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

- Centre of Excellence –

ACTIVITY REPORT
- 2015 -

BUCHAREST

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1. IDENTIFICATION DATA

1.1. NAME

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

- Government Decision 1308/1996;
- Government Decision 823/2004;

Accreditation to carry out research and development activities financed from public funds according the NASR (National Authority for Scientific Research) Decision no. 9634/14.04.2008

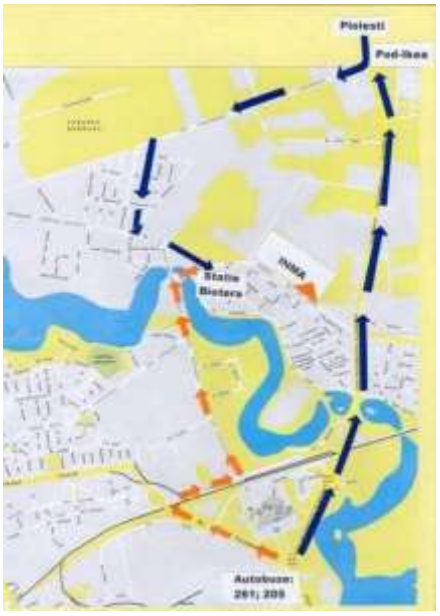
1.3. Registration number in the Register of potential contractors

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

1.4. Address

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-mail icsit@inma.ro



2. SHORT PRESENTATION OF INMA (NATIONAL INSTITUTE OF RESEARCH - DEVELOPMENT FOR MACHINES AND INSTALLATIONS DESIGNED TO AGRICULTURE AND FOOD INDUSTRY)

2.1. HISTORIC

ORGANIZATIONAL EVOLUTION

1927 – Setting up "**TESTING CENTRE FOR AGRICULTURAL MACHINES AND TOOLS**"-BĂNEASA within the ROMANIAN INSTITUTE OF AGRICULTURAL RESEARCH by **ICAR** Establishing Law (M.O no. 97/05.05.1927).

1930 - Decision no. 2000/1930 of ICAR Manager - GHEORGHE IONESCU ŞIŞEŞTI related to **operating** standards and the role of the **"TESTING CENTRE FOR AGRICULTURAL MACHINES AND TOOLS"**

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).

1982 - Merging ICMEA Baneasa and the 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 Baneasa (Decree of State Council no.386/27.10.1982).

1996 - Establishment of National Institute of Research - Development for Machines and Installations Designed to Agriculture and Food industry-INMA (GD 1308/25.11.1996, Official Journal no. 329/1996) coordinated by the Ministry of Education and Research;

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;

2011 – INMA was authorized to develop activities of:

- skills training for AGRICULTURAL MACHINERY MECHANIC I, code COR 723309, according to. Authorization Series B no. 0004500 from 24.03.2011
- skills improving for SPECIALIST ÎN AIDED-COMPUTER DESIGN position, code COR 251401, Accord to Authorization Series B No. 0004501 from 28.04.2011;

2012 – **INMA** was authorized through the Centre for Evaluation and Certification of Professional Competencies to carry out activities for the qualification of "MILLER", COR code 816020, according to Authorization Series C no. 00260 from 31.08.2012

OBJECTIVES

- Performing scientific and experimental researches on "the machines and equipment the most suitable for Romania's soil and climate";
- Testing the machines recently brought in the country.

- Creating and equipping the first laboratory for testing agricultural machines;
- Establishing rules of experimental research and choosing the types of machines appropriate to Romania's agriculture;
- Establishing the testing methodologies and programmes;
- Publishing the results of agricultural machines testing;
- Regional demonstrations with state-of-the art agricultural machines.

- Elaborating the agro-technical requirements for machines and equipment appropriate to agricultural processes;
- Elaborating the systems and types of machines necessary to mechanize the agricultural processes;
- Experimental researching and improving the technical and manufacturing solutions.

- 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.

- 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 performance of 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, thematic for EU-funded projects (FP7, EUREKA, COST, TRANS-BORDER etc.)

- Activities for qualifying and skills improving within the training centre.

- Professional training activities for adults

2.2. INMA ORGANIZATIONAL STRUCTURE

2.3. INMA SPECIALIZATION AREA

a. According to UNESCO classification

3313 – Mechanical technology and engineering;
3102 – Agricultural engineering (technologies and equipment)
3309 – Technologies/equipment for food industry;
3328 – Technological processes;
3308 – Environment engineering and technology.

b. According to CAEN classification

7219 – Research-development of physical and natural sciences;
7120 – Activities of testing and technical analyses;
6201 – Programmes editing;
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 for agricultural and food industry operations mechanization and automation in the context of aligning the entire activity of the Institute to the policies applied by the National Agency for Scientific Research in Romania.

a. Main research-development domains

- Scientific substantiation of the processes in agriculture, food industry and the creation of new technologies, technical devices and equipment competitive and compatible with the 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 in efficiency, life ensuring, health and environment protection conditions;
- Rural development and life quality improvement by technological transfer and outcome demonstrations performed by the institute;
- Strengthening the research infrastructure (human resources, logistics, research instruments) and achieving partnerships for joining ERA, including the integration in the European technological platforms;
- Activities of training, professional specialization and personnel certification in the field of mechanization technologies.

b. Secondary research domains

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

- Superior capitalization of agricultural lands production potential by substantiating, developing and implementing intelligent technical systems of process mechanization and automation, adapted to climate change;
- Promoting the development of bio-industries in the rural area, in the context of increase of non-food products added value and the improvement of the life quality;
- Enhancing of the on-going professional training and acquiring of new competencies for the personnel from the rural area.

2.4.3. Research Priorities

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

2.5. STRATEGIC MODIFICATIONS IN INMA ORGANIZATION AND FUNCTIONING -

No.

3. MANAGEMENT STRUCTURE

3.1. MANAGEMENT COUNCIL

1. Prof.PhD.Eng. PIRNĂ Ion - president
2. PhD.Eng. MURARU VERGIL - vice-president
3. Ec. CHITUC NICOLETA - member
4. Ec. COLCER TANŢA - member
5. Ec. HALALAIE ELENA - member
6 Prof.PhD. Eng. VOICU GHEORGHE - member
7. Lect.Ph. D.Eng. MAICAN EDMOND - member
8. Legal adviser CÂRCEL CRISTINA - secretary
9. PhD.Eng. NEDELCU MIHAIL - permanent guest

REPORT on the INMA Managing Board activity (Annex 1)

3.2. GENERAL MANAGER

- **Prof.PhD.Eng. PIRNĂ ION**

REPORT on the activity of the general manager (Annex 1.1)

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. Coţa 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 RDI Department - Ph.D.Eng.Paun Anisoara - member
5. Head of Testing Department – PhD std.eng. - Matache Mihai - member
6. Execution Department - 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 T.B.I.Department - PhD. Eng. Muraru Cornelia - member
10. Head of QMS staff - PhD. Eng. Bădănoiu Bianca - member
11. Head of Financial-Accounting Office - Ec. Gheorghe Mariana - member
12. Head of Administration, Personnel, Organization Office - Eng. Dumitru Cristinel - member
13. Legal adviser - Cârcel Cristina - member
14. Head of Plan Office - Eng. Neagoe Valerica - secretary
15. Representative of INMA employees - PhD. Eng. Nedelcu Mihail - permanent guest

4. INMA ECONOMIC AND FINANCIAL SITUATION

4.1. The patrimony established based on the financial reports on December 31, 2015

	2014	2015
The patrimony established based on the financial reports on December 31	17,751,359	916,856,406

Structured, the patrimony is as follows:

	31.12.2014	31.12.2015
Intangible assets	21,053	33,024
Tangible assets	11,180,765	909,893,128
Current assets	6,549,541	6,930,254
Total PATRIMONY	***17,751,359***	***916,856,406***

4.2. Total income, of which:

	2014	2015
Total income	10,773,665	9,661,164
- Income obtained from RD contracts publicly funded (distributed on national and international sources)	6,868,415.33	7,900,276
- Incomes obtained from RD contracts funded from private funds (specifying the sources)	1,008,124.64	739,308
- Incomes from economic activities (services, microproduction, exploitation of intellectual property rights)	2,873,411.03	990,154
- Subsidies / transfers	-	-
- Financial incomes	23,714	31,426

INMA financial and economic situation:

INMA Income (lei)	2014	2015
♦ Income from RDI	7,876,540	8,639,584
♦ Income from economic activities	2,873,411	990,154
♦ Financial income	23,714	31,426

ANNEX 2

- **Income obtained from RD contracts publicly funded**

Annex 2.1

Den. No.	Contract No.	Project Title	INMA role in the project	Total Value 2015 (lei)	of which:	
					INMA	Partners
1.	35	Promoting, in Romania, energetic willow cultivation technology (SALIX VIMINALIS) as an alternative source of clean energy	Holder	233,072	178,994	54,078
2.	181	Soil tillage conservative technology (ConsTillTech)	Partner	140,054	140,054	-
3.	182	Elaboration of a technology for extra season	Holder	464,186	225,000	239,186

		reproduction of sturgeons bred in recirculated water systems (acronym TESAR)				
IDEAS PROGRAMME				***181,279***	***181,279***	***-***
4.	284	Research on improving physical and mechanical features and bio-degradable materials structure for packaging from local raw materials.	Holder	181,279	181,279	-
INNOVATION PROGRAMME: Products – Systems – Technologies Development SUBPROGRAMME			-	***235,845***	***235,845***	-
5.	30 DPST	Development of innovative technical equipment designed to technology of lawn rational capitalization under climate change conditions	Partner	126,328	126,328	-
6.	20 DPST	Innovative multifunctional self-propelled equipment, endowed with working system, designed to small-farm agricultural works	Partner	109,517	109,517	-
SECTORAL PLAN OF THE MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT				***240,000***	***240,000***	
7.	ADER 1.2.2	Elaboration of an integrated system to produce seeding material, ecologically certified, for field crops: cereals, grain vegetables, oil producing plants, industrial plants, fodder plants, aromatic and medicinal plants	Partner	40,000	40,000	
8.	ADER 3.3.12	Increasing technical and economic competitiveness in orchard growing through technologies adapted to Romanian soil and climate conditions in order to implement the thematic Tree growing Subprogramme 2015 - 2020	Partner	11,000	11,000	-
9.	ADER 6.2.2	Determination of processed fodder effects on ruminal environment and of ruminants productive performances	Partner	40,000	40,000	
10.	ADER 13.1.3	Specific calculations of standard costs for different types of agricultural farms and profiles in the context of accessing the PNDR 2014-2020 support	Partner	55,000	55,000	-
11.	ADER 16.2.1	Researches regarding the determination of thermal, physical properties, of horticultural products heat and mass transfer coefficients for optimizing the freezing technologies applied in cooling systems	Partner	24,000	24,000	
12.	ADER 16.3.1	Researches regarding the influence of applying new systems and conservative technologies of mechanized agricultural works for fighting against draught effects, preserving soil fertility and increasing qualitative and quantitative production of the main species of cultivated plants	Partner	70,000	70,000	
NUCLEUS PROGRAMME				***4,725,920***	***4,725,920***	***-***
13	15N	Innovative technology and technical equipment for establishing bulb and root vegetable crops in minimum tilled field	Holder	1,000,000	1,000,000	-
14	15N	Innovative technology of mechanizing the mulching works in field agricultural cultures	Holder	309,559	309,559	-
15.	15N	New, biodegradable products for agriculture, from renewable resources	Holder	696,760	696,760	-
16.	15N	Thorough researches on tyres utilization at	Holder	864,601	864,601	-

		farming equipment based on new automation and computer verifying methods				
17.	15N	Researches on achieving a neutronic equipment for alveolar sowing of small and very small seeds	Holder	900,000	900,000	-
18.	15N	Researches regarding the development of an intelligent system for agricultural crops maintenance according to the concept of precision agriculture	Holder	955,000	955,000	-
SECTORAL OPERATIONAL PROGRAMME FOR HUMAN RESOURCES DEVELOPMENT 2007 – 2013, POSDRU				***532,738.29***	***532,738.29***	**-**
19.	183/ 5.1 / S/ 152890	Active and integrated employment measures designed to vulnerable persons and long-time unemployed persons from SW and SE industrialized areas – Once again productive programme	Partner	532,738.29	532,738.29	-
CROSS BORDER COOPERATION PROGRAMME ROMANIA - BULGARIA 2007 – 2013				***1,099,560.71***	***1,099,932.71***	**-**
20.	38543	Network and web platform to improve the public awareness on environment management and protection in the cross-border area Giurgiu-RUSE and adjacent cross-border area	Holder	1,099,560.71	1,099,560.71	-
PROGRAM PROSME				***36,266.34***	***36,266.34***	**-**
21.	638	Promotion of RO3 SMEs through Enterprise Europe Network – PROSME	Partner	36,266.34	36,266.34	-
SCIENTIFIC EVENTS				***11,354.84***	***11,354.84***	-
22.	35M	International Symposium «Agricultural and mechanical engineering ISB - INMA TEH' 2015", 29-30.10.2015	Holder	4,500	4,500	-
23.	1386	Researcher and Designer Day in Romania - 19 November	Holder	6,854.84	6,854.84	-
TOTAL RESEARCH - DEVELOPMENT CONTRACTS PUBLICLY FUNDED = 23 contracts				**7,900,276.18**	**7,607,012.18**	**293,264**

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

Annex 2.2

Den. No.	Contract No.	Contract name	Value 2014 (lei)
1.	80	Innovative technology for establishing, in the field, an onion seed culture	519,092
2.	232	Services of testing and experimentation in field (in field conditions) and in simulated and accelerated regime in the laboratory of an experimental model and a prototype of vibro combinator	204,700
3.	399	Research on comparative evaluation of fuel consumption on diesel combustion engine in normal operating regime compared to an economizer mounted in unique position	4,838.71
4.	744	Research on determining resistance: Static strength test for special parts - 3 samples code: ACV - 051-055, according to CS no. 141/1990, Chap. 6.15; Fatigue tests for special parts - 7 samples ACV-051-055, according to CS No.141 / 1990 Chap.6.17	10,677.43
TOTAL			**739,308.14**

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

Annex 2.3

Den. No.	Contract No.	Contract name	Value 2014 (lei)
CONTRACTS REGARDING THE EVALUATION FOR GRANTING THE CERTIFICATION OF PRODUCTS CONFORMITY			**117,185.80**
1.	486(P)	Herbicidation machine AgriPLA GD 4000	10,227.05
2.	444(P)	Group of machinery for seeds treatment MTS/PC (MTS-3; MTS-5; PC-20)	4,321.51
3.	476(P)	Motocultor (without accessories) KDT 910 PE	5,258.34
4.	445	Forestry articulated tractor TAF 690.OP; TAF 901.OP	2,543.88
6.	487(P)	Rotating device for mounting MGR-1	6,474.37
7.	489(P)	Self-propelled herbicidation machine, Challanger brand, RoGator 1300 model	7,306.65
8.	488(P)	Forestry articulated tractor TAF 690.PE	14,279.05
9.	482(P)	Trailed herbicidation machine MET-1500; MET-2000; MET-2500; MET-3000; MET-4000	1,632.82
10.	483(P)	Machine for spraying in vineyards and orchards: ATOM-300; ATOM-400; ATOM-1000; ATOM-1500	851.90
11.	484(P)	Universal hammer mill:MCU-2,2; MCU-7,5; MCU-11; MCU-22; MCU-30	962.83
12.	485(P)	Structural mill: MS-15; MS-18; MS-22; MS-30; MS-37; MS-45	962.83
13.	463(P)	Seeders for corn 2BYF-3; 2BYF-4	934.04
14.	464(P)	Soil Cutter RS-1000; RS-1100; RS-1200; RS-1300; RS-1400; RS-1500; RS-1600; RS-1700	1,636.79
15.	478(P)	Plough for snow removal, model FCS 125, FCS 150, FCS 170, FCS 180, FCS 200, FCS 230, FCS 250	855.57
16.	490(P)	Motor pumps DWP 186K ; DWP 188K	5,791.96
17.	491(P)	Motor pumps DWP 390H ; DWP 390K	4,924.03
19.	470(P)	Swing freezer doors: HINDER 70; HINDER GV, HINDOR 90, HINDOR 120; sliding doors: SLIDER 70; SLIDER 90, SLIDER GV; SLIDOR 120; technical: HINDON; WINDON	801.36
20.	471(P)	Motocultor KDT 610C (without accessories)	792.56
	473 (P)	Motocultor KDT 410C (without accessories)	806.38
21.	427(P)	Centrifugal pump with heat engine model WTH 40	661.89
22.	428(P)	Centrifugal pump with heat engine model WTH 60	661.89
23.	477(P)	Forestry articulated tractor TAF 2012	13,103.55
24.	493(P)	Self-propelled herbicidation machine, CASE brand, SPX Patriot 3330 model; SPX Patriot 3330 AIM Command	5,977.48
25.	492(P)	Equipment for handling bales (bale pliers) CBF-130	3,701.70
26.	010 (M)	Hydraulic press, PH 300 type	6,373.10
32.	494(P)	Tigermate 200 26 ft; Tigermate 200 40.5 ft; Tigermate 200 50.5 ft cultivator	4,015.46
35.	495(P)	Spraying machine AGRIPLA, GD 2500	9,581.35
36.	005(M-A)	Cabin for forestry tractor TAF 2012	1,300.86
37.	459(P)	Motor pump for dirty water GTP 80	444.60
INCOMES FROM SERVICE SUPPLY			***1,199,270.24***
TOTAL			***1,316,456.04***

4.3. Total expenditure

	2014	2015
Total expenditure	10,693,655	9,632,533

4.4. Gross profit

	2014	2015
Gross profit	80,010	28,631.57

4.5. Gross loss: -

4.6. The situation of arrears: -

Economic and financial strategy of the Institute establishes the reduction up to elimination of back payments. Thus, on 11.01.2016, the institute did not register any back payments.

