research (fundamental, applicative and technological development) on the mechanization technologies and technical equipment suitable for harvesting, transporting and efficient preservation of fodder plants;
- scientific research (fundamental, applicative and technological development) on the mechanization technologies and appropriate technical equipment for the preparation and distribution of animal feed from the livestock farms or from the individual households;
- optimization of the technical equipment system for animal husbandry for the Mayntenance and for the handling of products;
- implementation of new technologies that are more economical and have a minimal impact on the environment.

R & D LABORATORY FOR SOIL FERTILIZATION, ACCORDING TO THE CONCEPT OF SUSTAINABLE AGRICULTURE

DESCRIPTION

The LABORATORY has as its task the research (fundamental, applied and technological development) in the field of processes, technologies and of technical equipment for the soil fertilization under the concept of sustainable agriculture, eco-friendly, with a favorable impact on the environment and consumer health.

KEYWORDS: soil fertilization, sustainable agriculture, eco-friendly.

RESEARCH DIRECTIONS

- Research and development of processes, technologies and of technical equipment for soil fertilization with chemical fertilizers under the concept of sustainable agriculture, precision agriculture;
- Research and development processes, technologies and of technical equipment for soil fertilization with organic fertilizers under the concept of organic farming;
- Research and development processes, technologies and of technical equipment for soil fertilization with green manure under the concept of organic farming;
- Implementation of technologies for chemical and organic fertilizer according to current guidelines for developing sustainable agriculture and environment;
- Develop activities to disseminate widely the results of research conducted;
- Integration into technology platforms in the industry at European level.



LABORATORY OF R&D FOR AFFORESTATION WORKS AND ESTABLISHING OF FOREST BELTS FOR AGRICULTURAL CROPS PROTECTION

DESCRIPTION

The LABORATORY has as its task conducting research on technologies and technical equipment for mechanization of the afforestation works and establishment of forest belts in view of protecting the agricultural crops and combating the drought phenomenon, as well as other issues related to the protection of spontaneous flora from the forested areas and its high.

KEYWORDS: forest belts, afforestation works, protection of spontaneous flora.

RESEARCH DIRECTIONS

- research and development of technologies and technical equipment in view of the establishment of forest belts in totally processed field;
- research and development of technologies and technical equipment in view of the establishment of forest belts in field processed in strips;
- technologies for establishing of nurseries.



6.2. Testing laboratories accredited / unaccredited

6.2.1. Accredited testing laboratories

■ **Testing Tractors and Technical Equipment Department for Agriculture and Food Industry – TD** (No. accreditation certificate LI 451/2010, acc. SR EN ISO/CEI 17025:2005):

- **Laboratory of Tractor Testing and Technical Equipment for Agriculture and Food Industry – DITRMA;** domain: *constructive determinations; determining the performances; determinations for the working process characterization; Security and Safety determinations;*
- **Testing laboratory on spraying machines – LIMS**; doMayn: *tests for determination of performances.*

6.2.2. Laboratoare de încercări neacreditate

- **LABORATORY of Resistance Tests of the Technical Components And Machine Parts - LIRCT**;
- **LABORATORY of Testing Engines - LIM;**
- **LABORATORY of Testing of Agricultural Machines and Trailers - LIMAR;**
- **LABORATORY OF Dynamic Tests - LID**.

6.3. Installations and objectives of national interest

INSTALLATION FOR TESTS UNDER SIMULATED AND ACCELERATED REGIME, TYPE HIDROPULS

The installation for performing tests under simulated and accelerated regime type Hidropuls, belonging to INMA Bucharest is *a unique installation at national level* which can perform expertises, analysis and optimizations of the elements and systems ensuring the safety and security in the air and surface transportation, to antiseismic platforms, to energetic equipment with special applications, to the machines, to the agriculutural equipments, of those from the machine building industry, etc.

Fig. 1 - Platforms for testings with vibration isolation systems

The installation for performing tests under simulated and accelerated regime type Hidropuls is a complex of equipments, appliances, electric motors and hydraulic subsystems, installations and auxiliary constructions, designed to ensure technical requirements for static tests (Resistance to static loads, deformations) and dynamical (alternatives or pulsating stresses for endurance, vibrations tests) and consists of:

1) four energetic units that ensure the hydraulic-electro-mechanical actuation systems, for the purpose to make the expertise of the tested systems.

Fig. 2 - Pumping aggregates

Fig. 3 - The monitoring system of pumping aggregates

2) Twelve hydraulic cylinders constituting the execution elements for the application of mechanical stresses; the cylinders used in the INMA have capabilities for the forces of 10, 25, 100 and 250 KN, displacement (stroke) performed being up to 200 mm (or ± 100 mm against the mechanical zero position) for all the cylinders.

Fig. 4 - Hydraulic cylinders placed for the vertical operation

Fig. 5 - Hydraulic cylinders placed for the horizontal operation

3) Twelve control cabinets (grouped 8 + 4), each providing control functions for operation of a single one hydraulic cylinder. Each control cabinet contains:

- the electronic control system for automatically adjusting in the two operating modes on the application of the stresses;
- actuation with the control of the force, the displacement resulting from the plastic or elastic deformations of the strained structure,
- actuation with the control of the displacement, the force resulting from the reaction of the tested structure at an imposed deformation;
- electronic devices for measuring the functional parameters: force, displacement, oil pressure;
- electronic protection equipment at the overcoming of the normal functional parameters;
- the electrical and electronic installation for operation of the hydraulic cylinders.

Fig. 6 – The twelve control panels (8 - in the back and 4 - in the front)

Fig. 7 - The control panels - 8 (seen of nearly)

4) installations and auxiliary constructions:

- three testing platforms with vibration isolation systems: S_1 = 25 m^2, m_1 = 15t; S_2 = 50 m^2, m_2 = 30t; S_3 = 100 m^2, m_3 = 60t;
- hydraulic installation for supply and distribution;
- control room;
- transport and lifting installations (overhead crane, cranes);
- devices for mounting the tested structures on the stand.

Fig. 8 - Supply and distribution hydraulic system

Fig. 9 - The command room of the installation type Hidropuls

Data acquisition systems

Data acquisition systems have been implemented on Hidropuls plant to take control of the operator by desktop or laptop computers, using the facilities provided by the manufacturer of the equipment through the input-output analog and digital connections inside the control panels, and allowed the achievement of the following numeric control functions:

- measurement of the force and stroke;
- generation of the reference signal (setpoint) to achieve the desired strains;
- selection in decadal steps of the control parameters (P, I, D);
- taking over the signaling functions of the control panels operation;
- signaling the intervention of protections.

Data acquisition systems provide additional features towards the above:

- Acquisition of data files previously processed and applied as control signals to mechanical stress; these data may result in data measurements under real operation structures attempted or executed realization of complex signals numeracy programs (MATHCAD, NSOFT or other);
- Acquisition of additional measuring signals from transducers installed in other measurement points than the direct application requests the test structures;
- Synchronization of multiple cylinders drive tests with multiple points of application;
- Measurement signal processing while executing tests: arithmetic processing, graphics, or complex mathematical (Fast Fourier Transform);
- Development of higher-level control loops (loops containing control provided by control panels) to control stress in other sections of the structures than direct application;

The data acquisition systems with which is provided the installation type Hidropuls are as follows:

1. Fixed type data acquisition systems:

- computers type PC;
- data acquisition boards DAP 3200e/214, DAP 5200, with digital, analog input modules, digital outputs and analog outputs:
    - 16 analog inputs, expandable to 512;
    - 2 analog outputs, expandable to 66;
    - 16 digital inputs, expandable to 1024;
    - 16 digital outputs, expandable to 1024;
    - accessories: terminal boards of Input / Output, connection cables.

2. Portable data acquisition system consisting of:

- acquisition module DATEKPCI-3110;
- accesories (STP3110, CAB307, CAB308);
- external module of data acquisition CB2;
- portable microcomputer FUJITSU-SIEMENS C1110;

Also in the process of measurement and control is used a wide range of transducers and signal amplifiers of the latest generation that allow performing of quality researches:

- Force transducers for the hydraulic cylinders of 50 kN, U2B/50 kN;
- Force transducers for the hydraulic cylinders of 50kN, U2B/100 kN;
- Measuring Amplifiers with connectors AE 101;
- Displacement transducers WA/500 mml;
- Measuring Amplifiers with connectors MP 55;

Systems for automatic adjustment of forces and displacements

The Mayn technical requirement of control is to ensure continuous control applications applied precise mechanical structures tested (forces and displacements) at the point of application, for faithful reproduction of the test program. This is effected by the control systems that control electric servo inlet and outlet hydraulic oil cylinders application requests to yield variation function as desired, force or displacement.

The Hidropuls installation within the INMA can perform two working modes for the tests in static or dynamic regime of the mechanical structures:

1) The working mode in force, when it imposes a desired amount of the applied force, the force being the controlled size and the displacement resulting from the elasticity and plasticity characteristics of the tested structure.

2) The working mode in displacement, in which case it is necessary a deformation of the structure, controlling the displacement of the tested structure elements in the place of contact, and the force resulting from the mechanical strength characteristics.

The control system of each driving of a cylinder cabinet is composed of two independent control systems, one to regulate the force acting on the test structure and the other for adjusting the stroke (displacement) of the hydraulic cylinder. The two control systems are identical in function, the difference between them consisting of transducers of different measures to ensure negative reaction to one dose of force and strain gauge bridge strain gauge amplifier with DC excitation, the other inductive displacement transducer and measuring amplifier with ac excitation. Were considered and disturbances that may occur due to structural joints tested games in the areas of assembly screws and rivets, especially towards the end of the samples when these games can produce major disturbances, the control system must compensate for additional vibration and "downtime" without introducing harmonics. Perturbations can occur because of the way the mounting stand structure tested in games areas clamping and alignment, or even deformation fixtures.

- **Applications performed on the Hidropuls plant**

Based on expertise, analysis and optimization of technical solutions, as a result of research, this infrastructure leads to: design and modern architecture and updated products to market demand and technology (machines, equipment, installations) competitives, with accessible manufacturing costs.

Due to the complexity of the system and the possibilities for its use very diverse fields of applications are many, of which we can mention:

- subassemblies that contribute to the safety of road traffic (couplings from tractors and trailers, agricultural trailers couplings and automotive safety devices antirostogolire from tractors to trailers underrun bars, resistance structures, etc..) ;
- electrical equipment (seismic tests for power transformers, switches and other devices for specific electricity distribution stations);
- equipment for the aviation industry (safety features, special systems for aircraft, etc..)
- auto bumpers / special purpose (the arms industry, earthquake, etc);
- agricultural machinery (plows, harrows, sprayers, balers straw, etc.);
- - subassemblies for agricultural machinery (seed distribution hoses, suspension trailers, etc.).
- equipment, assemblies and subassemblies for transportation: cars bogie frames, railcars, trailers, etc..

It can perform tests of endurance and resistance to vibration on various technological equipment to verify the reliability and safety of their operation. Thus we can identify and remedy any defects in design and / or implementation avoiding the production of technological accidents in operation. Also may be tested vital equipments (electrical transformers, etc..), checking their behavior in case of earthquake (natural disaster).

The testing installation under simulated and accelerated regime type Hidropuls is the only one in the country performing endurance tests under simulated regime for:

- ✓ the coupling elements between towing vehicles and tanks with special loads (nitrogen, O2, sulfuric acid, biofuels, etc..) that in case of breakage can produce technological accidents and even disasters;
- ✓ technical equipment (TE) providing of electricity distribution, in case of disaster (earthquake);
- ✓ technique of national security and safety (assemblies and parts for fighter aircraft, etc).

In the field of vocational training, increasing the skills and career development in scientific research, *the installation for testing under simulated and accelerated regime Hidropuls type is used as*:

- ✓ support for demonstrating the experiments in achieving the doctoral theses and post-doctoral works;
- ✓ infrastructure for achieving the Masters dissertation, laboratory works and demonstrations;
- ✓ practice for students in mechanical engineering, mechatronics and industrial systems.

6.4. Measures to increase the R&D capacity related to ensuring of an optimal utilization degree

- providing the necessary competence of personnel serving and using research infrastructure development so as to ensure a level of optimum use;
- ensuring a high degree of staff information regarding recent developments in research facilities so that the purchase of new equipment to make all conditions tested;
- identifying new market research opportunities required complement the existing infrastructure or requiring the purchase of new equipment;
- strategic targets in annual investment plan to ensure increase research capacity development through the acquisition of new equipment, state of the art, correlated with market requirements;
- contracting works with third parties that calls for experimental research for validating concepts, products, ideas that involve optimal use of research infrastructure;

Also in 2013 were purchased new equipments to enhance the R & D capacity of the institute, such as:

7. RESULTS OF RESEARCH AND DEVELOPMENT ACTIVITY

7.1. The structure of R & D results

		No.
7.1.1	Scientific / technical papers in ISI specialized journals **Annex 2**	13
7.1.2	Cumulative impact factor of ISI quoted works	1,582
7.1.3	Citations in ISI quoted specialized journals	7
7.1.4	Patents (requested / granted) **Annex 3**	14 / 3
7.1.5	Citations in the ISI system of patented researches	0
7.1.6	*Products / services / technologies* resulting from research activities based on patents, homologations or own innovations **Annex 4**	9/2/2
7.1.7	Scientific / technical papers in journals without ISI quotation **Annex 5**	13
7.1.8	Scientific communications presented at international conferences **Annex 6**	51
7.1.9	*Prospective and technological studies, norms, procedures, methodologies and technical plans,* new or improved, ordered or used by the Beneficiaryy **Annex 7**	6/10/1/ 17/9
7.1.10	Copyright protected ORDA or in similar legal systems	0

7.1.1. Scientific / technical papers in ISI specialized journals: 13

Scientific / technical papers in ISI specialized journals	2012	2013
Quantification	19	13

Annex 2

Crt. No.	Article	Authors
1.	**JOURNAL OF MOLECULAR STRUCTURE, 2013, Volume 1044, ISSN: 0022-2860** **NMR INVESTIGATION OF THE STRUCTURE OF CORN STARCH WITH PLASTICIZERS USED TO OBTAIN LOOSE FILL PACKAGING**, pag.128-133 *Factor impact = 1,404*	**Cioica N.,** Fechete R., **Cota C., Nagy E.M., Cozar O.,** David L.
2.	**STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA, 2013, Volume IV, ISSN 2065-9520** **STRUCTURAL FT-IR AND 13C CP/MAS NMR INVESTIGATION OF NATIVE STARCH WITH PLASTICIZERS BEFORE AND POST EXTRUSION PROCESS,** pag 275-287, *Factor impact = 0,089*	**Cozar O., Cioica N.,** Filip C., **Coţa C.**
3.	**AIP Conference Proceedings "Processes in Isotopes and Molecules",2013, Volume 1565, ISSN 0094-243X** **DETERMINATION OF THE STRUCTURAL CHANGES BY RAMAN AND ^{13}C CP/MAS NMR SPECTROSCOPY ON NATIVE CORN STARCH WITH PLASTICIZERS,** pag.39-42	**Cozar O.,** Filip C., **Cioica N., Coţa C.,** Tripon C., **Nagy E.M.**
4.	**International Conference on Energy, Environment, Ecosystems and Development (EEED '13), Rhodes Island, Greece, July 16-19, 2013** **NONLINEAR FRICTION AND RESISTANCE, GENERATING SOURCES OF OPTIMAL POINTS IN THE ENERGY FIELD OF AGRICULTURAL AGGREGATES WORKING PROCESS,** pag. 77- 81	**Cârdei P.** Alexiou A. Bădescu B. **Vladuţ V. Constantin N. Marin E.**
5.	**Proceedings No.6/nov. 2013 of the "Intenational Conference of Management and Industrial Engineering" (ICMIE) – Management-Facing New Techology Challlenges, indexed in PROQUEST Database, UK, ISSN 2344-0937** **INNOVATING DESIGN OF INDUSTRIAL OBJECTIVES MODELLED IN THE STRUCTURE OF THE COMPUTER ASSISTED OPERATIONAL RESEARCHES,** pag. 520-527	**Cristea O. D.** Purcarea A. A., Gheorghiu I. D., Curea C.