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

	2014	2015
Economic and social policies implemented (cost / effect):	-	-

4.8. Evolution of economic performance:

	2014	2015
Financial rate of return (FRR = Net profit / Own capital), %	0.1	0.006
General solvency ratio (GSR = Total current assets / Current debts), %	625.41	243.65
Financial autonomy ratio (FAR= Own capital / Permanent capital), %	130.09	130.89
Economic rate of return (RE = Gross profit / Permanent capital), %	1.22	0.008
Work productivity W = Turnover / average personnel number / 12 months), lei/person/month	4,437.30	5,543

5. STRUCTURE OF R & D HUMAN RESOURCE

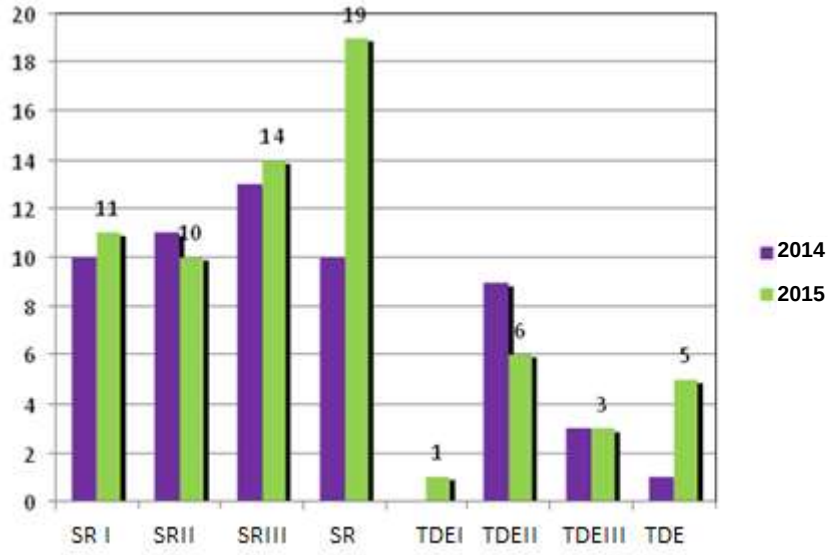
5.1. Total personnel, of which:

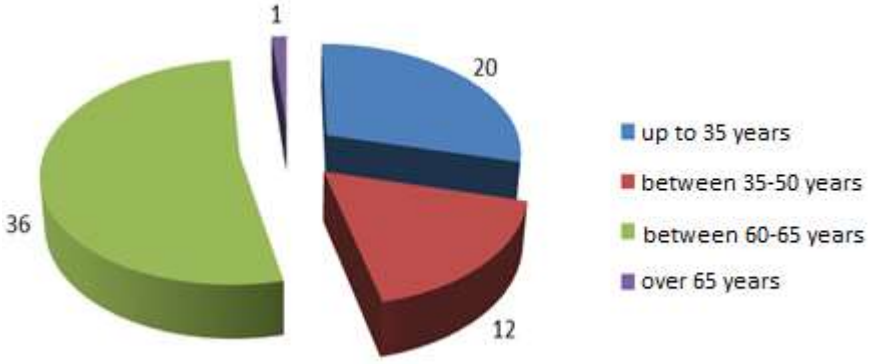
Year	2014	2015
TOTAL PERSONNEL	**157**	**145**
R&D PERSONNEL, of which:	**126**	**116**
a) R & D attested personnel with higher education	69	68
b) number of PhD coordinators	-	-
c) number of PhDs	28	27

STRUCTURE OF R&D PERSONNEL IN TERMS OF PROFESSIONAL DEGREES

Personnel engaged in scientific research		***Personnel carrying out technological development***	
ATTESTED: 68			
SR I	**10**	***TDE I***	**1**
SR II	**13**	***TDEII***	**5**
SR III	**13**	***TDE III***	**3**
SR	**18**	***TDE***	**5**
UNATTESTED 3			
SRA	***2***	***ENG.***	***1***
TOTAL	**56**	**TOTAL**	**15**

R & D personnel structure with higher education





Number of PhDs: 27

Den.No.	Name and Surname	Professional Degree	Ph.D. thesis year
1.	Alexandru Isabela	SR III	1999
2.	Bădănoiu Bianca	SR II	2004
3.	Brăcăcescu Carmen	SR III	2011
4.	Ciobanu Valeria	SRIII	2015
5.	Cioica Nicolae	SR I	2006
6.	Ciupercă Radu	SRII	1999
7.	Cozar Onuc*	SR I	1970
8.	Danciu Aurel	SRII	2013
9.	David Alexandru	SRIII	2015
10.	Drâmbei Petronela	SR I	2003
11.	Ganea-Christu Ioan*	TDE II	2009
12.	Găgeanu Paul	SRI	2002
13.	Ivan Gheorghe	TDE I	2009
14.	Manea Dragoş	SR II	2011
15.	Mateescu Marinela	SR II	2004
16.	Marin Eugen	SR II	2004
17.	Muraru-Ionel Cornelia	SR I	1998
18.	Muraru Vergil*	SR I	2001
19.	Nedelcu Ancuta	SRII	2004
20.	Nedelcu Mihail	SR III	2010
21.	Păun Anişoara	SR I	2004
22.	Pirnă Ion*	SR I	1997
23.	Pop Augustin	SR I	2000
24.	Popa Lucreţia	SRII	2004
25.	Sorică Cristian	SRII	2011
26.	Vişan Alexandra Liana	SRIII	2012
27	Vlăduţ Valentin*	SR I	2004

* Member in Ph.D commissions

PhD Students: 25	Master students: 1
1. Vlăduţoiu Laurenţiu **2.** Andrei Sorin **3.** Matache Mihai **4.** Muscalu Adriana **5.** Nagy Elena Mihaela **6.** Sima Daniela **7.** Voicea Iulian **8.** Sorică Elena **9.** Radu (Cristea) Oana Diana **10.** Mitu Mariana **11.** Niţu Mihaela **12.** Zaica Alexandru **13.** Dumitraşcu Andrei **14.** Pruteanu (Stanciu) Mirabela **15.** Perşu Cătălin **16.** Zaica Ana **17.** Ivancu Bogdan **18.** Lazăr George **19.** Petcu Albert **20.** Cujbescu Dan **21.** David Evelin Anda **22.** Ştefan Vasilica **23.** Coţa Constantin **24.** Găgeanu Iuliana **25.** Gheorghe Gabriel	**1.** Muraru Sebastian

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

- **Pedagogical activity**
  - **Associate Professor: 13**
    - University Politehnica of Bucharest - Faculty of Biotechnical Systems Engineering: Prof.PhD. Eng. Pirnă Ion, PhD.Eng. Vlăduţ Valentin, PhD.Eng. Păun Anişoara, PhD.Eng. Manea Dragoş, PhD.Eng. Mateescu Marinela; PhD.Eng. Găgeanu Paul; PhD.Eng. Ciupercă Radu; PhD.Eng. Nedelcu Ancuţa; PhD.Eng. Popa Lucreţia; PhD.Eng. Muraru Cornelia; PhD.Eng. Ganea Ioan;
    - Babes Bolyai University Cluj-Napoca - Faculty of Chemistry: Prof.PhD. Eng. Cozar Onuc;
    - Technical University of Cluj-Napoca, Department of Automotive Engineering and Transports: PhD. Eng. Cioica Nicolae.

  - **Doctoral commissions referrers: 5**
    - Pirnă Ion, Vlăduţ Valentin, Cozar Onuc, Ganea-Christu Ioan, Muraru Vergil.

  - **Cycle of practical training activities for students:**
    - University Politehnica of Bucharest, Faculty of Biotechnical Systems Engineering: 31 students (1 - licence; 30 - master).

  - **Cycle of documentation and consulting activities for bachelor / master / doctorate:**
    - University Politehnica 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 Centre* – INMA 25 / 69 students**
  - training program for the occupation ***"****Agricultural Machinery Mechanic"* / INMA Bucharest / **12** students / 23.02 – 05.05.2015 / lecturers: *Ph.D. Eng. Pirnă Ion, Ph.D. Eng. Bianca Bădănoiu, Ph.D. Eng. Nedelcu Daniela, Ph.D. Eng. Marin Eugen, Ph.D. Eng. Nedelcu Ancuţa, Ph.D. Eng. Ciupercă Radu, Ph.D. Eng. Popa Lucreţia, Ph.D. Eng. Păun Anişoara, Ph.D. Eng. Koloszvari Constantina, Eng. Ioniţă Ghiţă;*
  - training program for the occupation of "*Mechanic Locksmiths*" / Lădeşti, district Vîlcea / **28** students/ 10.06 - 21.08.2015 / lecturers: *Eng. Ioniţă Ghiţă, Ph.D. Eng. Popa Lucreţia, Ph.D. Eng. Nedelcu Ancuţa, Ph.D. Eng. Ciupercă Radu, Ph.D. Eng. Sorică Cristian;*
  - training program for the occupation "*Mechanic Locksmiths*" / Lădeşti, district Vîlcea / **22** students / 03.08 - 21.10.2015 / lectures: *Eng. Ioniţă Ghiţă, Ph.D. Eng. Popa Lucreţia, Ph.D. Eng. Ciupercă Radu, Ph.D. Eng. Sorică Cristian, Ph.D. Eng. Muscalu Adriana;*
  - training program for the occupation of *"Operator in computer-aided design"* / INMA Bucharest / **7** persons / 05.10 - 22.12.2015 / lectures: *Eng. Ioniţă Ghiţă, Ph.D. Eng. Marin Eugen, Ph.D. Eng. Sorică Cristian, Ph.D. Eng. Brăcăcescu Carmen, math. Cârdei Petru.*

- **Personnel involved in internal training of staff within INMA Bucharest, in 2015**: **20 / 220 students**
  - Training the personnel specialized in *''Processing specific objectives in quality field"* / 05.03.2015 / **9** students / lecturer: *PhD. Eng. Pirnă Ion;*
  - Training the personnel specialized in "*Processing specific objectives in quality field"* / 11.03.2015 / **4** students / lecturer: *PhD. Eng. Drâmbei Petronela;*
  - Training the personnel specialized in "*Processing specific objectives in quality field*" / 11.03.2015 / **2** students / lecturer: *PhD. Eng. Muraru Cornelia;*

- Training the personnel specialized in "*Processing specific objectives in quality field*" / 11.03.2015 / **7** students / lecturer: *ec. Rusu Mircea;*
- Training the personnel specialized in "*Processing specific objectives in quality field*" / 11.03.2015 / **4** students / lecturer: *PhD. Eng. Bădănoiu Bianca;*
- Training the personnel specialized in "*Processing specific objectives in quality field*" / 11.03.2015 / **19** students / lector: *Eng. Dumitru Cristinel;*
- Training the personnel specialized in "*Processing specific objectives in quality field*" / 11.03.2015 / **18** students / lector: *PhD. Eng. Matache Mihai;*
- Training the personnel specialized in "*Processing specific objectives in quality field*" / 11.03.2015 / **27** students / lecturer: *Eng. Marian Mihai;*
- Training the personnel specialized in "*Processing specific objectives in quality field*" / 17.03.2015 / **35** students / lecturer: *PhD. Eng. Păun Anişoara;*
- Training the personnel specialized in "*Internal audit in quality field*" / 26.05.2015 / **20** student / lecturer: *PhD. Eng. Bădănoiu Bianca;*
- Training the personnel specialized in the occupation "*Electrician*" for: *Control, diagnosis and repair of electrical installations* /15.06.2015 / **2** students / lector – *Eng. Pop Florin;*
- Training the personnel specialized in the occupation *"Welder"* for: Preparing welding/cutting operation; Performing welding/cutting processes; Performing the pre-welding operation / 19.06.2015 / **2** students/lecturer - *Eng. Marian Mihai;*
- Training the personnel specialized in "*Computer-Aided Design with SolidWorks program*" / 08.09.2015 / **10** students / lecturer - *PhD. Eng. Marin Eugen;*
- Training the personnel specialized in *"Trapezoidal belts transmissions of agricultural machinery"* / 16.09.2015 / **10** students / lecturer *PhD. Eng. Ivan Gheorghe;*
- Training the personnel specialized in *"Ecological mechanization technologies for plant crops"* 21.09.2015 / **10** students / lecturer: *PhD. Eng. Ciupercă Radu;*
- Training the personnel specialized in *"Choosing the materials designed to technical applications*" / 29.09.2015 / **10** students / lecturer - *PhD. Eng. Nedelcu Ancuţa*;
- Training the personnel specialized in *"Precision of parts processing"* / 16.10.2015 / **10** students / lecturer - *PhD. Eng. Nedelcu Ancuţa;*
- Training the personnel specialized in *"Interphase transport in agriculture and food industry"* / 22.10.2015 / **10** students/ lecturer: *PhD. Eng. Păun Anişoara;*
- Training the personnel specialized in "*Thermal and thermo-chemical treatments*" / 28.10.2015 / **10** students / lecturer: *PhD. Eng. Popa Lucreţia;*
- Training the personnel specialized in the occupation "*Stoker*" for: NPM (labour protection rules), PSI (preventing and extinguishing fires) application and technical ISCIR (National Authority for Control and Approval of Boilers Pressure Vessels and Hoisting Equipment) prescriptions, Documents completing / 15 - 20.10.2015 / **1** student/lecturer: *Eng. Pop Florin.*
-

- **External training of INMA Bucharest staff, year 2015**: **20**
  - Training for the specialization "*Evaluator of training programs and providers*" / 23 - 27.03.2015 / organized by SC FIATEST SRL / **2** students / *PhD. Eng. Bădănoiu Bianca; Eng. Epure Mariana;*
  - Training for the specialization "*Quality management system manager*" / 24 - 28.08.2015 / organized by SC FIATEST SRL/**2** students / *PhD. Eng. Brăcăcescu Carmen; PhD.stud. Eng. Găgeanu Iuliana;*
  - Training for the specialization "*Waste management responsible*" / 22 - 23.06.2015 / organized by BUSINESSPOINTS SRL /**1** student/*Eng. Dumitru Cristinel;*
  - Training for the specialization "*Internal auditor ISO 17025*" / 21 - 23.10.2015 / organized by SC TUV AUSTRIA ROMANIA SRL / **3** students / *PhD. Eng. Manea Dragoş; PhD. Eng. Ciupercă Radu; PhD. Eng. Matache Mihai.*

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

Emergence of advanced research results in the institute is possible due to multidisciplinary research teams (technical engineering, technological, agricultural, management training, etc.) and the quality of the human resource.

In this regard the following strategic measures were implemented:

- Attracting young people in the approach of research, development and innovation specific to mechanization technologies and construction of technical equipment for agriculture and food industry;
- Supporting young people in developing 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 researchers specialization by doctorate, training and skills development;
- The occupation of positions in the research system promoted by the institute is achieved only through competition.

In INMA, the personnel policy aims to enhance professionalism, relevant intellectual values in compliance with international competitiveness criteria.

The human resource development policy includes a series of strategic objectives among which development directions with specific objectives aiming to optimize the institute activity can be outlined.

1. **Efficiency of existing human resources**, as a strategic objective will be achieved through the following development directions:
   - increasing researchers' performance standard according to national/international requirements;
   - real and rigorous integration of Ph.D. students in the research activity of the institute;
   - making the support staff more efficient by superior organization and diversification of cooperation and communication ways;
   - ensuring a permanent result-oriented personnel;
   - diversifying the motivating methods;
   - introducing specific reward methods for the research-development staff.
2. **Employing new, competitive personnel**:
   - establishing multidisciplinary teams of specialists, able to tackle border inter or pluridisciplinary areas (biology, chemistry, electronics-IT, etc.);
   - diversifying the forms of personnel recruitment and selection for attracting high competitiveness specialists;
   - measures of rapid and efficient integration of young people by making them aware of institute objectives through different incentives (facilities granted to beginners, superior motivation by activating the comparative advantage principle).
3. **Ongoing training of personnel**, in compliance with institute objectives and specific activities.
   - flexible and efficient policy of field specialization by training activities, training and skill improving courses, internal training, experience exchange;
   - periodical (annual) evaluation of performances, as a stimulating method of scientific production or career promotion;
   - identification of more efficient methods for communicating with the personnel;
   - permanent evaluation and competences optimization;

   INMA Bucharest is authorized to provide vocational training through:

✓ Vocational Training Centre – Authorization of functioning, series B no. 0002352/30.07.2008.
✓ Professional Competences Evaluation and Certification Centre - Authorization of functioning, series A no. 00866/25.11.2010.

4. **Involvement in employees occupational health**, as a continuous concern and important component of human resources management in INMA is achieved by:
   - assuring the periodical medical assessment of personnel;
   - periodical investigation of employee satisfaction.
5. **Efficient management of support (technical and-administrative) personnel:** in the human resources strategy, it is necessary to focus on making more efficient the support personnel activity, as well as the technical and administrative personnel, by implementing a high quality management according to European standards.
   - running training programs for increasing the professional competence;

- drawing up the job description based on scientific criteria for implementing a management of activity quality.

♦ Personnel participating in internal trainings during 2015

Den. No.	Name and surname	Training / qualification course
1.	Ciobanu Valeria-Gabriela	COMPUTER-AIDED DESIGN USING SOLID WORKS PROGRAM
2.	David Alexandru Dorin	
3.	Găgeanu Iuliana	
4.	Gheorghe Gabriel	
5.	Lazăr George	
6.	Petcu Albert-Silviu	
7.	Ştefan Vasilica	
8.	Vişan Alexandra	
9.	Zaica Ana	
10.	Zaica Alexandru	
1.	Ciobanu Valeria-Gabriela	MATERIALS SELECTION FOR TECHNICAL APPLICATIONS
2.	David Alexandru Dorin	
3.	Gageanu Iuliana	
4.	Gheorghe Gabriel	
5.	Lazăr George	
6.	Stefan Vasilica	
7.	Petcu Albert -Silviu	
8.	Visan Alexandra Liana	
9.	Zaica Ana	
10.	Zaica Alexandru	
1.	Ciobanu Valeria-Gabriela	ECOLOGICAL MECHANIZATION TECHNOLOGIES FOR PLANT CROPS
2.	David Alexandru Dorin	
3.	Găgeanu Iuliana	
4.	Gheorghe Gabriel	
5.	Lazăr George	
6.	Petcu Albert-Silviu	
7.	Ştefan Vasilica	
8.	Vişan Alexandra	
9.	Zaica Ana	
10.	Zaica Alexandru	
1.	Ciobanu Valeria-Gabriela	AGRICULTURAL MACHINERY TRAPEZOIDAL BELTS TRANSMISSIONS
2.	David Alexandru Dorin	
3.	Găgeanu Iuliana	
4.	Gheorghe Gabriel	
5.	Lazăr George	
6.	Petcu Albert-Silviu	
7.	Ştefan Vasilica	
8.	Vişan Alexandra	
9.	Zaica Ana	
10.	Zaica Alexandru	
1.	Ciobanu Valeria-Gabriela	PARTS PROCESSING PRECISION
2.	David Alexandru Dorin	
3.	Găgeanu Iuliana	
4.	Gheorghe Gabriel	
5.	Lazăr George	
6.	Petcu Albert-Silviu	
7.	Ştefan Vasilica	
8.	Vişan Alexandra	
9.	Zaica Ana	
10.	Zaica Alexandru	
1.	Ciobanu Valeria-Gabriela	HEAT AND THERMO-CHEMICAL TREATMENTS
2.	David Alexandru Dorin	
3.	Găgeanu Iuliana	
4.	Gheorghe Gabriel	

5.	Lazăr George	
6.	Petcu Albert-Silviu	
7.	Ştefan Vasilica	
8.	Vişan Alexandra	
9.	Zaica Ana	
10.	Zaica Alexandru	
1.	Ciobanu Valeria-Gabriela	INTERPHASE TRANSPORT IN AGRICULTURE AND FOOD INDUSTRY
2.	David Alexandru Dorin	
3.	Găgeanu Iuliana	
4.	Gheorghe Gabriel	
5.	Lazăr George	
6.	Petcu Albert-Silviu	
7.	Ştefan Vasilica	
8.	Vişan Alexandra	
9.	Zaica Ana	
10.	Zaica Alexandru	
1.	Radu Marin	ELECTRICIAN
2.	Drăgoi Petre	
1.	Gheorghe Costel	WELDER
2.	Grigore Elena	
1.	Ungureanu Ion	STOKER
1.	Drâmbei Petronela	INTERNAL AUDIT IN THE QUALITY FIELD
2.	Nedelcu Mihail	
3.	Sorică Cristian-Marian	
4.	Manea Dragoş	
5.	Bogdanof Constantin-Gabriel	
6.	Epure Mariana	
7.	Matache Mihai-Gabriel	
8.	Ioniţă Ghiţă	
9.	Neagoe Valerica	
10.	Vişan Alexandra-Liana	
11.	Lazăr George	
12.	Voicea Iulian-Florin	
13.	Persu Ioan-Cătălin	
14.	Mircea Costin	
15.	Ştefan Vasilica	
16.	Găgeanu Iuliana	
17.	Radu Oana-Diana	
18.	Vlăduţoiu Constantin-Laurenţiu	
19.	Gheorghe Gabriel-Valentin	
20.	Petcu Albert-Silviu	
1.	125 students from the departments: DPRI (Projects and International Relations Department), Technological Incubator INMA-ITA, Economic Department, SMC (Quality Management System), Administrative Department, DI (Investigation Department), DE (Execution Department) and RDI (Research Development Innovation department)	TRANSMITTING SPECIFIC OBJECTIVES IN THE QUALITY FIELD

♦ Staff who benefitted from external training in 2015

Den.No.	Name and surname	Training course/Providing company
1.	Bădănoiu Bianca	**EVALUATOR OF SUPPLIERS AND TRAINING PROGRAMMES /** SC FIATEST SRL
2.	Epure Mariana	
1.	Brăcăcescu Carmen	**MANAGER OF THE QUALITY MANAGEMENT SYSTEM /** SC FIATEST SRL
2.	Găgeanu Iuliana	
1.	Manea Dragoş	**INTERNAL AUDITOR ISO 17025/** SC TUV AUSTRIA ROMANIA SRL
2.	Ciupercă Radu	
3.	Matache Mihai	
1.	Dumitru Cristinel	**WASTE MANAGEMENT RESPONSIBLE /** BUSINESSPOINTS SRL

6. R&D INFRASTRUCTURE, RESEARCH FACILITIES

6.1. R & D Laboratories:

- Advanced research laboratory for agricultural works mechanization technologies;
- Biofuels R&D laboratory;
- Biogas R&D laboratory;
- Irrigation and phytosanitary treatments laboratory;
- R & D laboratory for capitalization of medicinal plants
- Laboratory for mechanization technologies assessment;
- R & D laboratory for fish super-intensive breading in recirculating systems technologies – Timisoara Branch;
- Biopolymers R & D laboratory – Cluj Branch;
- R & D laboratory for technologies, installations and technical equipment destined to cereal and technical plant seeds storage and processing;
- R & D laboratory for food industry technologies – LCTIA;
- R & D laboratory for soil works mechanization technologies, adapted to Euroregional climate change, and for agricultural cultures establishment in conservative system;
- R & D laboratory for agricultural products and fodder harvesting, transport and handling;
- R & D laboratory for fodder harvesting and food preparing in livestock;
- R & D laboratory for soil fertilization, according to the concept of sustainable agriculture;
- R & D laboratory for afforestation works and the establishment of protective forest belts for agricultural cultures.

ADVANCED RESEARCH LABORATORY FOR AGRICULTURAL WORKS MECHANIZATION TECHNOLOGIES

DESCRIPTION

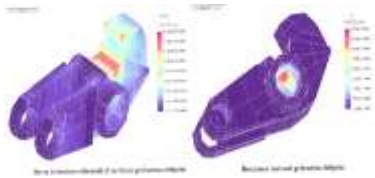
The LABORATORY has as task to perform advanced research based on information technology, computerized engineering, mathematical modelling and numerical simulation for the mechanization technologies of the agricultural works and adjacent areas and their related fields. The secondary activity is represented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

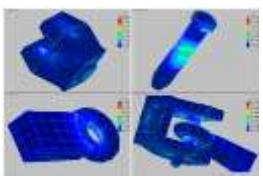
The laboratory has state of the art technical equipment: PCs of high capacity with licensed software (MATHCAD, COSMOS / M, MATLAB, MATHEMATICA, AutoCAD Civil 3D, FLAC 6.0, 5.1 LIMA, VERIS, including license of Microsoft Office, Visual Studio and Visual FoxPro for databases) laptops, laser printers, colour and black & white A4 and A3, integrating sound level meter, mini weather station, penetrometer, humidometer, water analysis system, GPS, cereal flow measurement equipment at combines, mobile communication unit with GPRS, SMS and Internet. For the presentation of the activity, the laboratory has high-performance photo and video equipment.

KEYWORDS: information technology, computer engineering, mathematical modelling, numerical simulation, optimization, software development

RESEARCH DIRECTIONS

- Interaction between mechanization technologies - agriculture - environment;
- Classical and advanced systems and technologies for the precision agriculture, new and advanced systems and technologies in the sustainable agriculture;
- Information systems for agriculture, including databases;
- Mathematical modelling and numerical simulation of processes and phenomena afferent to agricultural works mechanization technologies for improvement, optimization, greening;
- Structural analysis;
- Environmental problems (erosion, landslides, evolution of soil organic matter depending on the environmental parameters);
- Experimental data processing services and mathematical modelling of the processes investigated experimentally;
- precision agriculture; agricultural soil analysis services.






BIOFUELS R & D LABORATORY

DESCRIPTION

The LABORATORY has as task to research and develop modern technologies for obtaining vegetal oil from oilseeds (rape, soy, sunflower, flax, castor oil, pumpkin, camelina, etc.).

The installation consists in three modules: seeds preparing, obtaining the oil and purifying the oil, each module being able to operate independently, but interdependency exists within each module, the technical equipment operating in interlocking system and ensuring the obtaining of the pure oil without the degumming operation.

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

RESEARCH DIRECTIONS

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

BIOGAS R&D LABORATORY

DESCRIPTION

The LABORATORY has as task the R & D oriented to the creation of new mix recipes 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, environment protection

RESEARCH DIRECTIONS

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

IRRIGATION AND PHYTOSANITARY TREATMENTS LABORATORY

DESCRIPTION

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

The system for investigating irrigation application in agriculture includes automated pumping stands of various powers, a data acquisition and control system with SCADA station, pressure transducers, 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 the application of phytosanitary treatments of agricultural cultures includes a testing equipment of 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 agricultural cultures protection in the context of a sustainable agriculture;
- increasing the determination accuracy of qualitative indices for irrigation, in order to implement the requirements of EU regulations in the INMA laboratory;
- verification of the conditions that the machines applying phytosanitary treatments must comply with in relation to dangers regarding the safety of the operator performing the testing, to the potential danger of environment 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 irrigation systems of agricultural cultures in the context of the energy crisis and of the more obvious danger of desertification in Romania and in the European Union central area;
- elaboration of management systems for irrigation processes, of data collection and of mechatronic systems for monitoring the irrigation process parameters.

R & D LABORATORY FOR CAPITALIZATION OF MEDICINAL PLANTS

DESCRIPTION

The LABORATORY has as 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 production of technical equipment with high technical and economic parameters. For this, it is necessary that in Romania also exists a diversified offer of technological installations complying with the EU rules and regulations on quality, life safety and environment protection. In this portfolio of offers there must be the processing installations of this natural wealth, cultivated plants or from the spontaneous flora, which can contribute to increasing life quality in rural areas.

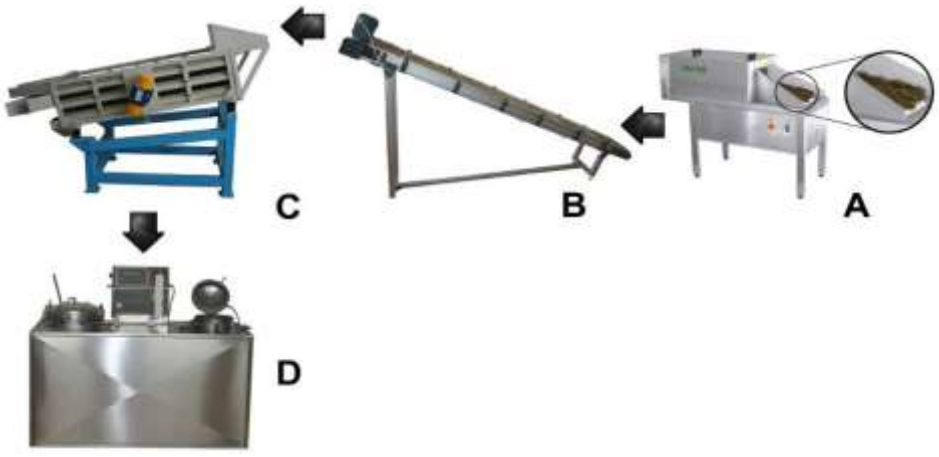
The equipment for primary processing of medicinal and aromatic plants successively takes the plant material subjected to processing, primary processing equipment being placed in line; they can be placed in different forms, depending on site or available precinct of the user. The primary processing line of medicinal and aromatic plants contains the following equipment:

- plant cutting machine;
- inclined belt conveyor;
- sorter of cut plants;
- percolator.

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

RESEARCH DIRECTIONS

- superior capitalization 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 extracts containing various types of biochemical substances beneficial to the health of the human population;
- the identification of new bioactive substances with beneficial role on human health;
- obtaining new extracts with role of food supplements;
- the opportunity of subsequently producing 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 found in Romania.



LABORATORY FOR MECHANIZATION TECHNOLOGIES ASSESSMENT

DESCRIPTION

The LABORATORY has as task the research and development of studies and researches in the field of agricultural works mechanization technologies (soil tillage, culture establishment and maintenance) adapted to regional conditions and aligned to the concept of sustainable agriculture.

KEYWORDS: tillage, establishment, maintenance, agricultural cultures, sustainable agriculture.

RESEARCH DIRECTIONS

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




R & D LABORATORY FOR SUPER-INTENSIVE FISH BREADING IN RECIRCULATING SYSTEMS TECHNOLOGIES

DESCRIPTION

The LABORATORY has as task the research and development of new technologies designed to fish super-intensive breeding in a recirculating system with the optimization of technological parameters and assuring of sanitary and veterinary protection.

KEYWORDS: aquaculture recirculating systems, sturgeons, pike perch reproduction

RESEARCH DIRECTIONS

- fundamental and technological development research applied in the field of processes, technologies and technical equipment within aquiferous systems, especially the recirculating systems.
- promoting sustainable agriculture to diversify fish production and marketing of valuable species for which there is a demand and consumption tradition;
- using heat pumps, solar cells and photovoltaic alternative energy source for heating / cooling and water heating / cooling hall and additions;
- 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.



BIOPOLYMERS R & D LABORATORY

DESCRIPTION

The LABORATORY has as task the research and development of new recipes of mixtures in order to obtain environmentally friendly biodegradable materials, of the type of bioplastics from renewable sources. It is endowed with a modern research base which comprises 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 maintaining the temperature in the five areas of work and in the die; 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 degasing. 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 of the installation allows the user to change its operating parameters according to the materials that make up the recipe.

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

RESEARCH DIRECTIONS

- Creation of different recipes of bioplastics with various compositions;
- Research in the field of identification and control of nanostructure processes, especially in terms of compatibility components, physicochemical transformations during processing mixtures and biodegradation products;
- Studies on products comparison based on biological materials with non-biological ones in terms of price, performance, availability and environmental benefits;
- Diversification and increase of farmers' income by capitalization of potential of biopolymer-based products;
- Studies on behaviour of the user of renewable resources biodegradable products and their opinion regarding the benefits and their use;
- Management strategies for exploitation of biopolymers in SMEs.



R & D LABORATORY FOR TECHNOLOGIES, INSTALLATIONS AND TECHNICAL EQUIPMENT DESTINED TO CEREAL AND TECHNICAL PLANT SEEDS STORAGE AND PROCESSING

DESCRIPTION

The LABORATORY has as task to conduct 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 task the research and development in order to substantiate 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 manual refractometer, humidometer with hectolitre weight determination, analytical balance, calciner, oven, sieving system, rotational viscometer, double distiller.

KEYWORDS: food industry, innovative technologies

RESEARCH DIRECTIONS

- Physico-chemical characterization of vegetable oils;
- Determination of fat in foodstuffs;
- Physical characteristics (humidity, 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 with direct application in the food industry.

R & D LABORATORY FOR SOIL WORKS MECHANIZATION TECHNOLOGIES, ADAPTED TO EUROREGIONAL CLIMATE CHANGE, AND FOR AGRICULTURAL CULTURES ESTABLISHMENT IN CONSERVATIVE SYSTEM

DESCRIPTION

The Research and Development Laboratory task, at farmers' request, is the promotion of new generations of machinery and technologies of tillage mechanization adapted to climatic conditions in reducing greenhouse gas emissions, preventing or minimizing soil degradation, contributing 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 economic agents in order to transfer research to these agents manufacturing products of competitive price and market demand;
- the elaboration of mechanization technologies of high productivity regarding the decompaction and deep aeration of the poor soils concomitantly with the administration of nutrient elements;
- promotion of the system of works for soil conservation that ensure competitive quantitative and qualitative production, with low costs and high profit;
- adapting the system of machines for soil conservation works by achieving of new active bodies and technical equipment.
- research and development of processes, technologies and technical equipment intended for the establishment of hoeing plants crops in the context of a sustainable agriculture;
- research and development of processes, technologies and technical equipment designed to the establishment of cereal crops in sustainable system;
- the elaboration of agricultural works mechanization technology to promote the energetic plant Miscanthus in Romania, as a renewable source.

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

DESCRIPTION

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

KEYWORDS: agricultural and horticultural products, transport, harvesting

RESEARCH DIRECTIONS

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

R & D LABORATORY FOR FODDER HARVESTING AND FOOD PREPARING IN LIVESTOCK

DESCRIPTION

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

KEYWORDS: fodder conservation, feed 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 livestock farms or from individual households;
- optimization of livestock technical equipment system for maintenance works and products handling;
- 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 task the research (fundamental, applied and technological development) in the field of processes, technologies and technical equipment for soil fertilization under the concept of sustainable agriculture, eco-friendly, with a favourable impact on the environment and consumer health.

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

RESEARCH DIRECTIONS

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



R & D LABORATORY FOR AFFORESTATION WORKS AND THE ESTABLISHMENT OF PROTECTIVE FOREST BELTS FOR AGRICULTURAL CULTURES

DESCRIPTION

The LABORATORY has as task conducting research on technologies and technical equipment for afforestation works mechanization 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 and superior capitalization of spontaneous flora from the forested areas.