6.	**Proceedings No.6/nov. 2013 of the "Intenational Conference of Management and Industrial Engineering" (ICMIE) – Management-Facing New Techology Challlenges, indexed in PROQUEST Database, UK, ISSN 2344-0937** **RENOVATING THE INTEGRAL APPROACH TO A SUSTAINABLE DEVELOPMENT IN THE ARCHEMO-SYSTEMIC CONCEPT OF PRODUCTION STRUCTURES INTEGRATED INTO THE COMPETITIVE MARKET,** pag. 528-534	**Cristea O.D.** Carabulea A.
7.	**THE JOURNAL OF TEXTILE INSTITUTE, 2013, Vol. 105** DOI 101080/00405000.2013.840414 **BELLOWS TEXTILE MUSCLE,** pag.356-364 *Factor impact = 0,366*	Belforte G. Eula G. Ivanov A. **Visan A.L.**
8.	**Proceedings of the 41st International Symposium on Agricultural Engineering "Actual Tasks on Agricultural Engineering" 19th – 22th february 2013, Opatija, Croatia, ISSN 1848-4425** **THE DATABASE STRUCTURE FOR TECHNICAL EQUIPMENT FROM AGRICULTURE AND FOOD INDUSTRY,** pag. 251 – 258	**Muraru V.M., Cârdei P., Muraru-Ionel C., Ionita. G.**
9.	**Proceedings of the 41st International Symposium on Agricultural Engineering "Actual Tasks on Agricultural Engineering" 19th – 22th february 2013, Opatija, Croatia, ISSN 1848-4425** **STRUCTURAL CHANGES OF THE CORN STARCH FROM ROMANIA USED TO MAKE BIODEGRADABLE PACKAGING,** pag. 398-404	**Cioica N., Fechete R., Cota C., Nagy E.M., Cozar O.,** Pop C.V.
10.	**Proceedings of the The XIIth International Symposium „ACOUSTICS & VIBRATION OF MECHANICAL STRUCTURES", Timişoara, May 23-24, 2013, Applied Mechanics and Materials, Vol. 430 (2013) Trans Tech Publications, Switzerland, ISBN 978-3-03785-877-6** **CONSIDERATIONS ON KINEMATICS AND DYNAMICS OF GRAVITATIONAL SEPARATORS ENDOWED WITH NON-BALANCED ECCENTRIC MASSES MECHANISM FOR CEREAL SEEDS CLEANING,** pag. 165-170	**Brăcăcescu C., Pirnă I.,** Popescu S.
11.	**Proceedings of the The XIIth International Symposium „ACOUSTICS & VIBRATION OF MECHANICAL STRUCTURES", Timişoara, May 23-24, 2013, Applied Mechanics and Materials, Vol. 430 (2013) Trans Tech Publications, Switzerland, ISBN 978-3-03785-877-6** **ANALYSIS OF THE SOUND POWER LEVEL EMITTED BY PORTABLE ELECTRIC GENERATORS (OUTDOOR POWERED EQUIPMENT) DEPENDING ON LOCATION AND MEASURING SURFACE,** pag. 266-275	**Postelnicu E. Vlădut V., Sorica C., Cârdei P., Grigore I.**
12.	**Proceedings of the The XIIth International Symposium „ACOUSTICS & VIBRATION OF MECHANICAL STRUCTURES", Timişoara, May 23-24, 2013, Applied Mechanics and Materials, Vol. 430 (2013) Trans Tech Publications, Switzerland, ISBN 978-3-03785-877-6** **THE INFLUENCE OF VIBRATIONS ON THE OPERATOR IN THE GRAIN HARVESTERS,** pag. 290-296	**Vlăduţ V.,** Biriş S.Şt., Bungescu T., Herişanu N.
13.	**Romanian Biotechnological Letters, vol. 18, no. 5/2013** **THE SEED'S AND OIL COMPOSITION OF CAMELIA – FIRST ROMANIAN CULTIVAR OF CAMELINA *(CAMELINA SATIVA,* L. CRANTZ)**	Toncea I., Necseriu D., Prisecaru T., Balint L.N., **Ghilvacs M.I.,** Popa M.

7.1.2. Cumulative impact factor of ISI quoted works: 1,582

7.1.3. Citations in ISI quoted specialized journals: 7

7.1.4. Patents (requested / granted) 14 / 3

Patents (requested / granted)	2012	2013
Number of patents requested (applications)	26	14
Number of patents granted	2	3

- ***Requested invention patents (applications registered):*** **14**

Annex 3

Crt. No.	TITLE	Authors	Registration no. OSIM
1.	**WEIGHING EQUIPMENT AND AUTOMATED MANAGEMENT OF THE GRANULAR POWDERY PRODUCTS**	**Milea Dumitru** **Păun Anişoara** **Matache Mihai** **Ion Alexandru**	**A-00433 05.06.2013**
2.	**SYSTEM WITH DUAL CLEANING OF THE CYLINDRICAL SIEVES OF THE CALIBRATORS**	**Găgeanu Paul** **Zaica Alexandru** **Ivancu Bogdan** **Găgeanu Iuliana**	**A-00731 08.10.2013**
3.	**BRAKING DEVICE WIT PRESSURE LIMITER**	**Mircea Radu** **Ganea-Christu Ioan**	**A-00737 14.10.2013**
4.	**PNEUMATIC EQUIPMENT FOR SOWING THE SMALL SEEDS IN ALVEOLI**	Sărăcin Ion **Ganea-Christu Ioan** Pandia Olimpia **Ion Alexandru** Bozgă Ion	**A-00816 07.11.2013**
5.	**INSTALLATION FOR OBTAINING OF CONCENTRATED FODDER**	**Păun Anişoara** **Ioniţă Ghiţă**	**A-00900 26.11.2013**
6.	**INSTALLATION FOR RECONDITIONING THE WATER FOR RECIRCULATING ACVACOLE SYSTEMS**	**Pop Augustin** **Ştefanov Petru** **Andrei Sorin** Grozea Adrian	**A-00910 27.11.2013**
7.	**ADJUSTABLE SOLAR DRYER**	**Muraru Vergil** **Ioniţă Ghiţă** **Pirnă Ion** **Muraru Cornelia**	**A-00961 04.12.2013**
8.	**COUPLING DEVICE ON TRACTOR OF SEMI-MOUNTED AGRICULTURAL MACHINES**	**Popa Lucreţia** **Ciupercă Radu** **Petcu Albert Silviu** **Ştefan Vasilica**	**A-00986 09.12.2013**
9.	**TECHNICAL EQUIPMENT FOR SOIL PLOWING AND ROOT CUTTING ON THE ROW OF TREES**	**Marin Eugen** **Toderaşc Petruţa** **Manea Dragoş** **David Alex-Dorin**	**A-00982 11.12.2013**
10.	**CHISEL PLOUGH FOR TILLER**	**Marin Eugen** **Pirnă Ion** **Ciupercă Radu** **Manea Dragoş**	**A- 00985_ 12.12.2013**
11.	**DRUM WITH ADJUSTABLE BLADES FOR THE DESTRUCTION OF VEGETAL REMAYNS**	**David Alexandru Doru** Paraschiv Gigel **Marin Eugen** **Vlăduţ Valentin** **Mateescu Marinela**	**A-00991 16.12.2013**
12.	**COMPLEX EQUIPMENT FOR MULCHING**	**Popa Lucreţia** Paraschiv Gigel **Ciupercă Radu** **Ştefan Vasilica**	**A-00992 16.12.2013**
13.	**SMART DEVICE FOR SOWING**	**Muraru Vergil** Costoiu Mihnea **Pirnă Ion** **Muraru Cornelia**	**A-01020 19.12.2013**
14.	**PNEUMATIC DEVICE FOR COUNTING CEREAL SEEDS FOR THE DETERMINATION OF GERMINATION**	Epure Doru-Gabriel Becheritu Marius Deacu Dumitru Gâdea Mihai Udroiu Nicoleta-Alina **Manea Dragoş** Gaidău Carmen-Cornelia Stepan Emil	**A-00278 04.04.2013**

- ***Invention patents granted by OSIM:*** **3**

Crt No.	TITLE	Authors	Patent No. / year
1.	**TECHNICAL EQUIPMENT FOR APPLICATION OF MICROBIAL INOCULANTS**	**Manea Dragoş** **Gângu Vergil** **Marin Eugen** **Cojocaru Iosif** **Popescu Marian** Szabolcs Lanyi	**125066/2013**
2.	**ADJUSTMENT SYSTEM OF WORKING WIDTH CONCOMITANTLY WITH THE DEPTH, AT REVERSIBLE PLOWS**	**Constantin Nicolae** **Niţescu Vasile** **Cojocaru Iosif** **Pirnă Ion** **Neniţă Florin**	**123551/2013**
3.	**DRILL FOR SOWING OF HOEING PLANTS DIRECTLY IN THE STUBBLE AND ON BILLONS**	**Gângu Vergil** Neacşu Mihail **Cojocaru Iosif** **Pirnă Ion** **Marin Eugen** **Mateescu Marinela**	**123563/2013**


ROMÂNIA

Brevet de invenție

Nr. 125066


ROMÂNIA

Brevet de invenție

Nr. 123551


ROMÂNIA

Brevet de invenție

Nr. 123563

7.1.5. Citations in the ISI system of patented researches: -

7.1.6. Products / services / technologies resulting from research activities based on patents, homologations or own innovations

Annex 4

Products / services / technologies resulting from research activities based on patents, homologations or own innovations	**2012**	**2013**
Number of homologated PRODUCTS	3	9
Number of homologated SERVICES	1	2
Number of homologated TECHNOLOGIES	3	2

7.1.6.1. HOMOLOGATED PRODUCTS: 9

No.	Research contract / Comercial Contract Beneficiaryy	Result	Reporting deadline / Delivery (month)	Technical data	Field of use
1.	Innovative technology and technical equipment with active organ driven for loosening in depth and increasing the soil fertility Research contract no.135 / 27.10.2011 CD: 560/ 2011- 2014 Contracting Authority: ASAS - SECTORIAL PLAN MARD Beneficiary: PACTMAR - PATRONAGE OF MANUFACTURERS TRACTORS AND AGRICULTURAL MACHINES FROM ROMANIA Protocol no. 1556 / 12.11.2007	Product homologation: **Technical equipment with driven active organs for the work of soil loosening in depth** Number of dossier: 180	May 2013	- Type of equipment: carried - Tractor power, kW (CP): 161...176 (220...240) - Number of active bodies: 2 - Type of active bodies: vibratoare - Distance between active bodies, mm: 1900 - Diameter of supporting and depth wheels, mm: 500 - Maximum working depth, cm: 80 - Light of transport, mm: 350 - Diameter of roller with teeth, mm: 460 - Overall dimensions, mm: o length: 3085 o width: 2872 o height: 1850 - Masa, kg: 1290	performing of works of loosening in depth in order to reduce the primary or secondary compaction, primarily the podzolic soils, reddish brown and heavy alluvial soils; - can be used on chernozem, medium brown soils and alluvial soils.
2.	Innovative technology and achieving a complex technical equipment for packing in bags of finished agricultural products within the milling of small and medium capacity Research contract no. 15 N / 27.02.2009 / Act.ad.no.1/2013 CD: 590/ 2013 – 2013 Contracting Authority: MEN Beneficiary: PACTMAR - PATRONAGE OF MANUFACTURERS TRACTORS AND AGRICULTURAL MACHINES FROM ROMANIA Protocol no. 1556 / 12.11.2007	Product homologation: **Equipment of weighing and automatic management** Number of dossier: 181	June 2013	- Diameter of bunker, mm 1000 - Coil diameter auger for rough dosing, mm: 160 - Coil diameter auger for fine dosing, mm: 60 - Diameter ofbagging mouth, mm: 250 - Speed dosing snails, rev/min: 60...560 - Power of gearmotor actuating tsnail for rough dosing, kW: 0,75 - Power of gearmotor actuating tfine dosing snail, kW: 0,37 - Productivitaty, no. saci/oră: 3-4 - Accuracy of Weighing, %: 0,1 - Dosed quantity, kg: 15 - 60	- weighing and automatic management of the quantities of finished products resulting from the manufacturing process of milling units for low and medium capacity; - in technological flows from the units to obtain concentrated fodder or other specific units practicing packaging in open bags.