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

RESEARCH DIRECTIONS

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



6.2. Accredited / non-accredited testing laboratories

6.2.1. Accredited testing laboratories

■ **Testing Tractors and Technical Equipment for Agriculture and Food Industry Department – 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;*
- **Spraying machines testing laboratory – LIMS**; domain: *tests for performances determination.*

6.2.2. Non-accredited testing laboratories

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

6.3. Installations and objectives of national interest

INSTALLATION FOR TESTS UNDER SIMULATED AND ACCELERATED REGIME OF HYDROPULSE TYPE

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

Fig. 1 – Testing platforms with vibration isolation systems

The installation for performing tests under simulated and accelerated regime, of hydropulse type, is a complex of equipment, appliances, electric and hydraulic driving subsystems, installations and auxiliary constructions, designed to ensure technical requirements for static tests

(Resistance to static stresses, deformations) and dynamic (alternatives or pulsating stresses for endurance, vibrations tests) and it consists of:
1) four energy aggregates ensuring the hydraulic-electro-mechanical driving systems, in order 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 at INMA have capacity to apply forces 10, 25, 100 and 250 KN, movement (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 vertical operation

Fig. 5 - Hydraulic cylinders placed for horizontal operation

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

- the electronic control system for automatic adjustment in the two operating modes on stresses application;
- force control driving, the displacement resulting from the plastic or elastic deformations of the stressed structure,
- displacement control driving, 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 when exceeding the normal functional parameters;
- the electrical and electronic installation for driving hydraulic cylinders.

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

Fig. 7 - The control cabinets - 8 (close-up view)

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;
- supply and distribution hydraulic installation;
- 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 – Control room of hydropulse type installation

Data acquisition systems

Data acquisition systems have been implemented on Hidropuls installation to take control of the operator by desktop or laptop computers, using the facilities provided by the manufacturer of the equipment through the analogue and digital input-output connections within 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 stresses;
- selection in decadic steps of the control parameters (P, I, D);
- taking over the signalling functions of the control cabinets operation;
- signalling the intervention of protections.

Data acquisition systems provide additional features beside those mentioned above:

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

The data acquisition systems the hydropulse type installation is provided with are:

1. Fixed type data acquisition systems:

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

2. Portable data acquisition system consisting of:
   - acquisition module DATEKPCI-3110;
   - accesories (STP3110, CAB307, CAB308);
   - data acquisition external module 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 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 main technical requirement of control is to ensure continuous precise control of stresses applied to mechanical structures tested (forces and displacements) at application points, for a real reproduction of the test program. This is performed by the automated control systems that electrically control the inlet and outlet servo valves of hydraulic oil from cylinders applying stress, to obtain the variation function of 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 a desired value of the applied force is necessary, 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, when a deformation of the structure is necessary, controlling the displacement of the tested structure elements in the place of contact, and the force results from the mechanical strength characteristics.

The control system of each cabinet driving a cylinder is composed of two independent control systems, one to adjust the force acting on the tested structure and the other for adjusting the stroke (displacement) of the hydraulic cylinder. The two control systems are identical as functional structure, the difference between them consisting of different measuring transducers for ensuring the negative reaction. One of them has a force dose with tensometric transducer in the bridge and DC excitation tensometric amplifier. The other one has an inductive displacement transducer and AC excitation measuring amplifier. There were also considered the disturbances that may occur due to gap of tested structure joints, in the assembling areas with screws and rivets, especially towards the end of the tests when these gaps can produce major disturbances, the control system having to compensate for additional vibration and "downtime", without introducing its own oscillations. Perturbations can also occur because of the way the tested structure was mounted on stand, gaps in fixing and alignment areas, or even because of fixing devices deformation.

- **Applications performed on the Hidropuls installation**

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

Due to the complexity of the system and the different use possibilities, there are numerous application fields, among which we can mention:

- subassemblies that contribute to the safety of public road traffic (couplings from tractors and trailers, agricultural and automotive trailers coupling devices, tractor safety devices against overturning, 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 aeroplane industry (safety devices, special systems for aircraft, etc..)
- bumpers / shock absorbers for special use (arms industry, earthquake, etc.);
- agricultural machinery (ploughs, disc harrows, sprayers, straw balers, etc.);
- subassemblies for agricultural machinery (seed distribution hoses, trailer suspensions, etc.).

- equipment, assemblies and subassemblies for transportation: bogie frame wagons, railcars, trailers, etc.

Tests of resistance to endurance and vibrations applied on various technological equipment can be performed 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 vital equipment can be tested (electrical transformers, etc.), checking their behaviour in case of earthquake (natural disaster).

The testing installation under simulated and accelerated regime, of hydropulse type 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, O_2, sulphuric acid, biofuels, etc..) which, in case of breakage, can produce technological accidents and even disasters;
- ✓ technical equipment (TE) for electricity distribution, in case of disasters (earthquake);
- ✓ national security and safety technique (fighter aircraft assemblies and subassemblies, etc.).

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

- ✓ support for demonstrating the experiments in achieving the doctoral theses and post-doctoral papers;
- ✓ 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 an optimal utilization degree

- providing the necessary competence of personnel serving and using research-development infrastructure 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 be made under controlled conditions;
- identifying new market research opportunities which require to complete the existing infrastructure or to purchase of state of the art equipment, according to market requirements;
- contracting works with third parties that require experimental research for validating concepts, products, ideas that involve optimal use of research infrastructure;
- enhancing the activity of the *CENTRE OF RESEARCH FOR DESIGNING, PERFORMING AND TESTING THE INTELLIGENT MACHINES, INSTALLATIONS AND TECHNICAL EQUIPMENT* **-** CCCRT, in order to diminish the period of implementation of institute research results in economic environment, by investing in modernizing and strengthening the research infrastructure by using high-tech equipment.

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 3**	**32**
7.1.2	Cumulative impact factor of ISI quoted works	**3.28**
7.1.3	Citations in ISI quoted specialized journals	**12**
7.1.4	Patents (requested / granted) **Annex 4**	**10 / 5**
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 5**	**7/4/2**
7.1.7	Scientific / technical papers in journals without ISI quotation **Annex 6**	**73**
7.1.8	Scientific communications presented at international conferences **Annex 7**	**92**
7.1.9	*Prospective and technological studies, norms, procedures, methodologies and technical plans,* new or improved, ordered or used by the Beneficiary **Annex 8**	**9/3/4/ 11/26**
7.1.10	Copyright protected ORDA or in similar legal systems	**0**

7.1.1. Scientific / technical papers in ISI specialized journals: 32

Scientific / technical papers in ISI specialized journals	2014	2015
Quantification	10	32

Annex3

Den. no.	Article	Authors
1.	**ROMANIAN BIOTECHNOLOGICAL LETTERS** Vol. 20, No. 3/2015 [May - June], ISSN 1224 - 5984 **MISCANTHUS GIGANTEUS – AN OVERVIEW ABOUT SUSTAINABLE ENERGY RESOURCE FOR HOUSEHOLD AND SMALL FARMS HEATING SYSTEMS,** pg. 10369 – 10380 *Impact factor = 0.4*	Daraban (Oros) A.E. Jurcoane Ş. **Voicea I.**
2.	**ROMANIAN BIOTECHNOLOGICAL LETTERS** Vol. 20, No. 4/2015 [July - August], ISSN 1224 - 5984 **INFLUENCE OF BREAKAGE PROCESS ON INCREASING THE EXTRACTION YIELD OF MEDICINAL PLANTS BIOACTIVE SUBSTANCES**, pg. 10561-10571 *Impact factor = 0.4*	**Voicea I** Popescu C. **Vlăduţ V.**
3.	**ROMANIAN JOURNAL OF PHYSICS, vol. 60, Nr 3-4** ISSN1221-146X **NMR AND SEM INVESTIGATION OF EXTRUDED NATIVE CORN STARCH WITH PLASTICIZERS,** pg. 512-520. *Impact factor = 0.924*	**Cioica N.,** Fechete R., Filip C., Cozar B., **Nagy E. M., Cota C.**
4.	**AIP CONFERENCE PROCEEDINGS PROCESSES IN ISOTOPES AND MOLECULES (PIM 2015),** Vol. 1700, Nr. 1, e: ISSN 0094 – 243X, p: ISSN 1551 – 7616, **SPECTROSCOPIC INVESTIGATION OF THE CONSTITUENT COMPONENTS EFFECT ON THE BIODEGRADABLE PACKAGE CHARACTERISTICS,** pg. 040002(1-5).	**Coţa C. Cioica N.** Filip C. Fechete R. Todica M. **Nagy E.M. Cozar O.**
5.	**ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL "Gheorghe Asachi" Technical University of Iasi, Romania** Vol.14, No. 10, ISSN: 1582-9596 **NUMERICAL SIMULATION OF THE OXYGENATION PROCESS IN A GROWING UPERINTENSIVE FISH TANK**, pg. 2465-2470 *Impact factor = 1.065*	**Ştefan V.** Mocanu R-C. **Popa L. Ciupercă R. Lazăr G. Petcu A-S. Zaica A.**

6.	**STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA, vol. LX.1** ISSN 1224-7154 **WATER ABSORPTION AND DEGRADATION OF PACKAGES BASED ON NATIVE CORN STARCH WITH PLASTICIZERS,** pg. 45-55 *Impact factor = 0.191*	**Cioica N.,** Fechete R., Chelcea R., **Cota C.,** Todica M., Pop V.C., **Cozar O.**
7.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **MATHEMATICAL MODELS FOR DESCRIBING SEED MOVEMENT IN SEPARATION PROCESSES**, pg. 405-416	Căsăndroiu T. **Ciobanu V.** **Păun A.**
8.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **IMPROVING THRESHING SYSTEM FEEDING OF CONVENTIONAL CEREAL HARVESTING COMBINE,** pg. 431-440	**Ivan Gh.** **Vlăduţ V.** **Ganea I.**
9.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **THE INTENSIFICATION OF SHAKING PROCESS TO THE CONVENTIONAL CEREAL HARVESTING COMBINES**, pg. 417-430	**Ivan Gh.** **Vlăduţ V.**
10.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **STUDY OF COMPACTING PROCESS AND MATHEMATICAL ANALYSIS OF MISCANTHUS BRIQUETTES EXPANSION**, pg. 667-676	**Voicea I.** **Vlăduţ V.** **Cârdei P.** **Matache M.** **Găgeanu I.** **Voicu Gh.** Popescu C. Paraschiv G. Kabas O.
11.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **COMPLEX TESTING FOR CHECKING THE MECHANICAL RESISTANCE OF AN OPERATOR PROTECTION STRUCTURES**, pg. 123 - 130	**Persu C.** **Matache M.** **Vlăduţ V.** Biriş S. **Cujbescu D.** Paraschiv G. Ivancu B.
12.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **QUALITY OF MECHANICAL HARVESTING OF CHAMOMILE INFLORESCENCES**, pg. 365-376	**Muscalu A.** David L**.**
13.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **ACCELERATED TEST OF MAS 65 DEEP SOIL LOOSENING MACHINE FRAME**, pg. 131-140	**Matache M.** Voicu Gh. **Cârdei P.** **Vlăduţ V.** **Persu C.** **Voicea I.**
14.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **INFLUENCE OF THE JET'S ANGLE SIZE ON THE SPRAYING PROCESS**, pg. 275-286	**Roşu (Nitu) M.** Căsăndroiu T. **Matache M.** **Vlăduţ V.** **Cârdei P.** Bungescu S.
15.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **COMPARATIVE STUDY REGARDING THE SOWING PRECISION OF PRECISION SOWING MACHINES DISTRIBUTION DEVICES**, pg. 307-318	**Cujbescu D.,** Voicu Gh**.** **Bolintineanu Gh.** **Vlăduţ V.** **Manea D.** **Persu C.** Bungescu S.

16.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **DETERMINATION OF THE QUALITATIVE INDICES OF AN UV-C INSTALLATION FOR MICROBIAL REDUCTION ON THE EXTERIOR OF HORTICULTURAL PRODUCTS**, pg. 589 – 598	**Sorică C**. **Pirnă I.** **Matache M.** **Sorică E.** **Brăcăcescu C.** **Manea D.** Duţu I.
17.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **THE INCREASE OF ACTIVE BODIES OF AGRICULTURAL MACHINES IN WORK BY HARDENING,** pg. 153-164	**Vlăduţoiu L.** **Vlăduţ V.** Voiculescu I. **Matache M.** **Radu O.** Biriş S. **Voicea I.** Paraschiv G. Atanasov At. Usenko M.
18.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **A METHOD OF CALCULATING THE OPTIMAL SPEED OF OPERATION FOR VIBRO-CULTIVATORS**, pg. 395-404	**Cârdei P.** Rigon L**.** **Muraru V. M.** **Muraru-Ionel C.** Constantin N. **David A**
19	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **STUDY OF AGRICULTURAL SOIL COMPACTION UNDER THE ACTION OF AGRICULTURAL MACHINERY**, pg. 31-42	Ungureanu N. Croitoru Şt. Biriş S. Voicu Gh. **Vlăduţ V.** Selvi K.Ç. Boruz S**.** **Marin E.** **Matache M.** **Manea D.** Constantin G. Ionescu M.
20.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **THE VERIFICATION OF STRESS BY MEF ANALYSIS/ MECHANICAL TESTING OF A TRACTION BAR**, pg. 141-152	**Vlăduţ V**. Biriş S. Bungescu S. Faur N. Cernescu A. **Matache M**. Kabaş O. Paraschiv G. Atanasov At. **Ivan Gh.**
21.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **FEM ANALYSIS / TESTING RESISTANCE OF A TRACTOR SEAT**, pg. 189-200	Biriş S. **Vlăduţ V.** Faur N. Cernescu A. Kabaş O. **Matache M.** **Voicea I.** Bungescu S. Popescu C.
22.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **ABOUT THE OIL EXPRESSION PROCESS USING SCREW PRESSES WITHSTRAINERS OIL OUTLET**, pg. 513-524	Ionescu M. Voicu Gh. Biriş S. Ungureanu N. **Vlăduţ V.** **Voicea I.** **Persu C.**
23.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **TESTING EXPERIMENTAL MODEL OF TRAILED WINDROWER**, pg. 343-352	**Popa L.** **Marin E.** **Nedelcu A.** **Ciuperca R.** **Stefan V.** **Petcu A.** **Lazar G.** **Zaica A**.

24.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia, ISSN 1848-4425 **HARMONIC ANALYSIS OF AN VIBRATING FEEDER USING "LINEAR DYNAMICS" MODULE**, pg. 505-512	Ivancu B. Voicu Gh. **Păun A.** **Vlăduţ V**. Constantin G. Ilie F.
25.	**PROCEEDINGS OF THE 43rd INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croaţia, ISSN 1848-4425 **INVESTIGATION OF WATER DEGRADATION EFFECT ON SOME STARCH-BASED PLASTICS**, pg. 755-762	**Nagy E. M**. Todica M. **Cota C.** Pop V. C. **Cioica N.** **Cozar O.**
26.	**ADVANCED ENGINEERING FORUM** **Vol 13 (2015),** Trans Tech Publications, Switzerland ISBN-13:978-3-03835-501-4 **REAL AND SIMULATED MECHANICAL TESTS,** pg. 160-167	**Matache M.** **Cardei P.** Voicu Gh. **Vladut V.** **Sfaru R.** **Ludig M.**
27.	**ADVANCED ENGINEERING FORUM** **Vol 13 (2015),** Trans Tech Publications, Switzerland ISBN-13:978-3-03835-501-4 **NONSTANDARD MATHEMATICAL MODEL FOR FATIGUE FAILURE,** pg. 127-135	**Cardei P.** Voicu Gh. **Matache M.** **Voicea I.** **Muraru V.** **Ludig M.**
28.	**INTERNATIONAL JOURNAL OF FOOD PROPERTIES 2015** ISSN 1094-2912 (Print), ISSN 1532-2386 (Online) **DETERMINATION OF DROP TEST BEHAVIOR OF A SAMPLE PEACH USING FINITE ELEMENT METHOD**, pg. 2584-2592 *Impact factor = 0.92*	Kabas O. **Vlăduţ V**.
29.	**APPLIED MECHANICS AND MATERIALS, Vol. 801 "Acoustics & Vibration of Mechanical Structures II")** Trans Tech Publications, Switzerland **THE INFLUENCE OF THE WORKING REGIME OF OSCILLATIONS PRODUCED BY AN ELECTROVIBRATOR ON THE SORTING OF MATERIALS**, pg. 213-218 *Impact factor = 0.15*	**Vlăduţ V.** **Danciu A.** **Grigore I**. Herişanu N. Dumitru I. **Sorică C.** **Voicea I.** Biriş S. Duţu M. Păunescu D. **Găgeanu I**.
30.	**APPLIED MECHANICS AND MATERIALS, Vol. 801 "Acoustics & Vibration of Mechanical Structures II")** Trans Tech Publications, Switzerland **CHARACTERIZATION OF MEDICINAL PLANTS SORTING PROCESS BY PLANAR SIEVING THROUGH MECHANICAL OSCILLATIONS ANALYSIS**, pg. 213-218 *Impact factor = 0.15*	**Pruteanu A.M.** **Matache M.** David L**.** **Persu C.** Duţu M. **Vlăduţ V.**
31.	**15th INTERNATIONAL MULTIDISCIPLINARY SCIENTIFIC CONFERENCE - SGEM 2015** **18 – 24 June 2015, Albena, Bulgaria** ISBN 978-619-7105-39-1, ISSN 1314 - 2704 **DATABASE WITH ENVIRONMENTAL LEGISLATION TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION**, pg. 625 – 632	**Muraru V.M.** **Pirna I.** **Nedelcu D.** **Muraru-Ionel C.** **Ticu T. M.**
32.	**15th INTERNATIONAL MULTIDISCIPLINARY SCIENTIFIC CONFERENCE - SGEM 2015** **18 – 24 June 2015, Albena, Bulgaria** ISBN 978-619-7105-39-1, ISSN 1314 - 2704 **WEB PLATFORM TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION**, pg. 1047 – 1054	**Muraru V.M.** **Muraru-Ionel C.** **Cardei P.** **Sfiru R.** **Ticu T. M.**

7.1.2. Cumulative impact factor of ISI quoted works: **3.28**

7.1.3. Citations in ISI quoted specialized journals: **6**

7.1.4. Patents (requested / granted) 10 / 5

Patents (requested / granted)	2014	2015
Number of patents requested (applications)	15	10
Number of patents granted	9	5

- ***Requested invention patents (applications registered):*** **10**

Annex 4

Den. no.	TITLE	Authors	Registration no. OSIM
1.	**MECHANICAL DEVICE FOR SMALL AND VERY SMALL SEEDS DISTRIBUTION**	**Marin Eugen** **Mateescu Marinela** **Păun Anişoara** **Manea Dragoş** **Gheorghe Gabriel**	**A-00382** **08.06.2015**
2.	**MODULATED EQUIPMENT FOR SOIL LOOSENING, LAYER-SHAPING AND SOWING**	**Mateescu Marinela** **Marin Eugen** **Păun Anişoara** **Manea Dragoş** **Gheorghe Gabriel**	**A-00383** **08.06.2015**
3.	**PNEUMATIC DRIVING SYSTEM FOR TRANSPORTING ALVEOLAR TRAYS**	**Vişan Alexandra** **Ioniţă Ghiţă** **Ciupercă Radu** **Milea Dumitru** **Bogdanof Gabriel**	**A-00825** **12.11.2015**
4.	**DEVICE FOR ADJUSTING THE WORKING WIDTH OF CULTIVATOR PLOUGHS**	Stroe Marius Cătălin Florea Nicolae **Ciupercă Radu** **Marin Eugen**	**A-00884** **25.11.2015**
5.	**INTELLIGENT EQUIPMENT FOR HOEING IN ROWS AND BETWEEN ROWS**	**Gheorghe Gabriel** **Persu Ioan Cătălin** **Manea Dragoş** **Marin Eugen**	**A-00972** **04.12.2015**
6.	**AUTOMATED DIRECTING SYSTEM OF A TOWED WINDROWER INTO THE FURROW**	Cherciu Daniel Istrate Bogdan **Marin Eugen** **Ciupercă Radu**	**A-00872** **20.11.2015**
7.	**AUTOMATED SOWING RATES ADJUSTING SYSTEM**	Cherciu Daniel Istrate Bogdan **Marin Eugen** **Manea Dragoş**	**A-00873** **20.11.2015**
8.	**PROCEDURE OF MOUNTING THE PVC WINDOW FRAMES WITH THERMOPANE WINDOW**	**Ganea-Christu Ioan** Ganea-Christu Iris Jernoiu Marius Aurelian	**A-00988** **10.12.2015**
9.	**BENT REVERSIBLE CHISEL FOR VIBRO-COMBINERS**	**Muraru-Ionel Cornelia** **Muraru Marian Vergil** **Cârdei Petru**	**A-00511** **16.07.2015**
10.	**REVERSIBLE UTENSILS PER VIBROCOLTIVATORI E SIMILI**	**Muraru-Ionel Cornelia** **Muraru Marian Vergil** **Cârdei Petru**	**102015000074976** **20/11.2015**

- ***Invention patents granted by OSIM:*** **5**

Nr crt.	Titlu	Autori	Nr. brevet /an
1.	**SYSTEM OF CEREAL HOPPER RETAINING FOR SWINGING**	**Stanciu Lucian,** **Mircea C. Radu,** **Pirnă Ion,** Robe Eugeniu	**126116** **2/2015**
2.	**PIVOTING WHEEL STEERING DEVICE**	**Constantin Nicolae,** **Pirnă Ion,** **Ganea-Christu Ioan,** **Neniţă Florin**, Mocanu Vasile, Hermenean Ioan	**125495** **2/2015**
3.	**EQUIPMENT FOR APPLYING PHYTOSANITARY TREATMENTS IN TREE GROWING PLANTATIONS**	**Popescu Marian,** **Gângu Vergil,** **Cojocaru Iosif,** Jinga Vasile, Popa Theodor	**125070** **4/2015**
4.	**ELASTIC SYSTEM TO COPY THE FIELD PATTERN FOR ROLLER BATTERY**	**Constantin Nicolae,** **Cojocaru Iosif,** **Marin Eugen,** **Niţescu Vasile,** Cociu Alex. Ion	**125494** **5/2015**
5.	**PNEUMATIC DEVICE FOR COUNTING CEREAL SEEDS TO DETERMINE THE GERMINATION**	Epure Doru Gabriel Becheritu Marius Deacu Dumitru Gâdea Mihai Udroiu Nicolate-Alina **Manea Dragoş** Gaidău carmen-Cornelia	**128791** **12/2015**

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 5

Products / services / technologies resulting from research activities based on patents, homologations or own innovations	2014	2015
Number of homologated PRODUCTS	11	7
Number of homologated SERVICES	1	4
Number of homologated TECHNOLOGIES	4	2

7.1.6.1. HOMOLOGATED PRODUCTS: 7

No.	Research contract / Commercial Contract Beneficiary	Result	Reporting deadline / Delivery (month)	Technical data	Field of use
1.	Development of innovative technical equipment designed for the technology of meadow rational valorisation under climate change (PN – II – IN – DPST – 2012- 1- 0019) Research contract 30 DPST/26.09.2013 Contracting authority: UEFISCDI Internal Order: 598 / 2013 - 2015 Beneficiary: SC MECANO – FUC SA Collaboration Agreement: 1346/13.08.2013	Product homologation: **Towed windrower - VF** Dossier number: 202	November 2015	- Type……...towed - Required tractor, HP……45...65 - Cutting machine type…. with fingers and knife - Power take-off rotational speed, rev/min…..540 - Constructive working width, m… 2.7	Towed windrower VF works in aggregate with wheeled tractors of 45…65 HP and is designed to perform mowing, crushing and putting on soil in continuous and uniform furrow the fodder grassy plants for being naturally dried.
2.	Development of innovative technical equipment designed for the technology of meadow rational valorisation under climate change (PN – II – IN – DPST – 2012- 1- 0019) Research Contract : 30 DPST/26.09.2013 Contracting authority: UEFISCDI Internal Order: 598 / 2013 - 2015 Beneficiary: SC MECANO – FUC SA Collaboration Agreement: 1346/13.08.2013	Product homologation: **Meadow regeneration machine** - MSP Dossier number : 203	November 2015	- Required tractor, HP ……..45 - No. of sections for working the soil in narrow stripes ... 4 - Number of sowing sections ……4 - Number of stripes worked and rows sown …….8 - Distance between worked and sown stripes, mm … 220 - Working width and sowing width, m……..1.76 - Fuel consumption per hectare, l/ha…..14.19 - Hourly working capacity per real time, ha/h … 0,73	Meadow regeneration machine is designed for the technology of restoring the damaged lawns under climate change conditions, by working the soil in narrow stripes and directly sowing in an herb mixture carpet or a single herb species carpet, wholly or partially preserving the existing vegetation.
3.	Innovative multifunctional self-propelled equipment endowed with working system designed to small farm works (PN – II – IN – DPST – 2012 – 1 – 0005) Research contract : 20DPST/ 20.08.2013 Contracting Authority: UEFISCDI Internal Order: 599 / 2013 - 2015 Beneficiary: SC RURIS IMPEX SRL Collaboration Agreement: : 1384/14.08.2013	Product homologation: **Reversible plough with one plough body – PR 1** Dossier number: 204	November 2015	- Motocultor power.....7.5 HP - Plough type…….....reversible - Number of bodies pcs .....1 - Working width, mm .....120 - Working depth, mm .....120 - Average working speed, km/h.....2.5 – 3.6 - Average productivity, ha/h .....0.030 - Average fuel consumption, l/h ……..0.9 – 1.1 - Mass, kg 120	Reversible plough PR1 is designed to plough the soil in aggregate with a motocultor as energy source. Reversible plough PR1 can be used for performing plowing in field, greenhouses, solariums and is mainly designed to small agricultural farms, households,

No.	Research contract / Commercial Contract Beneficiary	Result	Reporting deadline / Delivery (month)	Technical data	Field of use
					lawn and recreational green space owners.
4.	Innovative multifunctional self-propelled equipment endowed with working system designed to small farm works (PN – II – IN – DPST – 2012 – 1 – 0005) Research contract: 20DPST/ 20.08.2013 Contracting authority: UEFISCDI Internal Order: 599 / 2013 - 2015 Beneficiary: SC RURIS IMPEX SRL Collaboration Agreement: 1384/14.08.2013	Product Homologation: **Motocultor M 7.5** Dossier number: 205	November 2015	- Engine maximum power ……7.5 HP - Starting system…..…….manual - Transmission ….....mechanical - No. of working speeds:…..…....2 forward + 1 backward - Motor hoe working width ……....750 – 1050 mm - Tire wheel diameter ……..500 mm - Spur wheel diameter, ploughing:……....400 mm - Road clearance .....110 mm - Wheel track .....500 mm - Mass .....120 kg - Engine rated speed, min^{-1} .....2800 - Travel speed, km/h .....5 - 10 km/h	Motocultor M 7.5 as energy source may be used for working in aggregate with a series of equipment, such as: plough, transport trailer, rotating hoe, hoeing machine, snow cutter and others, appropriate to motocultor traction power 7.5 HP. It can be used for new works or crops maintenance works in fields, greenhouses or solarium and green spaces or for other types of works; it is mainly designed to small agricultural farms, individual households and owners of recreational spaces and green spaces.
5.	Innovative technology and technical equipment for establishing the bulb and root vegetable crops in field shaped by minimum tillage works Research contract no. 15 N / 27.02.2009 / Addendum no.1/2015 Contracting authority: M.E.C.S. Internal Order: 634 / 2015 – 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Product homologation: **Technical equipment designed to sow bulb and root vegetable crops concomitantly with preparing and modelling the soil - ESM** Dossier number: 200	June 2015	- Type of equipment …… towed in transport and carried during work - Working width, m……..…… 4.5 - Layer width (crowning), mm …..... 1040 - Number of parts designed to prepare the soil, pcs/module …...19 - Distance between the soil tillage parts, mm …..... 50 - Number of modules for preparing the soil, pcs ....…...3 - Number of transport wheels, pcs .....….. 2 - Distance between ditches, mm....…… 1500 - Number of sowing modules, pcs ….....…. 3 - Maximum number of sowing sections per module, pcs …4 - Distance between the sowing sections, mm.… ….200…280 -Working depth: - for loosening, mm……..20…60 - ditch depth, mm ..……150…180 - for sowing, mm ……..……..0…20	Technical equipment is designed to additional loosening works and/or breaking the layer crust, modelling the layers and sowing bulb and root vegetable seeds by a single passing, in ploughed field or stubble field.
6.	Researches regarding the development	Product	December	- Type of equipment carried	Intelligent hoeing equipment-

No.	Research contract / Commercial Contract Beneficiary	Result	Reporting deadline / Delivery (month)	Technical data	Field of use
	of an intelligent system for crop maintenance according to precision agriculture concept Research contract no. 15 N/27.02.2009/ Addendum no.1/2015; Addendum no.3 /2015 Contracting authority: M.E.C.S. Internal Order: 636 / 2015 – 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES - ASAS Protocol no. 1552 / 08.11.2007	homologation: **Multifunctional technical equipment for agricultural crops mechanical maintenance in row and between plants - EIP** Dossier number: 206	2015	- Power of tractor it works with, HP 45 - Number of hoeing sections 4 - Number of rows 4 - Width of plants protection area, cm 10 - Number of hoeing parts per section 3 - Hoeing working depth, cm 2...5 - Optical sensors of intelligent camera type 2 - Working parts actuators 4 - Graphical interface with user 1 - agricultural GPS 1 - Control unit 1 - Overall dimensions: (Lxwxh), mm: 550x1250x1450	EIP is a system designed to achieve the operation of hoeing between the plant rows and between plants in a row, in agricultural crops. The equipment works in aggregate with tractors of 45 HP, being carried in front of them on the three point-suspension mechanism, category I, both when working and when transported.
7.	Researches regarding the achievement of a pneutronic equipment for alveolar sowing of small and very small seeds Research contract no. 15 N / 27.02.2009 / Addendum no.2/2015 Contracting authority: M.E.C.S. Internal Order: 643 / 2015 – 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA – PACTMAR Protocol no. 1556 / 12.11.200	Product homologation: **Pneutronic equipment for alveolar sowing of small and very small seeds - ESAM** Dossier number: 201	November 2015	- Working regime semi-automated; - Sowing system for alveolar tray: 45 alveoli - Dimensions of alveolar tray (wxLxH): 530x340x60 mm - Distance between alveoli: 65 mm - Productivity: 30rows/min. - Compressed air flow rate: 850l/min - Compressed air pressure: 10bar - Electrical source: 240V - Pressure and vacuum manually adjusting device - Seed sowing kit: 5 posts - Manual system for adjusting the actuators travel rate - Manual system for adjusting vibrating mass working regime - Possibility of manually adjusting the sampling pressure, 0÷-1bar - Possibility of manually changing the nozzles diameter, Φ 0.2-0.7mm	This equipment is designed to cultivators working in horticulture, respectively vegetable gardening and floriculture for increasing the capitalization degree of small-sized seeds and managing the treated seed material in optimum environmental conditions (protecting the operator against the contact with toxic substances, protecting seeds against contamination, controlling the working space, etc.).

1. Product name:

Towed windrower - VF

Homologation dossier no.: 202

2. Product name:

Meadow regeneration machine - MSP

Homologation dossier no.: 203

3. Product name:

Reversible plough with one plough body – PR 1

Homologation dossier no.: 204

4. Product name:

Motocultor M 7.5

Homologation dossier no.: 205

5. Product name:

Technical equipment designed to sow bulb and root vegetable crops concomitantly with preparing and modelling the soil

Homologation dossier no.: 200

6. Product name:

Multifunctional technical equipment for agricultural crops mechanical maintenance in row and between plants - EIP

Homologation dossier no.: 206

7. Product name:

Pneutronic equipment for alveolar sowing of small and very small seeds - ESAM

Homologation dossier no.: 201

7.1.6.2. HOMOLOGATED SERVICES: 4

Den. no.	Research contract Commercial contract Beneficiary	Result	Reference / delivery deadline (month)	Technical data	Utilization field
1.	Extensive research on the use of agricultural equipment tires using new automated and computerized verification methods Research contract no. 15 N / 27.02.2009 / Add. Ad. No.2/2015 Internal order: 597/ 2015 Contracting authority: MEN Beneficiary: PACTMAR – MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA Protocol nr. 1552 / 08.11.2007 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTY SCIENCES - ASAS Protocol no. 1556 / 12.11.2007	Homologation service: *Testing agricultural tires with the help of tire test stand STP* Dossier number: 51	October 2015	- maximum load on test stand is about 6 tons. - maximum diameter of tested tire: below 1400 mm - maximum width of tested tire: below 600mm - air pressure in the tires - depending on tire manufacturers' recommendation	Tire test stand, STP, is designed to perform testing several types of tires used on agricultural technical equipment in order to determine their influence on soil and energy parameters.
2	Technical testing and experimentation in the field (in field conditions) and in simulated and accelerated regime in the laboratory of an experimental model and of a vibratory controller prototype Contract no. 232 /17.04.2015 Internal order: 639 / 2015 – 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTY SCIENCES- ASAS Protocol no. 1556 / 12.11.2007	Homologation service: *Testing and experimentation in the field (in field conditions) in simulated and accelerated regime in laboratory of vibratory controllers* Dossier number: 52	November 2015	- establish main qualitative indices of work and energy: working deep, working width, driving power, fuel consumption, shredding degree, destruction degree of plant remains	The Service for Testing and experimentation in the field (in field conditions) and in simulated and accelerated regime in the laboratory is used to determine the work, energy and exploitation indices of vibratory controllers in field conditions, the real stress range and to validate equipment structural integrity in the laboratory.
3	Research on determining resistance: static resistance test for special parts - 3 samples code: ACV - 051 - 055, according to CS no. 141 / 1990, Chap. 6.15.; Fatigue tests for special parts - 7 samples. ACV-051-055, according to CS no.141 / 1990, Chap.6.17 Contract no. 744/19.06.2015	Homologation service: *Testing and experimenting services in accelerated regime in laboratory for special screws used in airplanes construction*	September 2015	- reproduction in laboratory conditions of static and dynamic stress on longitudinal direction of special screws with the following values: - maximum static traction force: 346.80 kN - maximum dynamic traction force: 162 kN - minimum dynamic traction force: 16.2 kN - working frequency in dynamic regime: 5 Hz	The Service for Testing and experimentation in accelerated regime in laboratory for special screws used in airplanes construction is used to determine the traction resistance (in static regime)

Den. no.	Research contract Commercial contract Beneficiary	Result	Reference / delivery deadline (month)	Technical data	Utilization field
	Internal order: 644 / 2015 – 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTY SCIENCES- ASAS Protocol no. 1556 / 12.11.2007	Dossier number: 50		- reference signal form in dynamic conditions: sinusoidal; - maximum number of fatigue cycles: 130000	and fatigue resistance (in dynamic regime) of these special screws.
4.	Promotion of RO3 SMEs through Enterprise Europe Network EEN"- PROSME Contract Framework Partnership Agreement Number — 649420 — Enterprise Europe Network (EEN) Internal order: 00638	Homologation service: *Brokerage and Company Mission activities organized within Enterprise Europe Network*	November 2015	Classification: - small brokerage: up to 4 EEN partners involved; - large brokerage: more than 5 EEN partners involved; - company mission: usually 2 EEN partners involved; - physical brokerage; - on-line brokerage. Eligibility conditions: - to be organized only by members of the Enterprise Europe Network – EEN; - to have a transnational character (involving at least 2 EEN member states); - to be registered in advance on the EEN platform of the European Commission, namely: • small physical brokerage: 3 months in advance; • large physical brokerage: 6 months in advance; • small on-line brokerage: 1.5 months in advance; • large on-line brokerage: 3 months in advance; • company mission: 3 weeks in advance. - to be validated by the Executive Agency for Small and Medium-sized Enterprises - EASME on the EEN platform of the European Commission; - Reporting the action to be performed on the EEN platform of the European Commission by the main organizer based on data received from the co-organizers and the feedback from participant clients. The report is validated by EASME on EEN platform of European Commission.	*This service* is used for organizing brokerage and company mission activities within Enterprise Europe Network.