No.	Research contract / Comercial Contract Beneficiaryy	Result	Reporting deadline / Delivery (month)	Technical data	Field of use
3.	Research on mechanization and automation of manufacturing processes of pellets and agripellets Research contract no. 15 N / 27.02.2009 / Act.ad.no.4/2013 CD: 591/ 2013 – 2013 Contracting Authority: MEN Beneficiary: PACTMAR - PATRONAGE OF MANUFACTURERS TRACTORS AND AGRICULTURAL MACHINES FROM ROMANIA Protocol no. 1556 / 12.11.2007	Product homologation: **Belt conveyor and dryer, TIBU** Number of dossier:182	October 2013	- Transport capacity: max. kg/h: 600 - Conveyor width, mm: 400 - Minimum Distance ground - bottom of the band, mm: 300 - Discharge height adjustment, mm: 1200÷2000 - Tilt angle of conveyor belt: max. 30° - Electric gearmotor Power with Inverter: kW: 2,2 - displaceable transporter on four swivel wheels, of which two with brake - Type of belt conveyor: rubber with scrapers on the carrying face - Speed of belt conveyor continuously adjustable,m/s: 0-0,2 - Diameter of the driving cylinder, mm: 95 - Drying system: tunnel type with IR radiant panels: P_{max} = 3 kW	- transport of products between two equipments or between equipment within a technological line.
4.	Research on mechanization and automation of manufacturing processes of pellets and agripellets Research contract no. 15 N / 27.02.2009 / Act.ad.no.4/2013 CD: 591/ 2013 – 2013 Contracting Authority: MEN Beneficiary: PACTMAR - PATRONAGE OF MANUFACTURERS TRACTORS AND AGRICULTURAL MACHINES FROM ROMANIA Protocol no. 1556 / 12.11.2007	Product homologation: **Sawdust briquetting plant, IBR** Number of dossier:183	October 2013	- press capacity, kg/h: 360 - diameter of coil, mm: 300 - diameter of mandrel, mm: 60 - briquetting press type: mechanical with worm shaft - engine power, kW 7,5 - engine speed, rev/min 1000 - snail speed, rev/min 15 - Electrical resistance type: Manson MIKAPLAST with thermocouple; - The outer diameter of the briquette, mm 150 - The inner diameter of the briquette, mm 60 - the briquette density, kg/m^3 180-500 - Length of briquette, mm 15 - Mass of briquette, kg 1,1 - overall dimensions (LxlxH), m: 9,418 x 2,538 x 2,4	- shredded scrap briquetting of wood shavings / sawdust or other agricultural residues chopped / shredded
5.	Research on mechanization and automation of manufacturing processes of pellets and agripellets Research contract no. 15 N / 27.02.2009 / Act.ad.no.4/2013 CD: 591/ 2013 – 2013 Contracting Authority: MEN Beneficiary: PACTMAR - PATRONAGE OF MANUFACTURERS TRACTORS AND AGRICULTURAL MACHINES FROM ROMANIA Protocol no. 1556 / 12.11.2007	Product homologation: **Inclined conveyor with belt, TB 240** Number of dossier: 184	October 2013	- Productivity, kg/h 240 - speed of the adjustable belt conveyor, m/min: 0 ÷ 1.3 - working Width, mm 550 - working Lengtha, mm 7440 - medium Height , mm 585	- transport of products between two equipment or between the equipment within a technological line.

No.	Research contract / Comercial Contract Beneficiaryy	Result	Reporting deadline / Delivery (month)	Technical data	Field of use
6.	Research on mechanization and automation of manufacturing processes of pellets and agripellets Research contract no. 15 N / 27.02.2009 / Act.ad.no.4/2013 CD: 591/ 2013 – 2013 Contracting Authority: MEN Beneficiary: PACTMAR - PATRONAGE OF MANUFACTURERS TRACTORS AND AGRICULTURAL MACHINES FROM ROMANIA Protocol no. 1556 / 12.11.2007	Product homologation: **Pelletizing equipment, EP** Number of dossier:185	October 2013	- Productivity, kg/h: max.100 - Installed power, kW: 5,5 - Number of pressing rolls, buc.: 3 - Main shaft speed, rev/min: 56 - The outer diameter of the mold, mm: 320 - mold thickness, mm: 38 - diameter of accomplished pellets, mm: 6 or 8 - Length of pellets, mm: 10 ÷ 30 - Cutting mode of pellets: with adjustable knife - Mode of exhausting of pellets: with rotor with blades - Overall dimensions: o length, mm: 1020 o width, mm: 570 o height, mm: 563	- shredded scrap pelletisation of wood shavings / sawdust or other agricultural residues chopped / shredded
7.	Research on mechanization and automation of manufacturing processes of pellets and agripellets Research contract no. 15 N / 27.02.2009 / Act.ad.no.4/2013 CD: 591/ 2013 – 2013 Contracting Authority: MEN Beneficiary: PACTMAR - PATRONAGE OF MANUFACTURERS TRACTORS AND AGRICULTURAL MACHINES FROM ROMANIA Protocol no. 1556 / 12.11.2007	Product homologation: **Dimensional Sorter, SD 2630** Number of dossier:186	October 2013	-Working capacity, kg/h: 1500 - Installed power, kW: 1,5 - Rotation frequency of electric motor, rev/min: 1000 - rotation frequency of the sieve, rot/ min: 20 - Diameter of sieve, mm: 630 - Active length of the sieve, mm: 2000 - Dimensions of the sieve openings I, mm: ø 8, ø 12 - Dimensions of the sieve openings II, mm: ø 10, ø 14 - Overall dimensions: o length, mm: ~ 2460 o width, mm: 820 o height, mm: ~ 1580	- sorting of woody granular materials and of dried crop residues, on two fractions of sizes as well as to the waste removal (bark, pieces of wood and non-wood materials)
8.	Research on mechanization and automation of manufacturing processes of pellets and agripellets Research contract no. 15 N / 27.02.2009 / Act.ad.no.4/2013 CD: 591/ 2013 – 2013 Contracting Authority: MEN Beneficiary: PACTMAR - PATRONAGE OF MANUFACTURERS TRACTORS AND AGRICULTURAL MACHINES FROM ROMANIA Protocol no. 1556 / 12.11.2007	Product homologation: **Buffer bunker, BT** Number of dossier:187	October 2013	- storage capacity, kg: • wet sawdust (for volumetric weight of 0,27 t/m^3): 2000; • dry sawdust (for volumetric weight of 0,17 t/m^3): 2000; • hay and pressed straws (for volumetric weight of 0.28-0.30 t/m^3): 2000; - inner diameter, mm 1700 - outlet diameter, mm: 250 - Distance from the ground to the outlet, mm: 900 - Height of bunker, mm: ~3380	- temporary storage of the fraction of agricultural and forestry chopped biomass, dry and sorted properly to pelletizing operation.

No.	Research contract / Comercial Contract Beneficiaryy	Result	Reporting deadline / Delivery (month)	Technical data	Field of use
9.	Innovative technology on the dosage process in continuous flux with granular and powdered products for food consumption to ensure the quality and food safety Research contract no. 15 N / 27.02.2009 / Act.ad.no.5/2013 CD: 605/ 201. – 2013 Contracting Authority: MEN Beneficiary: PACTMAR - PATRONAGE OF MANUFACTURERS TRACTORS AND AGRICULTURAL MACHINES FROM ROMANIA Protocol no. 1556 / 12.11.2007	Product homologation: **Technical equipment for dosing, ETD** Number of dossier:188	October 2013	- Working capacity, t/h: 0-20 - Method of adjustment of the working flow: with damper platet driven by an electric linear actuator; - Maximum dosing error, %: 3,5 - Supply Voltage, V/Hz : 220/50 - Degree of protection: IP 54 - Overall dimensions, mm: • length: 667 • width: 340 • height: 560	- weighing and management of mixed fodder, of quantities of finished products resulting from the production process from milling units of low and medium capacity.

1. Product name:

Technical equipment with active parts driven for deep soil loosening

No. of homologation dossier:180

2. Product name:

Automated weighing and handling

No. Of homologation dossier:181

3. Product name:

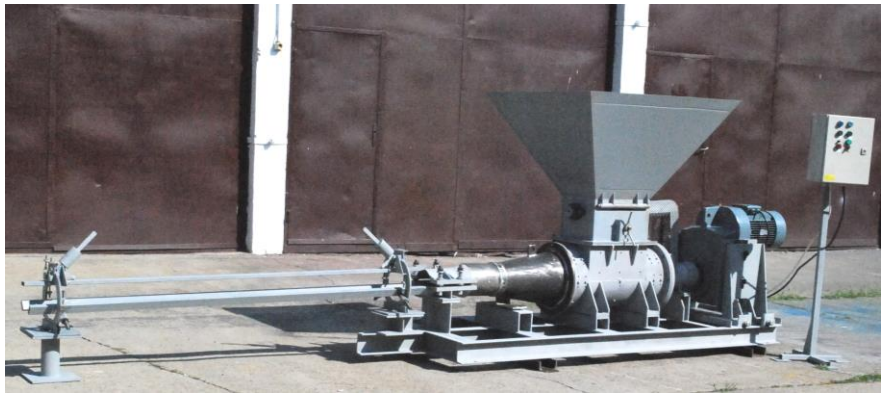
Tilted conveyor with band and dryer TIBU

Nr. dosar omologare: 182

4. Product name:

Sawdust briquetting installation IBR

No. of homologation dossier: 183



5. Product name:

Tilted conveyor with band TB 240

No. of homologation dossier: 184

6. Product name:

Pelleting equipment EP

No. of homologation dossier: 185

7. Product name:

Dimensional sorter SD 2630

No. Of homologation dossier: 186

8. Product name:

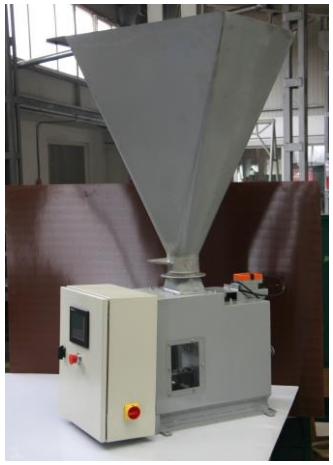
Buffer hopper BT

No. of homologation dossier: 187

9. . Product name:

Technical dosing equipment – ETD

No. Of homologation dossier: 188



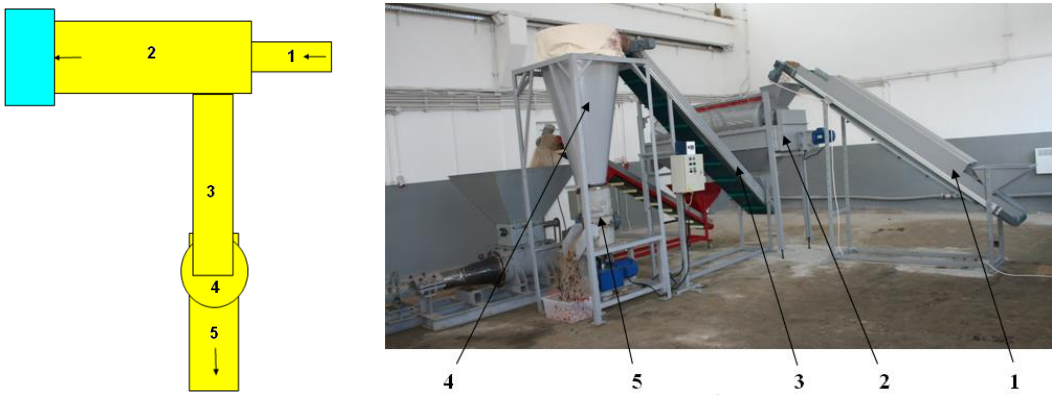
7.1.6.2.HOMOLOGATED SERVICES: 2

Den. no.	Research contract Commercial contract Beneficiary	Result	Reference / delivery deadline (month)	Technical data	Utilization field
1.	Researches on mechanization and automation of pellets and agri-pellets manufacturing processes Research contract no. 15 N / 27.02.2009 / Add. Act no.4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: PACTMAR - AGRICULTURAL TRACTORS AND MACHINES MANUFACTURERS ASSOCIATION IN ROMANIA Protocole no. 1556 / 12.11.2007	Service homologated: **Pellets and agripellets manufacturing** Dossier number: 47	October 2013	Manufacturing line designed to pellets and agripellets comprises the following equipment: - tilted conveyor with band and dryer, TIBU; - dimensional sorter, SD 2630 symbol; - band tilted conveyor, TB 240 symbol; - buffer hopper, BTsymbol; - pelleting equipment, EP.symbol • Working capacity: 100 kg/h; • Overall dimensions, Lxlxh: 4100x5860x2860 mm; • Power: 9.4 kW.	- Producing solid fuel from vegetal and forestry biomass, necessary to operate the heating stations for heating and producing hot domestic water to small and medium-sized farms, as well as to private husbandries.
2.	Researches on mechanization and automation of briquettes manufacturing processes Research contract no. 15 N / 27.02.2009 / Add. Act no./2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: PACTMAR - AGRICULTURAL TRACTORS AND MACHINES MANUFACTURERS ASSOCIATION IN ROMANIA Protocole no. 1556 / 12.11.2007	Service homologated **Briquettes manufacturing** Dossier number: 48	October 2013	Manufacturing line designed to briquettes comprises the following equipment: - tilted conveyor with band and dryer, TIBU; - dimensional sorter, SD 2630 symbol; - band tilted conveyor, TIB 240 symbol; - sawdust briquetting installation IBR. • Working capacity: 360 kg/h; • Overall dimensions , Lxlxh: 9418x2538x2400 mm; • Power: 7.53 kW.	- Producing solid fuel from vegetal and forestry biomass, necessary to operate the heating stations , as well as the private husbandries, as an efficient alternative to classic fuel.