1. Service name:

Homologation dossier no.: 50

Testing and experimenting services in accelerated regime in laboratory for special screws used in airplanes construction

2. Service name:

Homologation dossier no.: 51

Testing agricultural tires with the help of tire test stand - STP

3. Service name:

Homologation dossier no.: 52

Testing and experimentation in the field (in field conditions) in simulated and accelerated regime in laboratory of vibratory controllers

4. Service name:

Homologation dossier no.: 53

Brokerage and Company Mission activities organized within Enterprise Europe Network

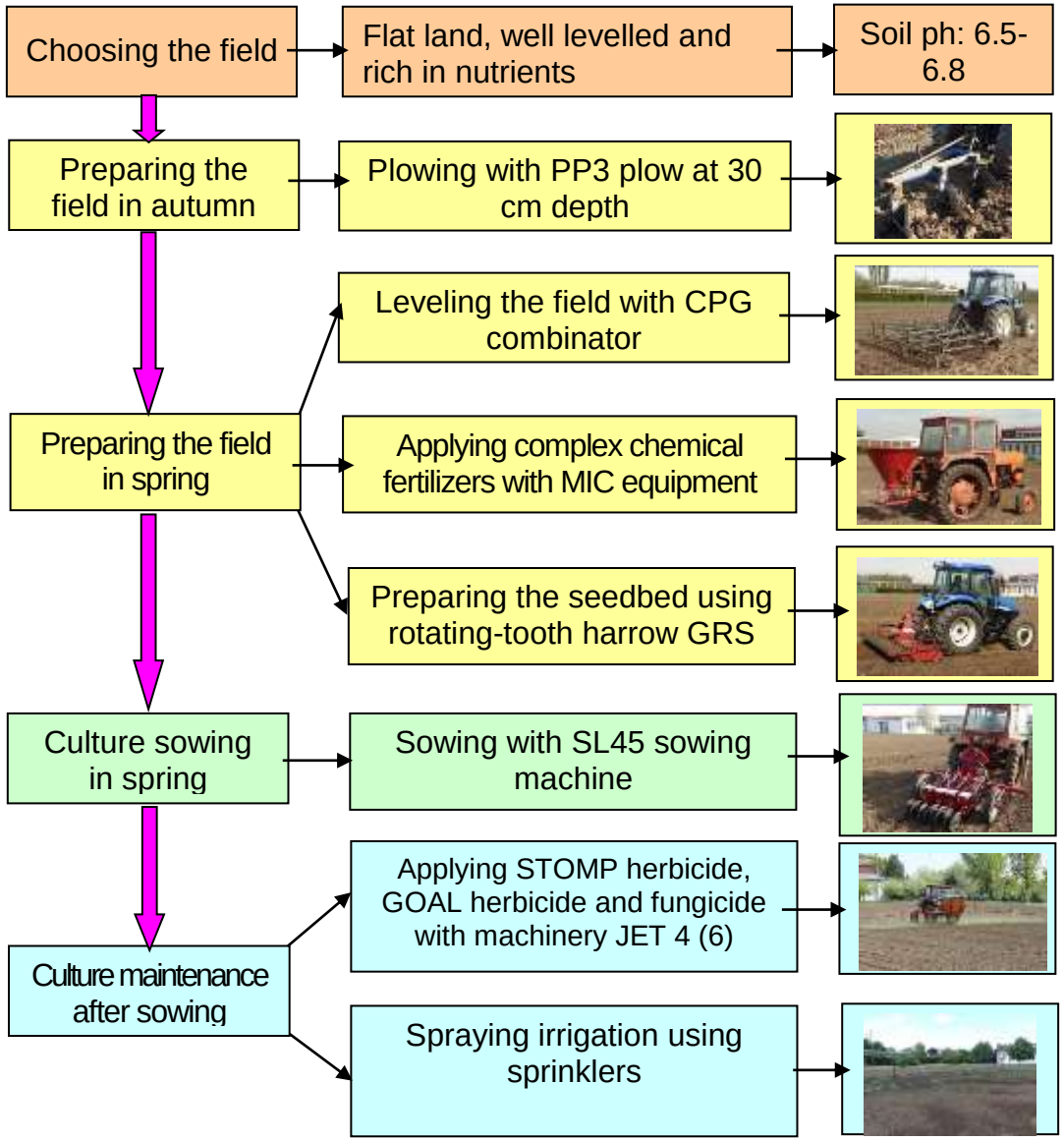
7.1.6.3. HOMOLOGATED TECHNOLOGIES: 2

Den. no.	Research contract Commercial contract Beneficiary	Result	Reference / delivery deadline (month)	Technical data	Utilization field
1.	Innovative technology for establishing in the field onion culture from seeds Research contract: (PVR) no. 80/21.01.2014 Internal order: 629 / 2014 - 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTY SCIENCES- ASAS Protocol no. 1552 / 08.11.2007	Homologation technology: Innovative technology for establishing in the field onion culture from seeds Dossier number: 50	July 2015	Functional model of sowing machine SL45 designed for the technology establishing in the field onion culture from seed - Energy source, HP……45 - Working width, m……1,12 - Distance between sowing sections, mm 200...280 - Sowing depth, cm……..……2...6 - Number of rows sown in a single pass ……..6	The innovative technology for growing onions from seed is carried out in order to make vegetable farms more profitable by increasing production and quality, labour productivity, optimum use of inputs and natural resources, also contributing to reducing the negative impact on the environment.
2	Innovative technology and technical equipment for establishment of root and bulb vegetable crops on field shaped with minimal tillage Research contract no. 15 N / 27.02.2009 / Addendum no.1/2015 Contracting authority no.: M.E.C.S. Internal order: 634 / 2015 – 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTY SCIENCES- ASAS Protocol collaboration no. 1552 / 08.11.2007	Homologation technology: *Innovative technology for the mechanization of shaping and sowing works in sustainable system of bulb (onion, garlic) and root (carrots, parsley, parsnip, beetroot) vegetable crops* Dossier number: 49	June 2015	Experimental model of technical equipment for sowing bulb and root vegetables in the same time with soil preparation and shaping: - Energy source, HP ……..……..65 - Working width, m ……..…4,5 - Layer width (crowning), mm……..1040 - Number of layers, pcs ……..3 -Distance between ditches, mm……..…1500 - Number of sowing modules, pcs ……3 - Maximum number of sowing sections on the module, pcs ……..4 - Distance between sowing sections, mm... 200...280	The innovative technology for the mechanization of shaping and sowing works in sustainable system of bulb (onion, garlic) and root (carrots, parsley, parsnip, beetroot) vegetable crops proposes to apply a system with minimum works, for the growth and development of the vegetable root system, reducing water infiltration in the soil, increasing risk of excess humidity from the surface and reducing the energy consumption, by the use of a new technical equipment, which performs a single pass in the following works: - preparing the seedbed at a depth of ……...2…6 cm; - breaking the layer crust with passive parts of spoon type; - shaping the soil by layer; - shaping / rehabilitating of irrigation ditches; - sowing seeds of bulb vegetables (onions, garlic) and root vegetables (carrots, parsley, etc.)

1. Technology name:

Innovative technology for establishing in the field onion culture from seeds

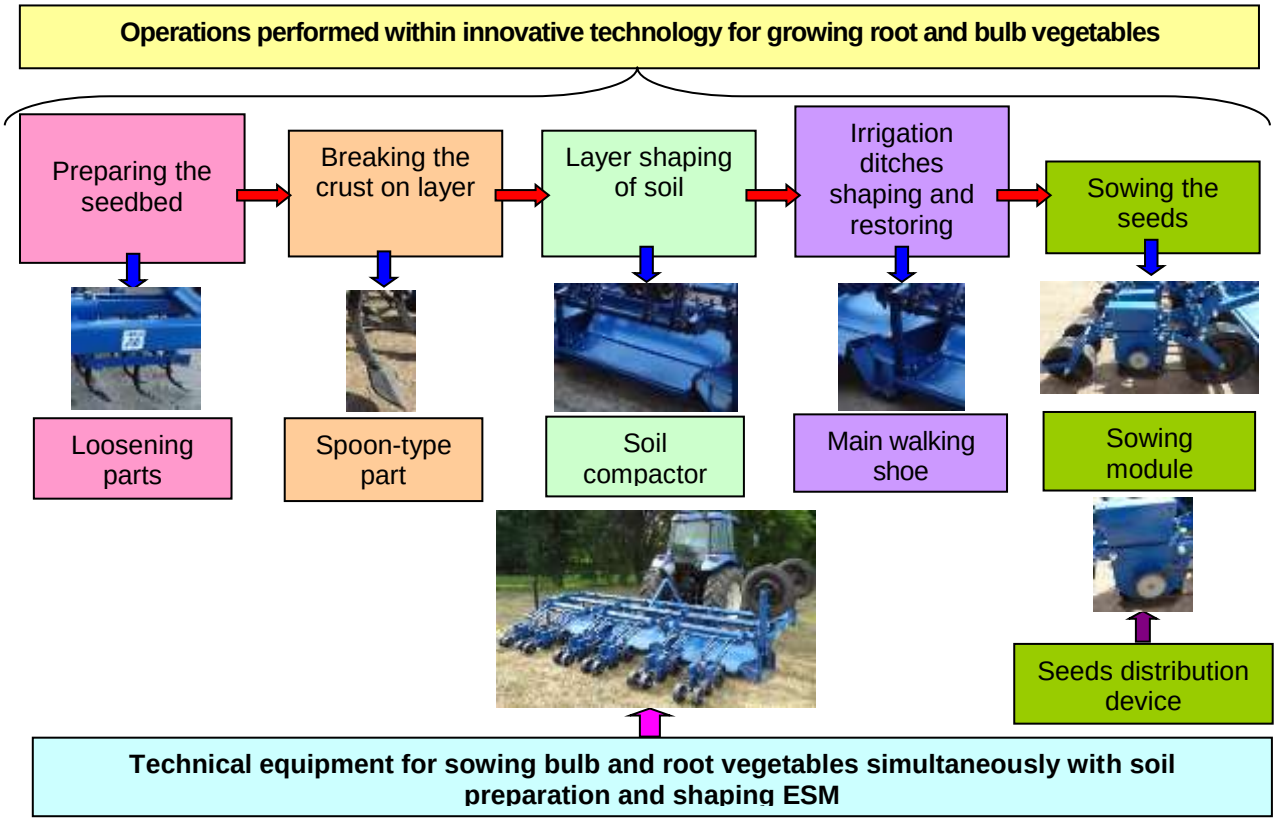
Homologation dossier no.: 50



2. Technology name:

Innovative technology for the mechanization of shaping and sowing works in sustainable system of bulb (onion, garlic) and root (carrots, parsley, parsnip, beetroot) vegetable crops

Homologation dossier no.: 49



7.1.7. Scientific/technical papers in speciality journals without ISI quotation 73

Scientific/ technical papers published in speciality journals without ISI quotation	2014	2015
Number	111	73

Annex 6

Den .No.	JOURNAL / ARTICLE / AUTHORS
	I. INMATEH – AGRICULTURAL ENGINEERING, vol. 45, no. 1/2015 **p ISSN 2068-2239; e ISSN 2068-4215**
1.	**THE USE OF DIMENSIONAL ANALYSIS IN STUDYING THE SPRAYING PROCESS THROUGH NOZZLES AT PHYTOSANITARY TREATMENT MACHINES** **Dumitraşcu A.**, **Manea D.,** Căsăndroiu T., pg. 25-30
2.	**THEORETICAL RESEARCH ON DETERMINING THE VIBRATIONS ISOLATION DEGREE OF A VIBRATING SEPARATOR** Ivancu B. , Voicu Gh. , **Brăcăcescu C.**, **Persu C.** , **Zaica Al.,** pg. 59-64
3.	**UTILIZATION OF LABVIEW PROGRAM FOR ACQUIRING AND PROCESSING THE VIBRATIONS OF AN OSCILLATING CONE-SHAPED SIEVE WITH VERTICAL AXLE USED FOR CLEANING THE AGRICULTURAL CROPS SEEDS** Stoica D., Voicu Gh., Covaliu C., **Vlăduţ V.**, pg. 51-58
4.	**FREE SURFACE EQUATION OF BEER WORT IN A ROTAPOOL** Biriş S.Şt., **Vlăduţ V.**, Ungureanu N., Begea M., Ionescu M., pg. 101-106
5.	**EXPERIMENTAL RESEARCHES UPON THE DOSING ACCURACY OF TECHNICAL DOSAGE EQUIPMENT DESTINED FOR AGRIFOOD PRODUCTS** **Brăcăcescu C.**, **Păun A., Milea D., Ivancu B., Bunduchi G.,** pg. 71-76
	II. INMATEH – AGRICULTURAL ENGINEERING, vol. 46, no. 2/2015 **p ISSN 2068-2239; e ISSN 2068-4215**
6.	**THE INFLUENCE OF PHYSICAL CHARACTERISTICS OF SOLID ORGANIC FERTILIZERS ON QUALITY OF LAND SPREADING** **Ştefan (Popa) V.**, **Ciupercă R., Popa L., Nedelcu A., Lazăr G., Petcu A.S., Zaica A.**, pg. 77-84
7.	**EXPERIMENTAL RESEARCHES ON WORKING QUALITATIVE INDEXES OF A DEEP LOOSENING EQUIPMENT** **David Al.**, Voicu Gh., **Marin E.,** Dutu M., **Gheorghe G.**, pg. 5-12
8.	**ORGANIC PLANT AND ANIMAL WASTE MANAGEMENT SYSTEM** **Ciuperca R., Lazar G., Popa L., Ştefan V., Zaica A., Nedelcu A., Petcu A.**, pg. 69-76
9.	**EXPERIMENTAL ASPECTS REGARDING SEED SEPARATION WITH MECHANICAL SEPARATING MACHINES WITH DRUMS** **Ciobanu V.**, Căsăndroiu T., **Persu C., Păun A., Muraru V.**, pg. 125-132
10.	**RESEARCHES ON QUALITY OF LAVENDER SCREENING PROCESS (*Lavandula angustifolia*)** **Pruteanu. A.,** David L., **Vladut V., Matache M., Muscalu A., Danciu A.,** pg. 109-114
11.	**MATHEMATICAL MODEL CHARACTERIZING THE ANGLE OF SPRAYING JET OF SPRAYERS DESIGNED TO FIELD CROP** **Niţu (Roşu) M., Vlăduţ V., Matache M.,** Vlad C., pg. 59- 68
12.	**ANALYSIS OF A CONVECTIVE DRYING PROCESS OF PLUMS** Ingeaua M., Prisecaru T., **Pirna I., Sorică C.,** pg. 115 – 124
13.	**ANALYSIS OF PROFITABILITY OF IMPLEMENTING THE MISCANTHUS ENERGETIC CROP TECHNOLOGY FOR RHIZOMES CAPITALIZATION** **Sorica E.,** pg. 155 - 164
	III. INMATEH – AGRICULTURAL ENGINEERING, vol. 47, no. 3/2015 **p ISSN 2068-2239; e ISSN 2068-4215**
14.	**EXPERIMENTAL COMPARATIVE STUDY BETWEEN TWO TYPES OF MECHANISM USEDIN GRASSLAND DRILLS TRANSMISSION** **Manea D.,** Voicu Gh., Paraschiv G., **Marin E.,** pg. 5-12

15.	**ENERGY ANALYSIS OF MANUFACTURING PROCESS OF BIODEGRADABLE AGRICULTURAL FILMS** Deac T**., Nagy E.M., Coţa C., Cioica N.,** Gyorgy Z**.,** pg. 67 - 74
16.	**MATHEMATICAL MODELLING AND COMPARATIVE SIMULATION OF THE VIBRATIONS OF VIBRO-CULTIVATORS AND AGRICULTURAL CULTIVATORS** **Cardei P., Muraru V.,** Constantin N.**, Muraru C.**, Cilan T., Hodre C. D., **Matache Mihai**, pg. 31-35
17.	**DETERMINATION OF THE RELAXATION TIME AT STATIC COMPRESSION OF IDARED APPLES VARIETY** Veringă D., Vintilă M., **Popa L., Ştefan V, Petcu A.S.**, pg. 75-80
18.	**MATHEMATICAL MODELLING OF THE KNEADING PROCESS FOR A HORIZONTAL MIXER** Voicu Gh., Muscalu Gh., Stefan E.M., Tudor P., **Nedelcu A.**, pag. 105-112
	IV. ANNALS OF FACULTY ENGINEERING HUNEDOARA, International Journal of Engineering, Tome XIII, FASCICULE 2 **ISSN 1584-2673**
19	**EXPERIMENTAL RESEARCHES ON WEIGHING AND AUTOMATION MANAGEMENT OF AGRICULTURAL PRODUCTS IN RURAL MILLING UNITS** **Brăcăcescu C., Milea D., Găgeanu I., Ivancu B,** pg. 123-126
	V. ANNALS OF FACULTY ENGINEERING HUNEDOARA, International Journal of Engineering, Tome XIII, FASCICULE 3 **ISSN 1584-2673**
20.	**SIZING CONVECTIVE DRYING CHAMBERS DESIGNED TO FRUITS AND VEGETABLES DEHYDRATION** Ingeaua M., Prisecaru T., **Sorică C.,** pg. 233 - 238
21.	**STANDARDIZATION ACTIVITY IN THE FIELD OF AGRICULTURAL AND FORESTRY TRACTORS AND MACHINERY, IN THE CONTEXT OF EUROPEAN AND INTERNATIONAL STANDARDIZATION** **Nedelcu D.**, pg. 243-247
	VI. ACTA TEHNICA CORVINIENSIS – Bulletin of Engineering **Tome VIII, Fascicule 2 [April – June]** **ISSN: 2067 – 3809**
22.	**RESEARCHES REGARDING THE MECHANOPNEUMATIC DISTRIBUTION ON THE STRAW CEREALS SOWING MACHINES** **Manea D., Brăcăcescu C., Sorică C., Dumitru I., Andrei S., David E.**, pg. 149-152
	VII. ACTA TEHNICA CORVINIENSIS – Bulletin of Engineering **Tome VIII, Fascicule 3 [July - September]** **ISSN: 2067 – 3809**
23.	**ACCELERATED TESTING OF DEEP SOIL LOOSENING MACHINE RESISTANCE FRAME** **Matache M**, Voicu G, **Cârdei P**, **Persu C**, Andrei S., David E., pag. 21-24
24.	**STUDIES ON THE MATHEMATICAL MODELING OF ARTIFICIAL SOIL COMPACTION** Ungureanu N., Biriş S.Şt**., Vlăduţ V.,** Voicu Gh., Paraschiv G., pg. 85-92
	VIII. COMPUTATIONAL MECHANICS AND VIRTUAL ENGINEERING - COMEC' 2015 **Brasov 15-16 oct** **ISBN 2457-8541**
25.	**STUDY ON THE SEPARATING PROCESSES OF IMPURITIES FROM WASTE WATER BY USING TANGENTIAL FILTERS** Zârnoianu D., Popescu S., **Brăcăcescu C.**, pg.177-182
26.	**THEORETICAL AND EXPERIMENTAL RESEARCH ON THE SEPARATION PROCESS OF IMPURITIES FROM WASTE WATER THROUGH DECANTATION** Zârnoianu D., Popescu S., **Brăcăcescu C.**, pg.183-190
	IX. ANNALS OF THE UNIVERSITY OF CRAIOVA - AGRICULTURE, MONTANOLOGY, CADASTRE SERIES, vol. 45, no. 2 /2015 **ISSN 1841-8317, ISSN CD-ROM 2066-950X**

27.	**TECHNICAL ASPECTS ON DYNAMIC BEHAVIOR OF THE SEMITRAILERS WITH SUSPENSION HITCH** **Nedelcu A., Ciuperca R., Popa L., Zaica A., Lazar G., Ştefan V., Petcu A.**, pg.137-142
28.	**THEORETICAL ASPECTS OF THE AERATION DRYING PROCESS WITH APPLICATION IN THE HAY TECHNOLOGY** **Zaica A., Nedelcu A., Ciupercă R., Popa L., Păun A., Lazăr G., Ştefan V., Petcu A., Zaica Al**., pg. 259-267
29.	**CONSIDERATIONS ON OBTAINING VARIOUS TYPES OF PELLETS FROM DIFFERENT TYPES OF BIOMASS** **Găgeanu I.**, Voicu Gh., **Păun A., Bunduchi G., Vlăduţ V., Voicea I., Găgeanu P.,** Chiţoiu M., pg. 58-62
30.	**CONSIDERATIONS REGARDING THE GENERAL RULES OF PROPEREXPLOITATION OF TYRES FROM THE AGRICULTURAL EQUIPMENT** **Lazăr G., Ciupercă R., Păun A., Nedelcu A., Popa L., Ştefan V.,Petcu A., Zaica A.,** Boruz S., pg. 92 - 99
31.	**EXPERIMENTAL RESEARCH ON ENERGY AND OPERATING PARAMETERS OF THE TILLER M7.5 + REVERSIBLE PLOW PR1 AGGREGATE** **Ciupercă R.,** Florea N., **Bolintineanu Gh., Cujbescu D., Persu C., Lazăr G., Zaica A., Grigore I., Matache M.**, pg. 49-54
32.	**THEORETICAL RESEARCH REGARDING THE WORKING PROCESS OF THE FERTILIZERS MANAGING SYSTEMS BY CENTRIFUGATION** **Petcu A. S., Popa L., Stefan V., Ciuperca R., Nedelcu A.,** Gîrleanu I.-C., Avramescu A.-M., **Lazăr G., Zaica A.,** Veringa D., pg. 174 185
33.	**RESEARCH CONCERNING THE ACHIEVEMENT OF SOME APPLES SORTING EQUIPMENTS** **Popa L., Petcu A., Stefan V., Nedelcu A., Ciuperca R., Lazar G., Zaica Ana, Bracacescu C.,** Veringa D., Munteanu M., pg. 191-199
34.	**THE ANALYSIS OF HEAVY METALS CONTENT IN HERBAL WHOLE AND SLICED** **Pruteanu A.,** Hărmănescu M., **Vlăduţ V., Muscalu A., Marin E.**, pg. 199-201
35.	**TESTING OF PROTECTIVE STRUCTURES OF OPERATORS IN AN OVERTURNING INCIDENT** **Persu C., Matache M., Cujbescu D., Voicea I., Vlăduţ V.,** Dumitru I., Ungureanu N., Boruz S., **Mircea C.**, pg. 167-173
36.	**ASPECTS ON OPTIMIZING THE QUALITATIVE INDICES OF THE WORK OF SPRAYING FIELD CROPS** **Niţu (Roşu) M.,** Căsăndroiu T., **Matache M., Cujbescu D., Marin E., Vlăduţ V.,** Matei Gh., Boruz S., pg. 143 - 150
37.	**DETERMINING THE WEAR OF ACTIVE ORGANS FOR PROCESSING SOIL DEPENDING ON THE WORKING DEPTH** **Vlăduţoiu L.,** Andrei T., Fechete L., **Marin E., Vlăduţ V., Matache M.,** Dumitru I., pg. 253-258
38.	**RESEARCH ON THE DEVELOPMENT OF A CONSERVATIVE TECHNOLOGY, USING OPTIMIZED ACTIVE BODIES FOR SOIL TILLAGE** Vlăduţ I.D., David L**., Marin E.,** Biriş S.Şt., Voiculescu I., Maican E., **Vlăduţ V.,** Ungureanu N., **Vlăduţoiu L.,** Fechete L., Croitoru Şt., Boruz S., **Voicea I., Matache M.,** Bungescu S., pg. 247-252
39.	**CONSIDERATIONS REGARDING THE CONDITIONS OF USING TRACTOR-TRAILER COUPLING DEVICES** Mircea I.D., David L., **Vlăduţ V., Ciupercă R.**, Vlăduţ D.I., Duţu M., Duţu I., Dumitru I., Boruz S., pg. 247-252
40.	**INFLUENCE OF THE NUMBER OF PASSES OF AGRICULTURAL MACHINERY ON PENETRATION RESISTANCE AND THE DEGREE OF SOIL COMPACTION** Ungureanu N., **Vlăduţ V**., Voicu Gh., Biriş S.Şt., Vlăduţ D.I., **Perşu C., Cujbescu D**., pg. 226-234
41.	**THE INFLUENCE OF THE SPEED OF REVOLUTION OF A HAMMER MILL ON MISCANTHUS CHIPPINGS** Chiţoiu M., Voicu Gh., Paraschiv G., Moiceanu G., **Vlăduţ V., Matache M., Marin E., Bunduchi G., Danciu A., Găgeanu I.**, pg. 43-48
42.	**CONSIDERATIONS ON OBTAINING CAMELINA OIL BY COLD PRESSING** **Ganea-Christu I., Bunduchi G., Găgeanu G., Marin E., Găgeanu I.,** Matei Gh., **Vlăduţ V.**, pg. 67-70
43.	**CONCENTRATED COMPLEX NATURAL LIQUID FERTILIZER AND THE PROCESSES OF WASTEWATERS FOR MILK INDUSTRY** **Ganea-Christu I.,** Putinelu D., pg. 63-64
44.	**CONSIDERATIONS ON THE IMPORTANCE OF JERUSALEM ARTICHOKE CROP IN HUMAN AND ANIMAL FEED** **Mircea C., Păun A., Marin E., Sorică C., Perşu C., Cujbescu D., Brăcăcescu C., Pop F.**, pg. 124 127
45.	**INCREASING THE EFFICIENCY OF HEATING SYSTEMS BY USING HEAT PUMPS** **Pop F., Marian M., Mircea C., Ganea I.**, pg. 185-190
46.	**EXPERIMENTATION METHODOLOGY FOR SEEDS SEPARATION WITH PLAN SIEVE AND IN AIRFLOW** **Birsan M.,** Casandroiu T., **Păun A., Bunduchi G.**, pg.13-19
47.	**MODERN METHODS FOR FREEZING USED IN FOOD INDUSTRY** **Sorica C., Pirna I., Grigore I., Sorica E., Pruteanu A., Danciu A**., pg. 213-217

X. BULLETIN OF UNIVERSITY OF AGRICULTURAL SCIENCES AND VETERINARY MEDICINE CLUJ-NAPOCA. AGRICULTURE, VOL. 73 **ISSN e: 1843– 5246, p: 1843 – 5386**	
48.	**RHEOLOGICAL BEHAVIOR OF SOME LOCAL STARCH - BASED BIOPLASTICS** **Nagy E. M**., Todica M., **Cota C.,** Pop V. C., Olar L., **Cioica N.**
XI. SCIENTIFIC BULLETIN, series D, Vol. 77, Iss. 3, 2015, U.P. Bucharest **ISSN 1454-2358**	
49.	**MATHEMATICAL MODELS FOR EXPRESSING THE OIL EXTRACTION AT SCREW PRESSES** Ionescu M, Voicu G, Biris S, **Matache M**., Stefan M., pg. 249-260
50.	**RESEARCHES IN THE FIELD OF THE ENERGETICS OF THE MISCANTHUS PLANTER. (1) – DETERMINATION OF THE TRACTION FORCE** Poenaru I., **Cârdei P.**, Voicu Gh., Paraschiv G., Dinca M., **Vlăduţ V., Matache M.**, pg. 245-256
XII. SCIENTIFIC BULLETIN, series D, Vol. 77, Iss. 4, 2015, U.P. Bucharest **ISSN 1454-2358**	
51.	**ANALYSIS OF A CONVECTIVE DRYING PROCESS OF APPLES** Ingeaua M., Prisecaru T., **Pirna I., Sorică C.**
XIII.INOVATIVE TECHNOLOGY FOR MACHINERY CONSTRUCTION – New series Year 67 - No. 1/ 2015 **p: ISSN 2248 - 0420; ISSN-L 2248 – 0420; o: ISSN 2248 - 0420; ISSN-L 2248 – 0439**	
52.	**FINANCIAL ANALYSIS, FUNDAMENT OF PERFORMANCE MANAGEMENT OF AN INDUSTRIAL COMPANY** **Radu O.**, pg. 35-41
53.	**APPLYING INDUSTRIAL REENGINEERING MODELS TO ASSESS THE MANAGERIAL POTENTIAL OF A INDUSTRIAL COMPANY** **Radu O.**, pg. 42-48
XIV. TECHNOMARKET JOURNAL **no. 1 / 2015, Editura ArTech Bucharest, Romania** **ISSN 2360-4085**	
54.	**EQUIPMENT FOR SOIL CONSERVATIVE PROCESSING** **David A.**, **Marin E., Biriş S.,** Bungescu S., pg.8-9
55.	**MACHINERIES TO REGENERATE MEADOWS** **Marin E.**, **Manea D., Mateescu M., Gheorghe G,** Cherciu D., Mihailovici C., Cheptea C., Istrate B., pg.10-11
56.	**MAINTENANCE THROUGH HERBICIDE A SOWN ONION CROP ON SPRING IN FIELD BY SEED** **Marin E.**, **Manea D., Mateescu M., David A.,** pg.20-21
57.	**EQUIPMENT FOR ADMINISTATING CHEMICAL FERTILIZERS** **Petcu A.-S.**, Popa L.,Ştefan V., pg.24-25
58.	**TRAILERS WITH OUT LOADING AT HIGHT** **Ştefan V.**, **Popa L., Petcu A-S, Ciupercă R.**, pg.4-6
59.	**PREPARING THE SOIL AND SOWING IN SPRING THE CROP OF SEED ONION** **Marin E.**, **Manea D., Mateescu M., Gheorghe G.**, pg.14-16
60.	**TRAILED VINDROVERE FOR HARVESTING HAY AND FODDERS** **Petcu A.**, **Popa L., Marin E.,** Cherciu D., Mihailovici C., Cheptea C., Istrate B., pg.17-18
61.	**TECHNICAL EQUIPMENT FOR MAIZE SEED CALIBRATION** **Găgeanu P.,** Ivancu B., Zaica Al., Bunduchi G., pg. 2-3
62.	**AGRICULTURE - SOURCE OF POLLUTION** **Găgeanu G**., **Găgeanu I.,** pg. 28-29
63.	**TECHNICAL EQUIPMENT FOR HANDLING SILAGE FODDERS** **Nedelcu A.**, **Zaica A., Ştefan V.,** pg. 26-27
XV. TECHNOMARKET JOURNAL **no. 2 / 2015, Publishing ArTech Bucharest, Romania** **ISSN 2360-4085**	
64.	**TECHNOLOGY TO ESTABLISHMENT BULBS AND ROOT VEGETABLE CROPS IN**

	MODELETED FIELD **Mateescu M.**, **Vlăduţ V., Păun A., Marin E., Gheorghe G.**, pg.6-7
65.	**COMBINES HEADER OF CURRENT GRAIN HARVESTERS** **Ivan Gh.**, pg.12-13
66.	**STORAGE AND PRESERVATION OF CEREALS AND TECHNICAL PLANTS SEED WITHIN AGRICULTURAL FARMS** **Păun A.**, **Vişan A.-L., Ciobanu V., Bunduchi G.**, pg.16-17
67.	**DODDER REMOVING TECHNOLOGY OF GRAINS AND SEEDS** **Vişan A.-L.**, **Păun A., Ciobanu V.G.**, pg.21-23
68.	**MECHANICAL HARVESTING OF AROMATIC PLANTS** **Muscalu A., Pruteanu A.**, pg.10-11
69.	**MODERN TECHNOLOGIES USED FOR VEGETABLE CROPS THAT ARE IN PROTECTED AREAS** **Grigore I.**, **Sorică C., Danciu A., Vlădut V.**, pg. 18 – 20
70.	**EQUIPMENT FOR APPLE SORTING** **Popa L.**, **Lazăr G., Ştefan V., Petcu A.-S.**, pg.24-25
XVI. TECHNOMARKET JOURNAL **no. 3 / 2015, ArTech Publishing Bucharest, Romania** **ISSN 2360-4085**	
71.	**TECHNICAL EQUIPMENT FOR ESTABLISHING AND HARVESTING ENERGETIC WILLOW** **Găgeanu P., Bunduchi G., Milea D., Bogdanof G.**, pg. 34-35
72.	**STORAGE AND PRESERVATION OF CEREALS AND TECHNICAL PLANTS SEED WITHIN AGRICULTURAL FARMS** **Păun A., Ciobanu V., Bunduchi G., Milea D., Gheorghe G., Andrei S.G.**, pg. 36-37
73.	**INSTALLATION FOR OBTAINING VOLATILE OILS FROM MEDICINAL AND AROMATIC PLANTS** **Grigore I.**, **Sorică C., Vlădut V., Cujbescu D., Voicea I., Bolintineanu Gh., Danciu A.**, pg. 38-39

7.1.8. Scientific communications presented in international conferences: 92

Scientific communications presented in international conferences	2014	2015
Number	65	92

Annex 7

Den No.	Conference / article / authors
I. The 4th INTERNATIONAL CONFERENCE ON THERMAL EQUIPMENT, RENEWABLE ENERGY AND RURAL DEVELOPMENT, TE-RE-RD **4-6 June, Posada Vidraru, Romania** **ISSN 2457 – 3302, ISSN-L 2457 – 3302**	
1.	**CONSIDERATIONS ON PHYSICAL AND MECHANICAL PROPERTIES OF SOLID ORGANIC FERTILIZERS** **Ştefan V.**, **Popa L., David L., Pirnă I., Ciupercă R., Petcu A.**, Duţu M. F., **Găgeanu I.**, pg. 369-374
2.	**THEORETICAL CONSIDERATIONS ON THE INFLUENCE OF THE INCLINATION ANGLE OF THE KNIFE OVER THE POWER OF AN EQUIPMENT FOR CHOPPING FODDER** **Lazăr G.**, **Ciupercă R., Vlăduţ V.**, Voicu E., **Zaica A.**, pg. 281-286
3.	**THEORETICAL ASPECTS REGARDING THE PROCESS OF DRYING THE FODDER PLANTS** **Zaica A.**, Căsăndroiu T., **Nedelcu A., Ciupercă R., Pirnă I., Lazăr G., Ştefan V.**, pg. 411-416
4.	**MACHINE FOR REGENERATE DEGRADED GRASSLAND IN THE CONTEXT OF THE ECOLOGICAL REQUIREMENTS** Cherciu D., **Marin E.**, Mateescu M., Cheptea C., Manea D., David A., pg.187-192
5.	**METHODS FOR APPLYING THE COMPOSITE MATERIALS / NANOTECHNOLOGIES TO ACTIVE PARTS OF TECHNICAL EQUIPMENTS FOR SOIL PROCESSING** **David Al.**, **Gheorghe G., Marin E., Manea D., Vlăduţ V.**, Dutu I., pg.211-216