1. Service name:

Briquettes manufacturing

No. of homologation dossier: 47



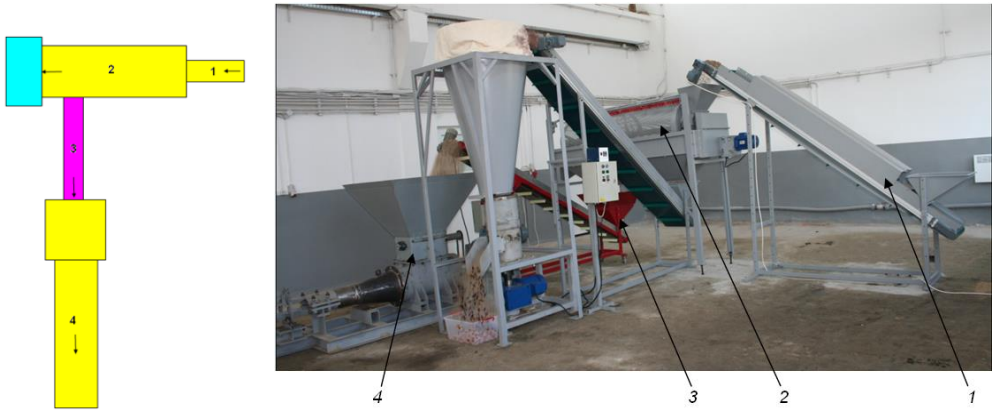
Technological line designed to pellets/agripellets manufacturing

1 –tilted conveyor with band and dryer, TIBU- 0; 2 – dimensional sorter, SD 2630; 3 – band conveyor, TB 240; 4 – buffer hopper BT; 5 – pelleting equipment

2. Service name:

Pellets and agripellets manufacturing

No. of homologation dossier: 48



7.1.6.3. HOMOLOGATED TECHNOLOGIES: 2

Den. no.	Research contract Commercial contract Beneficiary	Result	Reference / delivery deadline (month)	Technical data	Utilization field
1.	Researches on mechanization and automation of pellets and agri-pellets manufacturing processes Research contract no.: 15 N / 27.02.2009 / Add. Act no.4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: PACTMAR - AGRICULTURAL TRACTORS AND MACHINES MANUFACTURERS ASSOCIATION IN ROMANIA Protocole no. 1556 / 12.11.2007	Technology homologation: **Technology of obtaining pellets / agripellets and briquettes from agricultural and forestry biomass** Dossier number: 43	October 2013	Within the technology of obtaining pellets, agripellets and briquettes, the following operations are performed: - Transport of material (possibly, its drying); - Sorting solid agricultural and forestry biomass; - Transport of fraction out of material which was chopped homogenized, dried and sorted; - Temporary storage and dosing solid agricultural agricultural and forestry biomass; - manufacturing pellets/agripellets; - transport of fraction out of material chopped homogenized, dried and sorted; - manufacturing briquettes.	- producing pellets/agripellets and briquettes from solid agricultural and forestry biomass, for using them in heating stations for heating and producing hot domestic water for small and medium sized farms and private husbandries in order to assure their energetic independence.
2.	Innovative technology regarding the continous flow quantization with granulated and powdery products for alimentary consumption in view of assuring food quality and security Research contract no.: 15 N / 27.02.2009 / Add. act.no.5/2013 CD: 605/ 2013 – 2013 Contracting authority: MEN Beneficiary: PACTMAR - AGRICULTURAL TRACTORS AND MACHINES MANUFACTURERS ASSOCIATION IN ROMANIA Protocole no. 1556 / 12.11.2007	Technology homologation: **Technology regarding the dosing of continous flow feeding** Dossier number: 44	Decembrie 2013	- automated adjusting of the product flow according to a set value and maintaining this value within certain pre-established limits, by respecting the norms on dosing precision; - automated handling of the quantities of products passing through the equipment in a certain time unit. - Processing granulated and powdey products.	- establishing the feeding doses in continous flow with granulated and powdey products within the milling small and medium-sized enterprises, stations for cereal seeds conditioning, storage and conservation units and livestock units of FNC type.

1. Technology name:

Technology for obtaining pellets / agripellets and briquettes from agricultural and forestry biomass

No.of homologation dossier: 43

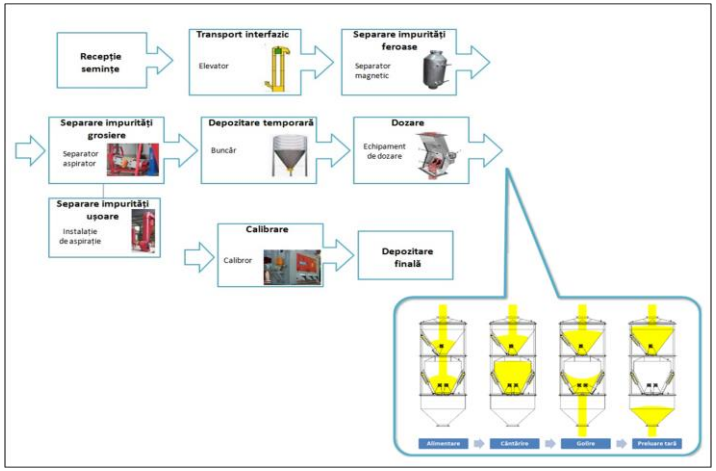
Technological line designed to pellets/agripellets and briquettes manufacturing

1 – tilted conveyor with band and dryer, TIBU- 0; 2 – dimensional sorter, SD 2630; 3 – band conveyor, TB 240; 4 – buffer hopper BT; 5 – pelleting equipment EP – 0;
6 – tilted conveyor with band, TIB – 0; 7 –sawdust briquetting installations, IBR

2. Technology name:

Technology regarding the process of continous flow supplying

No.of homologation dossier: 44



7.1.7. Scientific/technical papers in speciality journals without ISI quotation 13

Scientific/ technical papers published in speciality journals without ISI quotation	2012	2013
Number	35	13

Annex 5

Den .No.	JOURNAL / ARTICLE / AUTHORS
	I. INMATEH – AGRICULTURAL ENGINEERING, vol. 39, no. 1/2013, Jan-Apr. 2013 **Print ISSN 2068-2239; Electronic ISSN 2068-4215**
1.	**RESEARCHES ON THE USE OF FINITE ELEMENT METHOD TO OPTIMIZE THE WHEEL TIRES EXPLOITATION FOR AGRICULTURAL VEHICLE** Biriş S. Şt., Savin L., Ungureanu N., Maican E., **Vlăduţ V., Ganea I.,** Caba I.L., pg. 5-12
2.	**DETERMINATION OF THE MINIMUM SURFACE OF AN AGRICULTURAL FARM STARTING FROM WHICH A TRACTOR POWER RANGE BECOMES PROFITABLE, FOR A CERTAIN AGRICULTURAL WORK** Moise V., Biriş S.Şt., Kabas O., Ungureanu N., **Vlăduţ V**., Boureci Gh., Stroe I., Caba I.L., pg 13-22
3.	**STUDIES AND RESEARCHES ON ENERGETIC OPTIMIZATION OF FODDER HARVESTING COMBINES - THREE DIMENSIONAL MODELS** Ştefănoiu M.D., **Cârdei P., Vlăduţ V., Vezirov** Ch., Bădescu M., Boruz S., Mihailov N., pg. 23-28
4.	**RESEARCHES ON IMPROVEMENT OF WORKING PROCESS OF FIBROUS FORAGES SHREDDING PARTS** Caba I.L., Biriş S., Selvi K.C., Bungescu S., **Vlăduţ V.,** Niţu M., pg 29-38
	II. INMATEH – AGRICULTURAL ENGINEERING, vol. 40, no. 2/2013, May-Aug. 2013 **Print ISSN 2068-2239; Electronic ISSN 2068-4215**
5.	**ANALYSIS OF THE CUTTER PROFILE IN SLIDE CUTTING AT FODDER SELF-LOADING TRAILERS** Caba I.L., Bungescu S., Selvi K.Ç., Boja N., **Danciu A**., Brencu (Molder) L., pg. 63-66
	III. INMATEH – AGRICULTURAL ENGINEERING, vol. 41, no. 3/2013, Sep.- Dec. 2013 **Print ISSN 2068-2239; Electronic ISSN 2068-4215**
6.	**RESEARCH FOR MODAL ANALYSIS UTILIZATION AS A TOOL FOR FATIGUE AND STRUCTURAL CHANGE ASSESSMENT OF MECHANICAL STRUCTURES** Manea I., Gîrnită I., **Matache M., Muscalu A., Persu C., Voicea I.**, pg. 17-26
	IV. ANNALS OF FACULTY OF ENIGEERING HUNEDOARA, International Journal of Engineering, Tome XI, FASCICULE 1 **ISSN 1584-2665**
7.	**BIOMASS AND THE THERMO-PHYSICAL-CHEMICAL PROPERTIES OF THIS RELATED TO THE COMPACTION PROCESS** **Voicea I., Danciu A., Matache M.,** Voicu Gh.**, Vlăduţ V.**, pg. 59-64
	V. ANNALS OF FACULTY ENINEERING HUNEDOARA, International Journal of Engineering, Tome XI, FASCICULE 3 **ISSN 1584-2673**
8.	**TECHNICAL AND COMMERCIAL CONDITIONS FOR DIESEL ENGINE ALTERNATIVE SUPPLY WITH VEGETABLE OILS** **Nicolescu M. A., Ghilvacs M. I., Grigore I.**, pg. 345-349
	VI. ANNALS OF FACULTY ENGINEERING HUNEDOARA, International Journal of Engineering, Tome XI (Year 2013). Fascicle 4 **ISSN 1584 – 26732012**

9.	**NEW VIEWPOINTS IN OPTIMIZING ENERGETICS OF WORKING PROCESSES OF THE AGRICULTURAL AGGREGATES** Alexiou A.**, Cardei P.,** Bădescu M.**, Vlăduţ V.,** Selvi K.C., Kiss I.**, Constantin N., Marin E.**, pg. 287-292
VII. SCIENTIFIC JOURNAL AGRICULTURAL ENGINEERING, University of Belgrade, Faculty of Agriculture, Institute of Agricultural Engineering, No. 2, 2013 **ISSN 0554-5587**	
10.	**SOIL MOISTURE INFLUENCE ON THE ENERGY OF AGRICULTURAL PROCESSES** **Cârdei P., Ludig M.,** pg 13-22
VIII. ANNALS OF THE UNIVERSITY OF CRAIOVA - AGRICULTURE, MONTANOLOGY, CADASTRE SERIES, vol. XLIII, 2 /2013 **ISSN 1841-8317, ISSN CD-ROM 2066-950X**	
11.	**RESEARCHES ON AUTOMATION OF DOSING AND SACKING PROCESS OF FINISHED AGRICULTURAL PRODUCTS** **Brăcăcescu C., Milea D., Păun A., Ganea I. Găgeanu I.,** pg.37-44
IX. СІЛЬСЬКОГОСПОДАРСЬКІ МАШИНИ (AGRICULTURAL MACHINES), vol. 26 **International Scientific-Practical Conference „INNOVATIVE TECHNOLOGIES IN THE AGRO-INDUSTRIAL COMPLEX", June 2013, Ukraine, Lutsk** **ISSN 1307-1699**	
12.	**DEFINITION OF FORCES ACTING ON THE STABILIZING DEVICE WITH A COULTER FOR MOTOR-BLOCK** Usenko M., **Vlăduţ V.,** pg. 106-112
X. ACTA TECHNICA NAPOCENSIS, Applied Mathematics and Mechanics, vol 56/3, 2013 **ISSN 1221-5872**	
13.	**INFLUENCE OF ROTATION SPEED DURING EXTRUSION TO THE PROPERTIES AND MORPHOLOGY OF BIOPOLIMERS BLEND** Fodorean G., **Cota C., Cioica N**., pg. 493-496

7.1.8. Scientific communications presented in international conferences: 51

Scientific communications presented in international conferences	2012	2013
Number	**29**	**51**

Annex 6

Den. No.	Conference / article / authors
I. PROCEEDINGS OF 4TH INTERNATIONAL CONFERENCE, LOZENEC, 2013 **ISBN 978-80-213-2291-2**	
1.	**MATHEMATICAL MODELING IN DESIGN OF TRANSPORT VEHICLES** **Cârdei P.,** Atanasov At.**, Ciuperca R., Muraru V., Sfiru R.,** pg. 303-311
2.	**TECHNOLOGY FOR MECHANIZATION OF SOIL TILLAGE IN THE ARABLE SUBSTRATE** Croitoru Şt., **Vlăduţ V**., Atanasov At., **Constantin N.,** Biriş S., Bungescu S., Caba I., **Matache M., Voicea I., Ludig** M., pg. 316-323
3.	**SOIL TILLAGE OPTIMIZATION BY UN-COMPACTION AND AERATION OF DEFICIENT DEEP SOILS** **Vlăduţ V**., Croitoru Şt., **Constantin N.,** Paraschiv G., Voicu Gh., Biriş S., Bungescu S., Caba I., **Ludig M.,** Atanasov At., pg. 324-330
4.	**SAVE FUEL – PERMANENT CONCERN OF FARMERS** Caba I.L., Bungescu S.T., Ilea R., **Vlădut V.,** Atanasov A., Biris S., pg. 380-386
5.	**THE LIFTING DRUMS IMPORTANCE IN CONSTUCTION OF SELF LOADING WAGONS** Caba I.L., Atanasov A., **Vlădut V.,** Biris S., Ilea R., Bungescu S.T., pg. 391-393

6.	**STUDY ON THE MEASURING EQUIPMENT OF STRESS IN AGRICULTURAL SOIL** Ungureanu N., Biris S., Voicu Gh., Parasvhiv G., Ionescu M., Dilea M., **Vlădut V., Matache M.,** pg. 394-399
7.	**HYDRAULIC PRESSING OF OILSEEDS: EXPERIMENTAL LABORATORY STAND FOR DETERMINATION OF MATERIAL BALANCE** Ionescu M., Biris S., Voicu Gh., Parasvhiv G., Ungureanu N., Dilea M., **Vlădut V., Matache M., Voicea I.**, pg. 276-280
8.	**DETERMINATION OF CAPACITY AND FUEL CONSUMPTION FOR TRACTORS TRANSPORTATION** Vezirov Ch., Atanasov At., Hristov H., Lashev V., **Vlăduţ V.,** pg. 298-302
9.	**STUDY ON THE DEVELOPMENT OF AN ADAPTIVE TIRE FOR AGRICULTURAL TRAILERS** Biriş S., Ungureanu N., **Vlădut V., Ganea I.**, pg. 371-376
II. 5th Conference ENERGY EFFICIENCY AND AGRICULTURAL ENGINEERING, RUSE, BULGARIA, 2013 **ISSN 1311-9974**	
10.	**OPTIMUM GENERAL PROBLEMS OF AGRICULTURAL AGGREGATES WORKING PROCESS** Alexiou A., **Cârdei P.,** Badescu M., Boruz S., **Vlădut V.,** pg. 126-132
11.	**NEW DIRECTIONS IN EXPLORING THE OPTIMIZATION OF AGRICULTURAL AGGREGATES WORKING PROCESS** **Cârdei P**., Mihailov N., Alexiou A., Badescu M, **Sfiru R., Muraru V.,** pg. 163-168
12.	**APPLICATIONS OF STRUCTURAL ANALYSIS IN OPTIMIZING THE CARRYING STRUCTURES OF AGRICULTURAL MACHINES** **Cârdei P**., Mihailov N., Pirna I., **Vlădut V.,** Boruz S., Molder (Brencu) L.**,** pg. 578-587
III. ISB- INMA TEH - International Symposium – „AGRICULTURAL AND MECHANICAL ENGINEERING Bucharest, 1-3 November 2013 **ISSN 2344-4118 CD-ROM: ISSN 2344 – 4126; ISSN-L 2344 – 4118**	
13.	**RESEARCHES ON HAY VENTILATION WITH AIR HEATED IN A SOLAR PANEL** **Nedelcu A., Ciupercă.R., Zaica A., Pruteanu A.M.,** pg.9-14
14.	**THEORETICAL CONTRIBUTIONS TO THE DRIVE OF CEREAL CLEANING TECHNICAL EQUIPMENT ENDOWED WITH NON BALANCED VIBRATION GENERATING SYSTEMS** **Brăcăcescu C.,** Chavdar C., **Vişan Al.**, pg. 151-157
15.	**EXPERIMENTS REGARDING THE INFLUENCE OF WORKING PARAMETERS ON HOEING CROPS SOWING** **Cujbescu D., Bolintineanu Gh.,** Voicu Gh., Bungescu S.**,** pg. 23-28
16.	**COMPARATIVE ANALYSIS OF DISTRIBUTION UNIFORMITY WHEN APPLYING PHYTO-SANITARY TREATMENTS OF DIFFERENT PRESSURE IN FIELD CROPS** **Roşu (Niţu) M., Manea D., Cujbescu D., Dumitraşcu A.,** pg. 37-42
17.	**TESTING IN SIMULATED AND ACCELERATED REGIME OF RESISTANCE STRUCTURES** **Matache M., Persu I.,** Voicu Gh., Manea I., pg. 105-112.
18.	**INCREASING SAFETY AND SECURITY IN TRANSPORTATION BY TESTING OF PROTECTIVE STRUCTURES** **Persu C., Matache M.,** Biriş S., Kostadinov G., **Vlădut V.**, pg. 113-118
19.	**INTEGRATED TECHNOLOGY FOR OBTAINING AGRIPELLETS** **Voicea I., Danciu A.,** Selvi K.Ç., **Vlăduţ V.,** Voicu Gh., Paraschiv G., **Ghilvacs M.**, pg. 229-236
20.	**STUDIES FOR THE REALIZATION OF A PNEUMATIC SOWING SMALL SEED WAFER** Saracin I, Pandia O, Bozga I, **Ganea I.,** pag. 51-56
21.	**OPTIMIZATION OF THE DOSING PUMP FUNCTIONAL PARAMETERS USED FOR AGRICULTURAL CROPS FERTILISATON** Biolan I., **Visan A.L.,** Vulpe G., Biolan C., **Brăcăcescu C.,** pg. 119-124
22.	**THEORETICAL STUDY OF FEEDING THE THRESHING SYSTEM OF CONVENTIONAL COMBINE HARVESTERS** **Ivan Gh.,** pg. 29-36
23.	**WAYS TO OPTIMISE THE APPLICATIONS OF ELECTROMAGNETIC WAVES IN AGRICULTURE AND FOOD INDUSTRY** **Ludig M., Cardei P., Muraru V.,** pg. 135-142
24.	**COMPARATIVE STUDY OF STRUCTURAL ANALYSIS APPLIED TO AGRICULTURAL MACHINES BODIES AND ACCOMPLISHED WITH SOLID WORKS AND AUTODESK INVENTOR PROGRAMS** **Sfiru R., Constantin N., Ludig M., Cârdei P., Muraru V.,** pg. 125-134

25.	**SCIENTIFIC RESEARCHES ON THE QUALITATIVE WORKING INDEXES OF THE SOWING BODY OF A MODERN TECHNICAL HOEING PLANTS SOWING EQUIPMENT** **Marin E., Bolintineanu Gh., Sorică C., Manea D.,** Herak D., Croitoru Şt., Bădescu M., pg. 15-23
26.	**MECHANIZED HARVESTING OF MEDICINAL AND AROMATIC PLANTS** **Muscalu A., Pruteanu A.,** David L., pg. 57-62
27.	**CAPITALIZATION POSSIBILITIES OF SAFFLOWER SEEDS IN ROMANIA'S CONDITIONS FROM ROMANIA** Popescu C.**, Pruteanu A., Muscalu A., Găgeanu G.,** pg. 325-330
28.	**NEW SOURCES OF PHYTOTHERAPEUTIC AND NUTRACEUTICAL PRODUCTS FROM ENERGETICAL PLANTS IN ROMANIA** Popescu C**., Muscalu A., Pruteanu A.,** pg.331-336
29.	**RESEARCHES ON REDUCING OF LOSSES AT FODDER HARVESTING WITH WINDROVERS** **Bogdanof G., Păun A.,** ErtekinC., **Neagoe V.,** pg. 43-50
30.	**TECHNICAL AND COMMERCIAL CONDITIONS FOR DIESEL ENGINE ALTERNATIVE SUPPLY WITH VEGETABLE OILS** **Nicolescu M.A.,Ghilvacs M.I.,** Mihaylov N., **Grigore I.,** pg. 223-228
31.	**DEVELOPMENT DIRECTIONS REGULATING THE PESTICIDES SUSTAINABLE USE AT NATIONAL AND EUROPEAN LEVEL** **Nagy E.M., Coţa C., Cioica N.,** Ranta O., **Toderaşc P.,** pg. 297-302
32.	**RESEARCHES ON AUTOMATION OF WEIGHING AND SACKING PROCESS OF FINISHED AGRICULTURAL PRODUCTS** **Milea D., Matache M., Brăcăcescu C.,** Atanasov At., **Păun A., Găgeanu I.,** pg. 313-320
V. The 5th International Conference „COMEC 2013" 24- 25 October 2013, Brasov, Romania, vol. 1 **ISBN 978-973-598-572-1**	
33.	**CONTRIBUTION REGARDING THE MANAGEMENT OF EFFICIENT USE OF CROP COMBINE HARVESTER** Stan O., Popescu S., **Brăcăcescu C**., pg.266-270
VI. 2nd INTERNATIONAL CONFERENCE OF THERMAL EQUIPMENT, RENEWABLE ENERGY AND RURAL DEVELOPMENT TE-RE-RD 2013, Baile Olanesti **ISSN 1843-3359**	
34.	**ENVIRONMENTAL POLLUTION REDUCTION THROUGH FIELD CROPS SPRAYING MACHINES VERIFICATION** **Cujbescu D., Bolintineanu Gh., Niţu M.**, pg. 141-146
35.	**CURRENT DEVELOPMENT STATE OF GRAIN SEPARATION SYSTEMS WITH PLANE SIEVES AND AIRFLOW** **Mitu M.,** Căsăndroiu T., pg.197-202
36.	**INNOVATIVE TECHNOLOGY IN MEDICINAL PLANT PROCESSING WITH IMPACT ON FINISHED PRODUCT QUALITY** **Pruteanu A., Muscalu A., Danciu A.,** David L., pg. 221-226
37.	**STATUS OF EXPERIMENTAL RESEARCH ON BIOMASS COMPACTION** **Voicea I.,** Voicu Gh., **Vladut V., Matache M.,** Maria M., pg. 367-372
38.	**RESEARCHES ON SEEDS MIXTURE MECHANICAL SEPARATION SYSTEMS ACCORDING TO THEIR SURFACE** **Ciobanu V.,** Căsăndroiu T., **Ciupercă R., Păun A.,** pg. 133-138
39.	**PROMOTION OF A TECHNICAL EQUIPMENT ENDOWED WITH ACTIVE WORKING PARTS DRIVEN FOR SOIL DEEP LOOSENING** **Marin E., David A., Matache M., Pirna I.,** pg. 185-190
40.	**RESEARCHES ON THE APPLICATION OF HIGH ACCURACY PHYTOSANITARY TREATMENTS WITH ORGANIC SUBSTANCES BY MEANS OF A HYDROPNEUMATIC MACHINE** **Dumitraşcu A., Niţu M., Zaica Al.,** Căsăndroiu T., pg. 153-158
41.	**TECHNOLOGICAL EQUIPMENT FOR WEIGHING AND AUTOMATIC MANAGEMENT OF FINISHED PRODUCTS PACKED IN SACKS WITHIN MILLING UNITS OF SMALL AND MEDIUM CAPACITY** **Milea D., Păun A., Pirnă I., Brăcăcescu C., Ludig M.,** pg. 191-196
42.	**MATHEMATICAL MODEL AND SOFTWARE FOR EVALUATION OF ENERGETIC POTENTIAL OF VEGETAL BIOMASS IN AN AREA** **Nagy M., Coţa C., Cioica N.,** pg. 215-220

VII. INTERNATIONAL SYMPOSIUM 2013 – "ENVIRONMENT AND INDUSTRY", Bucharest **ISSN 2344-3898**	
43.	**LOW TEMPERATURES THERMAL ENERGY – A HUGE AND POTENTIAL ENVIRONMENTALLY FRIENDLY MARKET** **Ghilvacs M. I., Nicolescu M. A.**, pg. 72-77
VIII. The First International Symposium on Agricultural Engineering ISAE-2013, 4th-6th October 2013, Belgrade – Zemun, SERBIA **ISBN-86-7834-179-3**	
44.	**TECHNICAL ASPECTS REGARDING THE CALCULATION OF AXLES OF ROAD TRANSPORT VEHICLES** **Sfîru R., Vlăduţ V., Ciupercă R., Cârdei P., Ştefan V.**, pg. III 1 – III 8
IX. 5th International Scientific – Professional Conference TEXTILE SCIENCE AND ECONOMY, Zrenjanin, Serbia, 5-6.11.2013 **ISBN 978-86-76772-212-9**	
45.	**CONTRIBUTIONS TO THE PRODUCTION OF NEW TYPES OF KNITTED TEXTILE PRODUCTS WITH FUNCTIONAL, BIOACTIVE AND CONDUCTIVE PROPERTIES** Scarlat R., Pricop F., **Drambei P.,** Moga C., pg. 31-37
46.	**A CASE STUDY FOR WASTEWATER (GENERATED BY THE TEXTILE FINISHING) TREATMENT** Pricop F., Moga C., Scarlat R., **Drambei P.,** Popescu A., Jianu N., pg. 97-103
X. AGRICULTURAL MACHINES (СІЛЬСЬКОГОСПОДАРСЬКІ МАШИНИ), Bunyck (vol.) 26, Lutsk, Ukraine, 2013 **ISSN 2307-1699**	
47.	**DEFINITION OF FORCES ACTING ON THE STABILIZING DEVICE WITH A COULTER FOR MOTOR-BLOCK** Usenko M., **Vlăduţ V.**, pg. 106-113
XI. USAMV Bucharest Conference **Within the International Fair for Industry and Agriculture - INDAGRA 2013**	
48.	**FOLAREX – A NATURAL ORGANIC AND CONCENTRATED FERTILIZER** Puţinelu D., **Ganea I.**
XII. Innovative Clusters, Key Drivers of Economic Smart Specialisation, Bucharest, 28.11.2013 **ISBN 978-973-0-15864-9**	
49.	**IND-AGRO-POL** **Muraru-Ionel C.**
XIII. IT&C Platform launching conference – the IT&C platform will promote the foreign investment opportuniities in the Romania-Bulgaria cross-border cooperation area, Ruse, Calarasi, 28.06.2013	
50.	**COMPETITIVENESS POLES - CLUSTERIX BEST PRACTICES** **Muraru-Ionel C.**
XIV. Innovation Forum	
51.	**CLUSTERIX – good practices and instruments designed to innovation and competitiveness in clusters** **http://www.arott.ro/forum/prezentari** **Muraru-Ionel C.,** Lucia Seel

7.1.9. Prospective and technological studies, norms, procedures, methodologies and technical plans, new or improved, ordered or used by the beneficiary

OUTCOME NAME	2012	2013
Prospective and technological studies	**19**	***6***
Norms	**22**	***10***
Procedures	**2**	***1***
Methodologies	**8**	***17***
New or improved technical plans	**15**	***9***

Annex 7

7.1.9.1. PROSPECTIVES ANDI TEHNOLOGICAL STUDIES 6

Den. no.	Project Research contract / Commercial contract Beneficiary	Outcome	Reference/delivery deadline (month)
1.	Researches on improvement of physical and mechanical properties and structure of biodegradable materials designed to packages, from autochthonus raw materials Research contract no. 284 / 20.10.2011 CD: 563 / 2011 – 2014 Beneficiary: UEFISCDI Collaboration Protocole no. 1552 / 08.11.2007	**Technological study** on improvement of physical and mechanical properties and structure of biodegradable materials designed to packages, from autochthonus raw materials	October 2013
2.	Innovative technology and creation of a complex technical equipment for sacking the agricultural end products within small and medium-sized milling units Research contract no. 15 N / 27.02.2009 / Add. act no. 1 / 2013 Contracting authority: MEN CD: 590 / 2013 – 2013 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCE Collaboration Protocole no 1552 / 08.11.2007	**Technological study** regarding the methods of packing and handling the end products from milling units	March 2013
3.	Researches regarding the mechanization and automation of processes of pellets and agripellets manufacturing Research contract no. 15 N / 27.02.2009 / Add. act no. 2/2013 Contracting authority: MEN CD: 591 / 2013 – 2013 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCE Collaboration Protocole no 1552 / 08.11.2007	**Technological study** regarding the equipment which complete the manufacturing line of pellets and agipellets from solid agricultural and forestry biomass	May 2013
4.	Researches aimed to develop the technology on obtaining biodegradable materials from renewable resources for achieving environmental-friendly farm and food products Research contract no. 15 N / 27.02.2009 / Add. act no. 4/2013 Contracting authority: MEN CD: 596 / 2013 – 2013 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCE Collaboration Protocole no. 1552 / 08.11.2007	**Technological study** regarding producing and characterization of biodegradable materials from renewable resources	August 2013

Den. no.	Project Research contract / Commercial contract Beneficiary	Outcome	Reference/delivery deadline (month)
5.	Thorough researches on utilization of agricultural equipment tyres, using new IT and automated methods of verification Research contract no. 15 N / 27.02.2009 / Add. act no. 4/2013 Contracting authority:MEN CD: 597 /2013 -2013 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCE Colalboration Protocole no. 1552 / 08.11.2007	**Technological study** on rational use of agricultural technical equipment tyres	August 2013
6.	Innovative technology regarding the continous flow dosing process with granulated and powdery products designed to alimentary consumption in order to assure food quality and security Research contract no. 15 N / 27.02.2009 / Add act. no. 5/2013 Contracting authority M.E.N. CD: 605 / 2013 - 2013 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCE Colalboration Protocole no. 1552 / 08.11.2007	**Technological study** on dosing processes of continous flow feeding	December 2013

7.1.9.2. NORMS 10

Den. no.	Project Research contract/ Commercial contract Beneficiary	Result	Reporting deadline/delivery (month)
1.	Performing the Romanian version of standards comprised in annex no.1 – List of standards, costs, manufacturing deadlines Research contract no. 96/ 18.09.2013 Contracting authority: MECMA CD: 601/ 2013 – 2013 Beneficiary: ASRO	**SR ISO 15886-1:2013** Agricultural irrigation equipment Sprinklers. Part 1: Definitions, terms and classification	October 2013
2.	Performing the Romanian version of standards comprised in annex no.1 – List of standards, costs, manufacturing deadlines Research contract no. 96/ 18.09.2013 Contracting authority: MECMA CD: 601/ 2013 – 2013 Beneficiary: ASRO	**SR ISO 15886-1:2013** Agricultural irrigation equipment Sprinklers . Part 3: Characterization of distributing and testing methods	October 2013
3.	List of standards, costs, manufacturing deadlines Research contract no. 1254/ 08.11.2013 Contracting authority: MECMA CD: 606/ 2013 – 2013 Beneficiary: ASRO	**SR EN ISO 4254-5:2010** Agricultural machines - Security – Part 5: Machines for soil works with active parts driven by engine	December 2013
4.	List of standards, costs, manufacturing deadlines Research contract no. 1254/ 08.11.2013 Contracting authority: MECMA CD: 606/ 2013 – 2013 Beneficiary: ASRO	**SR EN ISO 4254-6:2010** Agricultural machines - Security – Part 6: Sprinkling and liquid fertilizers distributing machines;	December 2013

5.	List of standards, costs, manufacturing deadlines Research contract no. 1254/ 08.11.2013 Contracting authority: MECMA CD: 606/ 2013 – 2013 Beneficiary: ASRO	**SR EN 15811:2010** Agricultural machines Guards for moving elements transmitting the power. Guard openable by means of a tool	December 2013
6.	List of standards, costs, manufacturing deadlines Research contract no. 1254/ 08.11.2013 Contracting authority: MECMA CD: 606/ 2013 – 2013 Beneficiary: ASRO	**SR EN ISO 16119-1:2013** Agricultural and forestry machinery. Environement requirements for sprinklers. Part 1: Generalities	December 2013
7.	List of standards, costs, manufacturing deadlines Research contract no. 1254/ 08.11.2013 Contracting authority: MECMA CD: 606/ 2013 – 2013 Beneficiary: ASRO	**SR EN ISO 16119-2:2013** Agricultural and forestry machinery. Environment requirements for sprinklers. Part 2: Sprinklers with horizontal ramp	December 2013
8.	List of standards, costs, manufacturing deadlines Research contract no. 1254/ 08.11.2013 Contracting authority: MECMA CD: 606/ 2013 – 2013 Beneficiary: ASRO	**SR EN ISO 16119-3:2013** Agricultural and forestry machinery. Environment requirements for sprinklers. Part 3: Sprinklers for trees and bushes	December 2013
9.	List of standards, costs, manufacturing deadlines Research contract no. 1254/ 08.11.2013 Contracting authority: MECMA CD: 606/ 2013 – 2013 Beneficiary: ASRO	**SR EN ISO 11850:2012** Forestry machines. General security requirements	December 2013
10.	List of standards, costs, manufacturing deadlines Research contract no. 1254/ 08.11.2013 Contracting authority: MECMA CD: 606/ 2013 – 2013 Beneficiary: ASRO	**SR EN ISO 22868:2011** Forestry and gardening machines. Testing acoustic code for portable machines, equipped with internal combustion engine – Method of expertise (precision category 2)	December 2013

7.1.9.3. PROCEDURES 1

Den.no.	Project Research contract/ Commercial contract Beneficiary	Result	Reporting deadline/delivery (month)
1.	Innovative technology and technical equipment with active parts driven for soil deep loosening and increased fertility Research contract no. 135 / 27.10.2011 Contracting authority: ASAS – SECTORAL PLAN MADR CD: 560 / 2011 - 2014 Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Procedure of testing in laboratory and field of innovative technology and technical equipment with active parts driven for soil deep loosening and increased fertility	October 2013

7.1.9.4. METHODOLOGIES 17

Den. no.	Project Research contract/ Commercial contract Beneficiary	Result	Reporting deadline/delivery (month)
1.	Mechanizing technology and technical equipment for conditioning and calibrating the apples designed to semi-subsistence fruit growing farms Research contract no. 3.1.1 / 27.10.2011 Contracting authority: ASAS CD: 561 / 2011 – 2014 Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Methodology for testing in operating conditions the sorting and calibrating machine for apples according to size	April 2013
2.	Mechanizing technology and technical equipment for conditioning and calibrating the apples designed to semi-subsistence fruit growing farms Research contract no. 3.1.1 / 27.10.2011 Contracting authority: ASAS CD: 561 / 2011 – 2014 Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Methodology for testing in laboratory conditions the technical equipment for sorting and calibrating apples ECM	April 2013
3.	Mechanizing technology and technical equipment appropriate for harvesting, transport and efficiently conserve fodder plants. Research contract no. 736 / 27.10.2011 CD: 562/ 2011-2014 Contracting authority: MADR – PLAN SECTORIAL Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Methodology for testing the hay drying installation in stack by cold or hot air ventilation	August 2013
4.	Elaboration of an innovative technology for mincig wood materials in view of increasing their bioactive substances extraction degree Research contract no. 164 CI / 09.11.2013 Contracting authority: UEFISCDI CD: 589 / 2012 – 2013 Beneficiary: SC NUTRACEUTICAL SRL	Innovative methodology for mincing wood materials in view of increasing their bioactive substances extraction degree	April 2013
5.	Innovative technology and designing a complex technical equipment for sacking farm end products within small and medium sized milling units Research contract no.15 N / 27.02.2009 / Act. ad. nr. 1/2013 Contracting authority: ANCS CD: 590 / 2013 – 2013 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCE Protocole no. 1552 / 08.11.2007	Testing method of weighing and automated handling equipment ECGA	June 2013
6.	Researches on mechanization and automation of agripellets manufacturing processes Research contract no. 15 N / 27.02.2009 / Add. act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Testing methodology of tilted conveyor with band and dryer TIBU	October 2013

7.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no. 15 N / 27.02.2009 / Add. act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Testing methodology of dimensional sorter SD 2630	October 2013
8.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no.. 15 N / 27.02.2009 / / Add. act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Testing methodology of conveyor with band TB - 240	October 2013
9.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no. 15 N / 27.02.2009 / / Add. act. no. .. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Testing methodology of buffer hopper BT	October 2013
10.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no. 15 N / 27.02.2009 / / Add. act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Testing methodology of pelleting equipment EP	October 2013
11.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no. 15 N / 27.02.2009 / Add. act. no. .. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Testing methodology of sawdust briquetting installation IBR	October 2013
12.	Innovative technology regarding the continous flow dosing of granulated and powdery products in order ti ensure food high quality and security Research contract no. . 15 N / 27.02.2009 / Add. act. no. 5/2013 Contracting authority: M.E.N. CD: 605 / 2013 - 2013 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCE Collaboration Protocole no. 1552 / 08.11.2007	Methodology of testing the continous flow dosing and technical dosing equipment ETD	December 2013

13.	Technical and scientific evaluation, technical assistance for mounting and PIF of installations designed by INMA within the project: ”Hall designed to sturgeons breeding and creation of a pond of 7.1 ha for practising aquaculture in Herneacova area, Timiş county’’ Contract no. 494 / 04.04.2013 CD: 592/ 2013 -2013 Beneficiary: SC BAU CENTER VEST SRL	Methods of checking the technological installations for sturgeons breeding hall in Herneacova area- ITCS - H	August 2013
14.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no. 15 N / 27.02.2009 / Add.act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocole no. 1556 / 12.11.2007	Working methodology of electronic balance	October 2013
15.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no. 15 N / 27.02.2009 / Add.act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Working methodology of thermobalance	October 2013
16.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no. 15 N / 27.02.2009 / Add.act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Working methodology of calorimeter CAL 2K	October 2013
17.	Researches on mechanization and automation of pellets and agripellets manufacturing processes r Research contract no. 15 N / 27.02.2009 / Add.act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Methodology for experimenting the pellets, agripellets and briquettes technology	October 2013

7.1.9.5. TECHNICAL PLANS 9

Den. No.	Project Research contract/ Commercial contract Beneficiary	Result	Reporting deadline/delivery (month)
1.	Innovative technology and designing a complex technical equipment for sacking the farm end products within small and medium-sized milling units Research contract no.15 N / 27.02.2009 / Add. act no. 1/2013 Contracting authority: ANCS CD: 590 / 2013 – 2013 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCE Collaboration Protocol no. 1552 / 08.11.2007	Technical plan for automated weighing and automated handling equipment ECGA	March 2013

2.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no 15 N / 27.02.2009 / Add act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for bugffer hopper BT	May 2013
3.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no 15 N / 27.02.2009 / Add act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for tilted conveyor with band and dryerTIBU	May 2013
4.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no 15 N / 27.02.2009 / Add act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for pelleting equipment EP	May 2013
5.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no 15 N / 27.02.2009 / Add act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for conveyor with band TB 240	May 2013
6.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no 15 N / 27.02.2009 / Add act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for sawdust briquetting installation IBR	May 2013
7.	Researches on mechanization and automation of pellets and agripellets manufacturing processes Research contract no 15 N / 27.02.2009 / Add act. no. 4/2013 CD: 591/ 2013 – 2013 Contracting authority: MEN Beneficiary: ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for dimensional sorter DS 2630	May 2013
8.	Innovative technology regarding the dosing process in continous flow with granulated and powdery products for food consumption in order to ensure food high quality and safety Research contract no 15 N / 27.02.2009 / Add act. no. 5/2013 Contracting authority: MEN CD: 605 / 2013 - 2013 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCE Collaboration Protocol no. 1552 / 08.11.2007	Technical plan for technical dosing equipment ETD	December 2013

9.	Innovative technology regarding the dosing process in continous flow with granulated and powdery products for food consumption in order to ensure food high quality and safety Research contract no 15 N / 27.02.2009 / Add act. no. 5/2013 Contracting authority: MEN CD: 605 / 2013 - 2013 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCE Collaboration Protocol no. 1552 / 08.11.2007	Technical plan for technological line designed to corn seeds calibration LTCP	December 2013

7.1.10. Copyright protected by ORDA or other similar legal systems: -

7.2. Research-development results capitalized and their effects

RESULT	Contract name	Beneficiary	Patent / Patent application	Effects obtained
Testing report	Determination of acoustic power level for moto-pump GP 100 (D 2000/14/EC)	SC PROENERG SA	-	- TE technical performances checking; - verification of the acoustic power level; - increasing INMA incomes
Service	Technical and scientific assistance for mounting and PIF of technological installations designed by INMA within the project entitled ”Hall designed to sturgeons breeding and creation of a pond of 7.1 ha for practicing aquaculture in Herneacova area, Timiş county”	SC BAU CENTER VEST SRL	YES	- technical and scientific evaluation of the project; - technical assistance for mounting and PIF of technological installations; - increasing incomes of INMA
Testing report	Static stress and fatigue tests of prototypes subjected to destructive tests of frame-boggie-engine - drawing R 130 RSN	SC ELECTROPUTERE VFU Paşcani	-	- checking the static and dynamic stress resistance of boggie frame; - increasing incomes of INMA
Products	Researches on the determination of technical characteristics by achieving experimental models for sorter with 4 sieves and band conveyor	DACIA PLANT	DA	- checking the technical performances of TE; - checking the safety requirements meeting; - increasing incomes of INMA
Study	Performing the resistance calculation of supporting panels for digging borders of BAV2 type, according to manufacturing project and quality certificates of materials used in technological process of these metallic structures	SC BAV CONSULTING SRL	-	- checking the technical performances and supporting panels resistance; - increasing incomes of INMA
Norm	Performing the static tests for cabin telescopic guard in voluntary regime according to SR EN 81 -21: 2010	SC KIFT KRAM SRL	-	- checking the safety requirements meeting - increasing incomes of INMA
Norm	Performing the Romanian version of standards comprised in annex no.1 – List of standards, costs, execution deadlines	ASRO	-	- checking the safety requirements and their updating; - increasing INMA incomes
Testing report	Performing the static tests in voluntary regime according to SR EN 81 -21: 2010 for cabin telescopic guard made up of three parts and fixed guard for cabin	SC KIFT KRAM SRL	-	- checking the safety requirements meeting - increasing incomes of INMA
Study	Studies of design necessary to mount a research greenhouse made of aluminium framework, covered by foil	ICDPP	-	- evaluation of requirements necessary for mounting a greenhouse increasing INMA incomes

Norm	Performing the Romanian version of standards List of standards, costs, execution deadlines	ASRO	-	- checking the requirements and their updating; verificarea cerinţelor şi actualizarea acestora; - increasing INMA incomes
Service	Research, development and innovation – support for sustainable economic and social development	PRCP	-	- creating the framework for a scientific events development- increasing INMA incomes
Methodology	Elaborating an innovative technology for mincing wood materials in order to increase the extraction level of bioactive substances	SC NUTRACEUTICAL SRL	-	- establishing the characteristics of mincing equipment and resulted material; - increasing INMA incomes
Service	Services of business assistance for innovation and technological transfer in the field of technologies and technical equipment for agriculture and food industry, farms and connected areas	SC INNO CONSULT SRL	-	- creating the opportunities for increasing the innovation capacity of the incubated farm; - creating partnerships and submitting tenders within national and European RDI programs; - increasing INMA incomes
Services	Services of business assistance for innovation and technological transfer in the field of technologies and technical equipment for agriculture and food industry, farms and connected areas	ASSOCIATION OF CLUSTERS IN ROMANIA - CLUSTERO		- creating pertnerships between the members of an incubated association and INMA within sectoral operational programs; - creating pertnerships for organizing scientific events; - increasing INMA incomes
Services	Services of business assistance for innovation and technological transfer in the field of technologies and technical equipment for agriculture and food industry, farms and connected areas	SC VALTEC TRACTORS SRL		- creating the opportunities for increasing the innovation capacity of the incubated farm; - creating partnerships and submitting tenders within national and European RDI programs; - increasing INMA incomes

7.3. Opportunities of research results capitalization

- National Program for Rural Development 2014-2020;
- National Strategy for Romania's Sustainable Devlopment Orizonturi 2013-2020-2030;
- MADR Programme of reconversion and replanting in fruit growing 2014-2020;
- National Programme for establishing forestry belts for protecting highways and national roads (http://ape-paduri.ro/ordonanta-de-urgenta-privind-aprobarea-programului-national-de-realizare-a-perdelelor-forestiere-pentru-protectia-autostrazilor-si-drumurilor-nationale/);
- National System of Agro-forestry curtains (Law No.289 from 15.05.2002 on protection forestry belts);
- Horizon 2020 – Reindustrialization of sectors with significant added value of EU member states

7.4. Measures for increasing the socio-economic capitalization degree of research outcome

- Enhancing INMA participation in all regional, national and international fairs /salons;
- Multiplying partnerships of INMA- SMEs including in related domains (exploitation of technologies and technical equipment, maintenance, re-manufacturing);
- Increasing the number of practical demonstrations at potential users/beneficiaries;
- Enhancing the incubation of micro-companies and SMEs within INMA activity field;
- Connecting INMA marketing department and incubator INMA-ITA marketing department to the Network ENTREPRISE EUROPE NETWORK;
- Intensifying the participation in brokerage events and/or licensing.

8. MEASURES FOR INCREASING INCD PRESTIGE AND VISIBILITY

8.1. Presentation of collaboration activity through partnerships:

- **developing internal and international partnerships (with personalities / institutions / professional associations) in order to participate in specific national and European programs:**
  - ReNITT – National Network for Innovation and Technological Transfer;
  - ASRO – Standardization Association in Romania;
  - RENAR – Romanian Accrediting Association;
  - RAR – Romanian Auto Register;
  - CNCPIR – National Chamber of Counsellors in Intelectual Property in Romania
  - ASAS – Academy of Agricultural and Forestry Sciences "Gheorghe Ionescu-Sisesti"
  - SIR – Society of Inventors in Romania
  - BIOCARO – Romanian Biofuels Platform;
  - ARoTT – Romanian Association of Technological Transfer;
  - ROCASCO – Committee for Conformity Assesment**;**
  - CT 77 – Technical Committee – Machines and Agricultural Equipment;
  - FOOD for LIVE Technological Platform;
    MANUFUTURE platform;
  - EHEDG - THE EUROPEAN HYGIENIC ENGINEERING & DESIGN GROUP **–** Frankfurt, Germany;
  - S.C. MASCHIO GASPARDO Romania SRL;
  - SC TEHNOFAVORIT SA Bonţida;
  - S.C. MIAGHI IMPEX SRL Brăila;
  - S.C. CRICOSERV SRL Ploieşti.
  - MEMORANDUM OF UNDERSTANDING on co-operation in the field of the agro-industrial clusters development and cluster and innovation policies support within the Danube Region countries - Danu4AgroInd (Danube Agro-Industrial Clusters Network) – Partners from Germany, Romania, Croatia, Slovakia, Hungary, Serbia , Moldavia Republic;
  - PARTNERSHIP AGREEMENT for the project proposal “SOIC - Clusters as drivers of social innovation” submitted within the Financial Mechanism SEE 2009 – 2014 – Partners from Romania (INMA, Maritime University “Mircea cel Batran” Constanta, SC INNO CONSULT SRL) and Norway (Oxford Researc AS);
  - PARTNERSHIP AGREEMENT on implementation of research project «RESEARCHES AIMING TO INTRODUCE INTO MANUFACTURING A CLASS OF HIGH PERFORMANCE VIBRO-COMBINERS, ADAPTED TO EXPLOITATIONS IN ROMANIA» within POS CCE Op.1.3.3 – Partners: Cluster IND-AGRO Vest, INMA, UPB, USAMV Timisoara, University “Vasile Goldis” Arad;
  - PARTNERSHIP AGREEMENT for creating the competitiveness pole IND-AGRO-POL and related to project package submitted by IND-AGRO-POL within POS CCE Op 1.3.1; Partners:
    - ASSOCIATIONS OF AGRICULTURAL TRACTORS AND MACHINES IN ROMANIA - PACTMAR
    - Association of Agricultural Tractors and Machines Importers in Romania – APIMAR;
    - Society of Agricultural Mechanic Engineers in Romania – SIMAR;
    - SC COMPOZITE SRL;
    - SC IMS WERKZEUGBAU SRL;
    - SC DIEM SRL;
    - SC GRUP ROMET SA;
    - SC MECANO FUC SA NEGRESTI;
    - SC RANCON SRL;
    - SC RANCON RECICLARE SRL;
    - SC MIAGHI IMPEX SRL;
    - SC METATECH-CD SRL;
    - SC OMP SRL;

- SC MAT SA;
- SC ISLAZ SA;
- SC RURIS IMPEX SRL;
- SC OLTEANU-IGNATOVICI SRL;
- SC INSTIRIG SA;
- SC SERVOPLANT SRL;
- SC GEDA PRODEXIM SRL;
- SC PROFILAM EXIM SRL;
- SC IRIDEX GROUP IMPORT EXPORT SRL;
- SC Universal Exim SRL;
- SC Valtec Tractors SRL;
- National Institute of Research – Development for Machines and Installations designed to Agriculture and Food Industry – INMA;
- University TRANSILVANIA from BRASOV;
- Institute of Research for Pneumatic Hydraulics INOE IHP;
- National Institute of Research – Devlopment for for Electric Engineering ICPE-CA;
- Institute of Biological Science – INSB;
- Institute of Electrotechnical Science – ICPE SA;
- National Institute of Research – Development for Environment Protection;
- National Institute of Research – Development for Mecatronics and Measurement Techniques;
- National Institute of Research – Development for Textile and Leather – INCDTP;
- University of Craiova – Mechanics Faculty;
- University Politehnica from Bucharest – UPB;
- SC IPA SA CIFATT Craiova;
- University of Agricultural Science and Veterinary medicine USAMV Iasi;
- Institute of Research and Technological Design for Machines Building - SC ICTCM SA;
- Romanian Institute of Economic and Social Research and Sounding – IRECSON;
- ADR Sud-Est;
- ADR Nord-Est;
- Chamber of Commerce, Industry and Agriculture Timis;
- Chamber of Commerce, Industry and Agriculture Arad;
- Foundation for Democracy, Culture and Freedom – FDCL;
- SC INPULSE PARTNERS SRL;
- National Institute for Small and medium-sized Enterprises;
- Chamber of Commerce, Industry and Agriculture Calarasi;
- Chamber of Commerce and Industry Bucharest;
- ARoTT – Romanian Association of Technological Transfer;
- SC Inno Consult SRL;
- Chamber of Commerce, Industry and Agriculture Brasov;

- **registering INCD within international data bases which promote partnerships:**
  - ELSEVIER / SciVerse SCOPUS;
  - ULRICHSWeb Global Serials Directory;
  - CABI;
  - SCIPIO;
  - INDEX COPERNICUS INTERNATIONAL;
  - PROSME ENTERPRISE EUROPE NETWORK

- **registering INCD as a member of research networks / member of prestigious professional associations at national / international level:**
  - SIMAR – Society of Agricultural Mechanical Engineers in Romania;
  - EurAgEng - European Society of Agricultural Engineers;

- **Participating in commission of evaluation of national and international competitions:**
  - Comission no. 12 – Scientific Events and Fairs;
  - Comission of Experts FP7 - Evaluators;
  - Comission of Experts UEFISCDI, EUREKA, etc.

- **Scientific personalities who visited INCD:**

SIN Gheorghe Prof. Ph.D. eng. – president of Academy of Agricultural Science „Gheorghe Ionescu Şişeşti" – ASAS, Romania;
- NICOLESCU Mihai, Prof. Ph.D. – vicepresident of Academy of Agricultural Science „Gheorghe Ionescu Şişeşti" – ASAS, Romania;
- NICOLESCU Mihai, Ph.D. eng – general secretary of Academy of Agricultural Science „Gheorghe Ionescu Şişeşti" – ASAS , Romania;

Ramzy George Stino, Prof. Ph.D. - Minister of Scientific Research, Egypt;
- Mahmoud Sakr, Prof. - President of Academy of Scientific Research & Technology (ASTR), Egypt;
- Totka Mitova-Trifanova, Prof Ph.D- Director of Institute of Soil Science, Agrotechnologies and Plant Protection "Nikola Poushkarov", Agricultural Academy, Bulgaria;

Botio Zaharinov Assoc. Prof. Ph.D . – Director of Program of Earth Science and Alternative Energy, New Bulgarian University, Bulgaria;
- Teoharie Cătălin - Country Manager South-Eastern Europe, ELSEVIER;
- Schweighofer Karl - General Manager, ARGE AUSTRIAN MISCANTHUS, Austria;
- Husrev Mennan, Prof. Ph.D. - Director of Department of International Relations, Ondokuz Mayis University, Samsun, Turkey;
- Ahmed Abou El Nasr, Eng. - General Manager, TITAN MASINI GRELE, YARED GROUP Romania;
- Cătălin Cornea, Eng. – General Manager of ELECTROPUTERE VFU Paşcani, GRAMPET - GFR, Romania.

- **Courses and seminaries given by scientific personalities invited:**

Business. Clusters. Innovation
- Triggering Competitiveness. Strategy Building Process - Ulrich Hoecker, giz;
- Clusters and Competitveness in SE Europe - Alan Paic, Head OECD Investment Compact for SE Europe;
- Business Innovation Models - Florin Talpeș, President of Bitdefender & Softwin Group

Business & Markets, Production & Funding
- International business and innovation cooperation - Wienfried Senker, East West Management
- Industrial Internet: Opportunity and Challenge Andrei Hohan: FiaTest

- **Members in editorial boards of journals ISI recognised (or included within international data bases) and national and/or international editorial boards:**

Members in editorial staffs and boards	2012	2013
• International and/or national conferences/symposia internaţionale şi/sau naţionale	2	6
• Recognised journals ISI (or included in international data bases)	12	14

Den.No	NAME	JOURNAL / CONFERENCE / SYIMPOSIUM
National or international conferences/symposia		
1.	Vlăduţ Valentin	**TRAKTORI I POGONSKE MASINE** ***JOURNAL OF SCIENTIFIC SOCIETY OF POWER MACHINES, TRACTORS AND MAINTENANCE*** December 2013, Novi Sad, Serbia
2.	Vlăduţ Valentin	**International Scientific Conference on "*ENVIRONMENT AND BIODIVERSITY*" - ECOLOGICA** April, Belgrad - Serbia

3.	Vlăduţ Valentin	**IV International Scientific-Practical Conference „INNOVATIVE TECHNOLOGIES IN THE AGRO-INDUSTRIAL COMPLEX”** 5-6 June 2013, Ukraine, Lutsk
4.	Vlăduţ Valentin	**4rd International Conference "*Research People and Actual Tasks on Multidisciplinary Sciences*"** 12 – 16 June 2013, Lozenec, Bulgaria
5.	Vlăduţ Valentin	**International Conference on Energy Efficiency and Agricultural Engineering** May 17-18, 2013, Ruse, Bulgaria
6.	Vlăduţ Valentin	**The First International Symposium on Agricultural Engineering, ISAE—2013, Section III: Power and Machinery; Diagnostics and Maintenance of the Agricultural Machinery** 4th-6th October 2013, Belgrade – Zemun, Serbia
Journals recognised ISI (or included in international databases)		
1.	Vlăduţ Valentin	**ACTA TECHNICA CORVINIESIS - BULLETIN OF ENGINEERING** Hunedoara, Romania, ISSN: 2067-3809
2.	Vlăduţ Valentin	**ANNALS OF FACULTY ENGINEERING HUNEDOARA - INTERNATIONAL JOURNAL OF ENGINEERING** Hunedoara, Romania, ISSN 1584-2673
3.	Pirnă Ion	**INMATEH - AGRICULTURAL ENGINEERING** Bucharest, Romania ISSN: 2068 – 2239; ISSN: 2068 – 4215
4.	Vlăduţ Valentin	
5.	Drâmbei Petronela	
6.	Muraru Vergil	
7.	Nedelcu Mihail	
8.	Barbu Mihaela	
9.	Ţicu Tania	
10.	Postelnicu Elena	
11.	Cârdei Petru	
12.	Cioica Nicolae	
13.	Pirnă Ion	**ANNALS OF CRAIOVA UNIVERSITY, Series AGRICULTURE, MOUNTANOLOGY, CADASTRE SURVEY** Bucharest, Romania ISSN 1841-8317
14.	Vlăduţ Valentin	

8.2. Results obtained at national and international fairs and exhibitions

Fairs and exhibitions	2012	2013
• international	6	4
• national	7	1

- **international fairs and exhibitions**

Den. No.	Salon / Fair name
1.	**International Inventics Salon PROINVENT Cluj-Napoca** 19 – 22 March 2013
2.	**International Salon of Inventions – Geneva, Switzerland,** 10 – 14 April 2013
3.	**TESLA INVEST – INVENT Bucuresti** 17-23 June 2013
4.	**International Salon of Inventions INNOVA – EUREKA, Bruxelles** 14-17 November. 2013

- **national fairs and exhibitions**

AGROMEXPO Bacău, 28 – 30 March 2013


Camera de Comert si Industrie BACAU

Diploma de excelenta

Se acordă

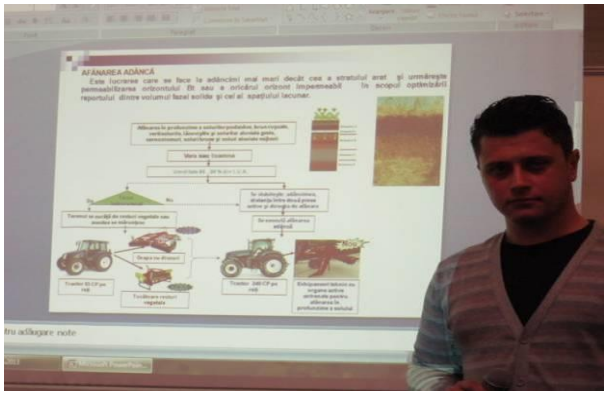
INSTITUTULUI NAȚIONAL DE CERCETARE-DEZVOLTARE PENTRU MAȘINI ȘI INSTALAȚII DESTINATE AGRICULTURII - INMA, București

pentru consecvență în participarea la manifestarea promoțională AGROMEXPO Bacău.

Doru SIMOVICI
Presedinte

30 martie 2013

Standul INMA



Images during the conference

POLIFEST Bucureşti, 3-5 April 2013

POLIFEST 2013

Conference of INMA – 5 April UPB, AN 010 Hall

National Fair for Agriculture and Food Industry AGRALIMEX Alexandria, 29.08 – 01.09.2013

EXPOTEHNICA - NATIONAL SALON OF RESEARCH AND INNOVATION, Bacău, 19 – 21 September 2013

National Conference ORIZONT 2020 and ROMANIAN RESEARCH EXHIBITION 2013, National Library of Romania, 3 – 4 October 2013

International Exhibition Fest AgrAlim, Timişoara
Regional Salon of Rsearch INNOFEST
3-5 October 2013

INDAGRA 2013, ROMEXPO - Bucureşti, 30 October – 3 November

INDAGRA 2013

FOLAREX

ÎNGRĂŞĂMÂNTUL LICHID COMPLEX, CONCENTRAT
CARE POATE SALVA AGRICULTURA ROMÂNIEI ŞI DE CE NU?
ŞI PE CEA MONDIALĂ, DE „BINEFACERILE" CHIMIZĂRII

Prof. Dobre PUŢINELU
Dr.ing. Ioan GANEA – INMA Bucuresti

USAMV BUCHAREST CONFERENCES AT INDAGRA 2013
C3 Hall - 31 October

FOLAREX –Innovative complex fertilizer. Advantages of folerex production and use
Prof. Putinelu Dobre, Ph.D. Ganea Ioan

8.3. Prizes obtained following selection process/ distinctions, etc.

Prizes obtained by selection process	2012	2013
• international	20	19
• national	1	1

- **International prizes obtained by selection process: 20**

Den.No.	Salon / Fair name	Obtained prizes
1.	**International Inventics Salon PROINVENT, Cluj-Napoca 19 – 22 March 2013**	**Excellence Diploma and Gold Medal** **EQUIPMENT FOR CHECKING THE CONSTRUCTIVE AND FUNCTIONAL PARAMETERS OF HERBICIDE APPLYING MACHINES** Cota Constantin, Nagy Elena Mihaela, Cioica Nicolae **Excellence Diploma and Silver Medal** **SET OF ACTIVE PARTS FOR SOIL LOOSENING** Constantin Nicolae, Cojocaru Iosif, Pirnă Ion, Marin Eugen, Mateescu Marinela, Ioan Ganea **Excellence Diploma and Bronze Medal** **EQUIPMENT FOR SOIL DEEP LOOSENING, BREAKAGE, LEVELLING AND COMPRESSION** Marin Eugen, Constantin Nicolae, Manea Dragoş, Cristian Sorică **1 Special Prize** **Diploma and AGEPI Moldova Medal** **EQUIPMENT FOR CAPITALIZING THE CONSTRUCTIVE AND FUNCTIONAL PARAMETRS OF HERBICIDE APPLYING MACHINES** Cota Constantin, Nagy Elena Mihaela, Cioica Nicolae
2.	**International Inventics Salon – Geneva, Switzeland 10 – 14 April 2013**	**Excellence Diploma and Silver Medal** **EQUIPMENT FOR PLANTING FORESTRY SEEDLINGS IN TILLED FIELD** Mircea Radu, Pirnă Ion, Cristea Mircea, Dumitrescu Corneliu
3.	**International Salon of Inventions and Practical Ideas TESLA INVEST – INVENT Bucharest 17-23 June 2013**	**Diploma, Plaquette, Medal, Cup and II-nd Prize – INVEST-INVENT** **SET OF ACTIVE PARTS FOR SOIL LOOSENING** Constantin Nicolae, Cojocaru Iosif, Pirnă Ion, Marin Eugen, Mateescu Marinela, Ioan Ganea **Excellence Diploma and Medal of Fair INVEST-INVENT** Ioan Ganea
4.	**International Inventics Salon INNOVA – EUREKA Bruxelles 14-17 November. 2013**	**Diploma and Silver Medal** **SET OF ACTIVE PARTS FOR SOIL LOOSENING** Constantin Nicolae, Cojocaru Iosif, Pirnă Ion, Marin Eugen, Mateescu Marinela, Ganea Ioan **Diploma and Silver Medal** **SOWING MACHINE FOR DIRECTLY SOWING HOEING PLANTS IN STUBBLE AND ON RIDGES** Gângu Vergil, Neacşu Florian, Cojocaru Iosif, Pirnă Ion, Marin Eugen, Mateescu Marinela

PARTICIPAREA INMA LA SALOANELE DE INVENTII - 2013

*** Salonul Internaţional de inventica PROINVENT, Cluj-Napoca 2013**

Diploma de excelenţă şi Medalie Aur + Premiu special

ECHIPAMENT PENTRU VERIFICAREA PARAMETRILOR CONSTRUCTIVI FUNCTIONALI AI MASINILOR DE ERBICIDAT

Diploma de excelenţă şi Medalia de argint · SET DE ORGANE PENTRU AFÂNAREA SOLULUI

Diploma de excelenţă şi Medalia de bronz · ECHIPAMENT PENTRU AFÂNARE PROFUNDĂ, MĂRUNŢIRE, TASARE ŞI NIVELARE A SOLULUI

*** Salonul Internaţional de Inventii – Geneva 2013**

Diploma şi Medalie Argint · ECHIPAMENT PENTRU PLANTAT PUIEŢI FORESTIERI ÎN TEREN PRELUCRAT

*** Targul Internaţional de Invenţii si Idei practice "TESLA "INVEST-INVENT", Bucuresti, 2013**

Diploma, Placheta, Medalie, Cupă şi Premiul II – INVEST-INVENT · SET DE ORGANE PENTRU AFÂNAREA SOLULUI

Diploma de Onoare şi Medalia Târgului INVEST-INVENT

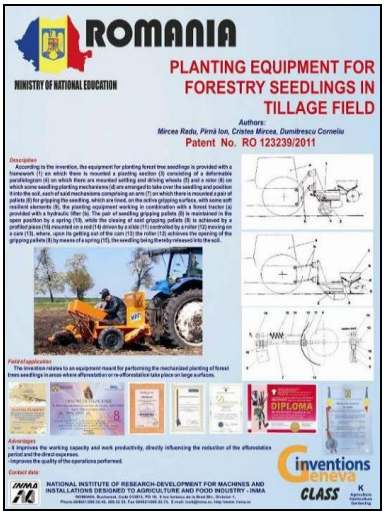
*** Salonul international de inventii INNOVA – EUREKA - Bruxelles**

Diploma si Medalia Argint · SET DE ORGANE DE AFÂNARE A SOLULUI

Diploma si Medalia Argint · SEMĂNĂTOARE PENTRU SEMĂNAT DIRECT ÎN MIRIŞTE ŞI PE BILOANE PLANTE PRĂŞITOARE

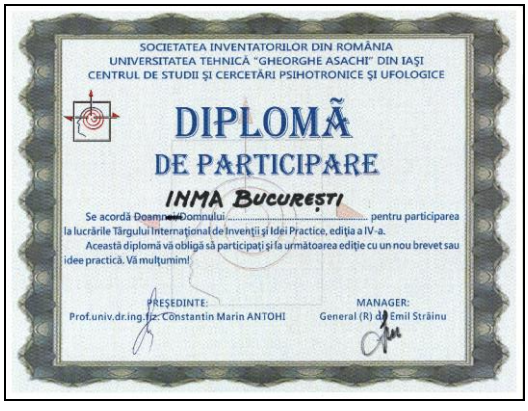
*** Premiile AGIR (Asociatia Generala a Inginerilor din Romania) 2013**

InternationalSalon of Inventions – Geneva, Switzerland, 10 – 14 April 2013



InternationalSalon of Inventions – Geneva, Switzerland INNOVA – EUREKA Bruxelles
14-17 Nov. 2013

International Fair of Inventions and Practical ideas
"TESLA INVENT – INVEST" Bucharest, 17-23 June 2013



AGIR 2013 Prizes in the field of „**Machinery building engineering”**, **Bucharest**
6 September 2013- for outstanding products achieved in 2012
Equipment for high plants harvesting – ERPI


ASOCIAȚIA GENERALĂ A INGINERILOR DIN ROMÂNIA

PREMIUL AGIR 2012

În domeniul "Ingineria construcțiilor de mașini"
Se acordă realizatorului: **INMA - Institutul Național de Cercetare - Dezvoltare pentru Mașini și Instalații destinate Agriculturii și Industriei Alimentare**
pentru lucrarea: ***Echipament tehnic pentru recoltat plante înalte - ERPI***

06.09.2013 Președinte, Mihai MIHĂITĂ

8.4. Presentation of advertising activity:

- Media passages (interviews)
- Participation in debats TV. and radio broadcasted

Activities of advertising	2012	2013
Number	4	3

1. **27 Nov.2013, Central University Library**
   TVR1 – Romanian Inovations broadcasting

2. **19 Nov. Researcher's Day – Găgeanu Paul - DIGI TV**
3. **Site: fabricadebani.ro**

9. SOURCES OF INFORMATION AND DOCUMENTATION FROM INCD TECHNICAL AND SCIENTIFIC PATRIMONY

Technical archive – 1000 projects
Library – 11,000 technical specialty books and journals
Data bases
Webpage: inma.ro; inmateh.eu

Institute journal «**INMATEH – Agricultural Engineering**»

Recognized by CNCSIS with **B+** category, number 737/11949/2009, having the following codes

***on line*: ISSN 2068-2239 and *print*: ISSN 2068-4215,**

continued to be issued, with numbers **39, 40** and **41 / 2013,** which were edited.

The journal has been indexed in the following international data bases:

ULRICHS

CABI

SCIPIO ROMANIAN EDITORIAL PLATFORM

ELSEVIER / SciVerse SCOPUS

And is available online, at addresses:
http://www.inma.ro/inmateh-agricultural%20engineering
http://www.inmateh.eu

10. CONCLUSIONS
Technical and scientific results obtained by INMA - SYNTHESIS

Den. No.	Name	Achieved
1.	Scientific/technical papers published in specialty journals ISI quoted	**13**
2.	Books / chapters INMATEH – Agricultural Engineering Journal	**1 / 1** **No. 39, 40,41**
3.	Patent applications INMA, registered Patent issued by OSIM	**14** **3**
4.	Homologated products Homologated services Homologated techologies Prospesctive and technological studies Norms Procedures Methodologies Technical plans Experimental models	**9** **2** **2** **6** **10** **1** **17** **9** **9**
5.	Scientific/technical papers published in specialty journals , without ISI quotation(BDI and other international journals)	**13**
6.	Scientific communications presented in international conferences	**51**
7.	Members of editorial boards of journals ISI recognised(or included in international data bases) and of national and/or international editorial boards	**20**
8.	Participation of INMA in national and international fairs and exhibitions Distinctions and prizes	**5** **20**

11. PERSPECTIVES/ PRIORITIES FOR THE CURRENT YEAR

The 2014 priorities related to RDI activities are focused on:

- achieving the tests of specific equipment for a high exploitation of crop biomass (Miscanthus, castor-oil plant, etc) and the biomass resulted as a by-product of main agricultural cultures;
- continuing the researches of integrated mechanizing and automating of processing systems of medicinal or endemic plants;
- continuing the researches for achieving the specific methodologies/procedures for assessing the mechanizing technologies used in agriculture (medium and long term impact);
- technical substantiation of technological mechanizing and automation technologies of agricultural processes related to biomass crops, horticulture, primary processing of agricultural products;
- technological transfer of researches results to economic agents interested (SC RURIS SRl Craiova, SC Mecanică CEAHLAU SA Piatra Neamţ, SC MECANOFIC SA Iaşi);
- developing the contractual projects within the national, cross-border programs (Bulgaria, Hungary);
- identification of new partners for drawing up new proposals within HORIZON 2020 programme;
- Achieving new proposals within the programmes: ERASMUS+ and EUREKA;
- disseminating the results by: organizing symposia and promoting the institute journal „INMATEH „Agricultural Engineering”in new international data bases;
- registering the new technical original solutions at OSIM;
- supporting the long-life professional training of personnel involved in agricultural and food sector,at employees request, through Centres of Professional Training and Evaluation of the institute;
- continuing and strengthening the relations with universities in the country for supporting them to perform short and long term practice stages within the institute;
- investitions for modernizing the research base: testing benches, pilot systems and stations, etc.

NATIONAL INSTITUTE OF RESEARCH-DEVELOPMENT FOR MACHINES AND INSTALLATIONS DESIGNED TO AGRICULTURE AND FOOD INDUSTRY
- INMA -

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E-mail: icsit@inma.ro, http:\\www. inma.ro