6.	**MACHINE FOR REGENERATE DEGRADED GRASSLAND IN THE CONTEXT OF THE ECOLOGICAL REQUIREMENTS** **Marin E.**, Cherciu D., **Mateescu M.,** Cheptea C., **Manea D., David Al.**, pg. 293-298
7.	**INNOVATIVE TECHNOLOGY FOR ESTABLISHMENT OF ONION CULTURE IN SUSTAINABLE SYSTEM** **Mateescu M.**, **Păun A., Marin E.,** Gheorghe G., pg. 299-302
8.	**CONSIDERATIONS ON WORKING PROCESS EQUIPMENT FOR SPREADING FERTILIZER BY CENTRIFUGATION** **Petcu A.**, **Popa L., Ciupercă R., Păun A., Ştefan V.,** Dutu M., pg.331-334
9.	**STUDY ON BIOCHEMICAL CHARACTERIZATION OF PLANT EXTRACTS IN ORDER TO VALORIZE THEM** **Pruteanu A.,** Ferdes M., David L., **Muscalu A., Gageanu G.**, pg. 335-340
10.	**EXPERIMENTAL RESEARCH ON THE QUALITY OF THE MECHANIZED HARVESTING PROCESS OF CHAMOMILE INFLORESCENCES** **Muscalu A.,** David L., **Pruteanu A.**, pg. 307-312
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Den. no.	Project Research contract / Commercial contract Beneficiary	Outcome	Reporting/delivery deadline (month)
1.	Sustainable use and protection of natural resources and environment and promotion of efficient risk management in cross-border region. *Network and web platform to improve the public awareness on environmental management and protection in the cross-border area Giurgiu-RUSE and adjacent cross-border area* Contract no. 38543/28.05.2014-2(4i)-2.1-6, MIS-ETC Code 594 CD: 618/ 2014 - 2015 Beneficiary: Ministry of Regional Development and Public Administration (the Romania-Bulgaria Cross-Border Cooperation Programme: 2007-2013)	*Prospective study on the assessment of training needs to improve public awareness regarding the management and protection of the environment protection in the cross-border area Giurgiu-RUSE and adjacent cross-border area*	June 2015
2.	Determining process fodder effects on ruminal environment and ruminants productive performance Funding contract no. 6.2.2 / 2015 Contracting authority: Ministry of Agriculture and Rural Development Internal order: 647 / 2015 – 2018 Beneficiary: NATIONAL RESEARCH-DEVELOPMENT INSTITUTE FOR ANIMAL BIOLOGY AND NUTRITION – INCDBNA-IBNA Collaboration agreement no. 5051/30.07.2015	*Prospective study on the technologies from which by-products with capitalization potential as fodder are obtained*	December 2015
3.	Research on improving the physical and mechanical properties and biodegradable materials structure for packaging from local raw materials (PN-II-ID-PCE-2011-3-0795) Research contract no. 284/ 20.10.2011 Contracting authority: UEFISCDI – PROGRAMME - IDEAS Internal order: 563 / 2011 – 2016 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Collaboration protocol no. 1556 / 12.11.2007	Technological study: *Technological study on the influence of the components' nature and proportion on the packaging characteristics*	December 2015
4.	New products, biodegradable, for agriculture, from renewable resources Research contract no.15 N/27.02.2009 / Addendum. no.1/2015 Contracting authority: M.E.C.S. Internal order: 635 / 2015 – 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES - ASAS Collaboration protocol no. 1552 / 08.11.2007	*Technological study on the production and characterization of biodegradable foils*	March 2015
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6.	Research on making a pneutronic equipment for alveolar sowing of small and very small seeds Research contract no.: 15 N/ 27.02.2009 / Addendum no.2/2015 Internal order: 643 / 2015 – 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES - ASAS Collaboration protocol no. 1552 / 08.11.2007	*Technological study on the equipment for alveolar sowing of small and very small seeds*	August 2015

Den. no.	Project Research contract / Commercial contract Beneficiary	Outcome	Reporting/delivery deadline (month)
7.	Research on establishing the influence of applying new conservative systems and technologies for mechanized agricultural works to combat the effects of drought, to preserve soil fertility and to increase the production quantity and quality at the main species of cultivated plants Research contract no. 16.3.1 / 2015 Contracting authority: Ministry of Agriculture and Rural Development Internal order: 648 / 2015 – 2018 Beneficiary: Agricultural Research and Development Station of Braila Collaboration agreement no. 792/24.06.2015	*Technological study on pedoclimatic, hydrographic, hydrogeological characterization and the vegetation in the areas affected by drought*	December 2015
8.	Specific standard cost calculations for different types of agricultural farms and profiles in the context of accessing NRDP 2014-2020 aid Funding contract no. 13.1.3 / 2015 Contracting authority: Ministry of Agriculture and Rural Development Internal order: 656 / 2015 – 2018 Beneficiary: Research Institute for Agriculture Economy and Rural Development – ICEADR Collaboration agreement no. 417/13.10.2015	*Technological study on mechanized and manual works for different vegetable cultures in the plain, hill and mountain areas*	November 2015
9.	Increasing fruit growing technical and economic competitiveness through technologies adapted to Romania's pedoclimatic conditions in order to implement Fruit growing thematic sub-program in the period 2015-2020 Contracting authority: Ministry of Agriculture and Rural Development Internal order: 658 / 2015 – 2018 Beneficiary: Research Institute for Fruit Growing Pitesti Collaboration agreement no. 1393/13.10.2015	*Technological study on orchards establishment in Romania*	December 2015

7.1.9.2. NORMS 3

Den. no.	Project Research contract/ Commercial contract Beneficiary	Result	Reporting deadline/delivery (month)
1.	List of standards, costs, terms of execution. Research contract no. 75/ 30.07.2015 Contracting authority: MECMA Internal order: 646/ 2015 – 2015 Beneficiary: ASRO	Norm: *EN 690: 2013 Agricultural machinery. Manure spreaders. Safety*	August 2015
2	List of standards, costs, terms of execution Research contract no. 75/ 30.07.2015 Contracting authority: MECMA Internal order: 646/ 2015 – 2015 Beneficiary: ASRO	Norm: *EN ISO 11680-1: 2011 machinery for forestry - Safety requirements and testing for pole-mounted powered pruners - Part 1: Machines fitted with an integral combustion engine*	November 2015
3	List of standards, costs, terms of execution Research contract no. 75/ 30.07.2015 Contracting authority: MECMA Internal order: 646/ 2015 – 2015 Beneficiary: ASRO	Norm: *EN ISO 4254 - 1: 2013 agricultural machinery - Safety - Part 1: General requirements*	November 2015

7.1.9.3. PROCEDURES 4

Den. no.	Project Research contract/ Commercial contract Beneficiary	Result	Reporting deadline/delivery (month)
1.	Innovative technology and technical equipment for establishing bulb and root vegetable cultures in field shaped with minimal tillage Research contract no. 15 N/27.02.2009 / Addendum.no. 2/2015 Contracting authority: M.E.C.S. Internal order: 634 / 2015 - 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	*Testing procedure for innovative technology for shaping and sowing bulb and root vegetables cultures*	June 2015
2	Innovative technology and technical equipment for establishing bulb and root vegetable cultures in field shaped with minimal tillage Research contract no. 15 N/ 27.02.2009 / Addendum. no. 2/2015 Contracting authority M.E.C.S. Internal order: 634 / 2015 – 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	*Testing procedure for technical equipment for sowing bulb and root vegetables in the same time with soil preparation and shaping*	June 2015
3.	Innovative technology for establishing in the field the onion culture from seeds Research contract (PVR) no. 80/21.01.2014 Internal order: 629 / 2014 - 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES - ASAS Protocol no. 1552 / 08.11.2007	*Testing procedure under laboratory conditions of the seeder experimental model for sowing onion from seeds*	July 2015
4.	Innovative technology for establishing in the field the onion culture from seeds Research contract (PVR) no. 80/21.01.2014 Internal order: 629 / 2014 - 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES - ASAS Protocol no. 1552 / 08.11.2007	*Testing procedure under operational conditions innovative technology*	July 2015

7.1.9.4. METHODOLOGIES 11

Den. no.	Project Research contract/ Commercial contract Beneficiary	Result	Reporting deadline/delivery (month)
1.	Extensive research on the use of farm equipment tires using new automated and computerized verification methods Research contract no 15 N / 27.02.2009 / Addendum no. 1/2015 Contracting authority M.E.C.S. Internal order: 597 / 2015 – 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES - ASAS Collaboration protocol no. 1552 / 08.11.2007	*Testing method for tires test stand - STP*	October 2015
2.	Developing a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no. 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	*Experimental methodology for incubation station for extra season reproduction of sturgeons bred in recirculated water systems*	December 2015

3.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no. 182/2014 Contracting autority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement no 779/01.07.2014	*Experimental methodology to verify the technological installations operating parameters for the pre-development hall for reproduction in extra season of sturgeons bred in recirculated water systems*	December 2015
4.	Innovative technology for establishing in the field an onion culture from seeds Research contract (PVR) no 80/21.01.2014 Internal order: 629/ 2014 – 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES - ASAS Protocol no. 1552 / 08.11.2007	*Method demonstrating the functionality and utility of innovative technology and seeder functional model for sowing onion from seeds SL 45*	July 2015
5.	Innovative technology and technical equipment for the establishment of root and bulb vegetable crops in field shaped with minimal tillage Research contract no. 15 N / 27.02.2009 / Addendum no.1/2015 Contracting autority: M.E.C.S. Internal order: 634 / 2015 – 2015 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES - ASAS Protocol of colaboration no. 1552 / 08.11.2007 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	*Method demonstrating the functionality and utility of the innovative technology and of the technical equipment design to sow bulb and root vegetable crops concomitantly with preparing and shaping the soil*	June 2015
6.	New products, biodegradable, for agriculture, from renewable resources Research contract no. 15 N / 27.02.2009 / Addendum no.1/2015 Contracting autority: M.E.C.S. Internal order: 635 / 2015 – 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES - ASAS Collaboration protocol no 1552 / 08.11.2007	*Methodology for demonstrating and presenting the manufacturing and control technology of biodegradable foils*	May 2015
7.	Research on the development of an intelligent system for agricultural culture maintenance works according to the concept of precision agriculture Research contract no. 15 N / 27.02.2009 / Addendum no.1/2015 Contracting autority: M.E.C.S. Internal order: 636 / 2015 - 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007 Beneficiary: ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES - ASAS Collaboration protocol no 1552 / 08.11.2007	*Methodology for ME experimentation of multifunctional technical equipment for mechanical maintenance on row and between plants of agricultural cultures and of the intelligent control system*	November 2015
8.	Testing and experimentation in the field services (in field conditions) and in simulated and accelerated regime in the laboratory of an experimental model and a vibrocombiner prototype Contract no. 232/17.04.2015 Internal order: 639 / 2015 - 2015 Beneficiary: Association (Cluster Management Entity) SVILUPPO / Insieme and Vince	*Methodology for testing and experimentation in the field (in field conditions) and in simulated and accelerated regime in the laboratory of an experimental model and a vibrocombiner prototype*	November 2015
9.	Research on a pneutronic equipment for alveolar sowing of small and very small seeds Research contract no. 15 N / 27.02.2009 / Addendum no.2/2015 Internal order: 643 / 2015 – 2015 Beneficiary MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1552 / 08.11.2007	*Experimental method for pneutronic equipment for alveolar sowing of small and very small seeds*	November 2015

10.	Research on determining resistance: static resistance test for special parts - 3 samples code: ACV - 051 - 055, according to CS no. 141 / 1990, Chap. 6.15.; Fatigue tests for special parts - 7 samples. ACV-051-055, according to CS no.141 / 1990, Chap.6.17 Contract no. 744/19.06.2015 Internal order: 644 / 2015 – 2015 Beneficiary: SC AVIOANE Craiova SA	*Methodology of testing and experimenting in accelerated regime in laboratory special screws used in airplanes construction*	September 2015
11.	Specific standard cost calculations for different types of agricultural exploitations and profiles in the context of accessing support NRDP 2014-2020 Contract funding No 13.1.3 / 2015 Contracting authority: Ministry of Agriculture and Rural Development Internal order: 656 / 2015 – 2018 Beneficiary: RESEARCH INSTITUTE FOR AGRICULTURE ECONOMY AND RURAL DEVELOPMENT – ICEADR Collaboration agreement no 417/13.10.2015	*Methodology for calculation of production norms and consumption on energy categories for different vegetable cultures in the plain, hill and mountain regions*	November 2015

7.1.9.5. TECHNICAL PLANS 26

Den. No.	Project Research contract/ Commercial contract Beneficiary	Result	Reporting deadline/delivery (month)
1.	Thorough research on the use of farm equipment tires using new automated and computerized methods for verification Research contract no. 15 N / 27.02.2009 / Addendum. No. 2/2015 Contracting authority: M.E.C.S. Internal order: 597 / 2015 - 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for: *Tire test stand - STP*	August 2015
2.	Innovative multifunctional self-propelled equipment endowed with working system designed to small farm works Contract no. 20DPST/20.08.2013 Internal order: 599 / 2013 - 2015 Beneficiary: SC RURIS IMPEX SRL Collaboration agreement no.1186 / 13.08.2013	Technical plan for: *Motocultor M 7.5*	August 2015
3.	Innovative multifunctional self-propelled equipment endowed with working system designed to small farm works Contract no. 20DPST/20.08.2013 Internal order: 599 / 2013 - 2015 Beneficiary: SC RURIS IMPEX SRL Collaboration agreement no.1186 / 13.08.2013	Technical plan for: *Reversible plough PR 1*	August 2015
4.	Conservative technology of soil processing Research contract no. 181 / 2014 Contracting authority:: UEFISCDI (-UPB PARTNERSHIP) Internal order: 620 / 2014 - 2016 Beneficiary: SC MASCHIO GASPARDO ROMANIA SRL Collaboration agreement: 11554/08.07.2014	Technical plan for: *Working part M76400220RO*	July 2015
5.	Innovative technology and technical equipment for establishing bulb and root vegetable cultures in field shaped with minimal tillage Research contract no. 15 N / 27.02.2009 / Addendum no.1/2015 Contracting authority: M.E.C.S. Internal order: 634 / 2015 - 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for: *Technical equipment designed to sow bulb and root vegetables concomitantly with preparing and shaping the soil - ESM*	February2015
6.	Research on the development of an intelligent system for agricultural culture maintenance works according to the concept of precision agriculture Research contract no 15 N / 27.02.2009 / Addendum no.1/2015 Contracting authority: M.E.C.S. Internal order: 636 / 2015 - 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for: *Intelligent howing equipment*	April 2015

7.	Innovative technology for mulching works mechanization in field agricultural cultures Research contract no 15 N / 27.02.2009 / Addendum no.3/2015 Contracting authority: M.E.C.S. Internal order: 642 / 2015 - 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for: *Equipment for cutting, crushing vegetable remains for mulching*	December 2015
8.	Research on manufacturing a pneutronic equipment for alveolar sowing of small and very small seeds Research contract no. 15 N / 27.02.2009 / Addendum no.2/2015 Contracting authority: M.E.C.S. Internal order: 643 / 2015 - 2015 Beneficiary: MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR Protocol no. 1556 / 12.11.2007	Technical plan for: *Pneutronic equipment for alveolar sowing of small and very small seeds*	August 2015
9.	Elaboration of an integrated system for producing seed and planting material, organic certified, for field cultures: cereals, legumes for grains, oilseeds, fodder and industrial plants, aromatic and medicinal plants Research contract 1.2.2 / 29.09.2015 Internal order: 654/ 2015 - 2018 Beneficiary: INCDA Fundulea Collaboration agreement no. 122.4/29.09.2015	Technical plan for: *Seed conditioning installation ICS-0*	December 2015
10.	Elaboration of an integrated system for producing seed and planting material, organic certified, for field cultures: cereals, legumes for grains, oilseeds, fodder and industrial plants, aromatic and medicinal plants Research contract 1.2.2 / 29.09.2015 Internal order: 654/ 2015 - 2018 Beneficiary: INCDA Fundulea Collaboration agreement no. 122.4/29.09.2015	Technical plan for: *Seed precleaning way MPS-0*	December 2015
11.	Elaboration of an integrated system for producing seed and planting material, organic certified, for field cultures: cereals, legumes for grains, oilseeds, fodder and industrial plants, aromatic and medicinal plants Research contract no 1.2.2 / 29.09.2015 Internal order: 654 / 2015 - 2018 Beneficiary: INCDA Fundulea Collaboration agreement no. 122.4/29.09.2015	Technical plan for: *Cylindrical sieve SC-0*	December 2015
12.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no. 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Biological filter for incubation station BFB-0*	December 2015
13.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no. 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Aeration installation for pre-development hall IA-0*	December 2015
14.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Installation for supplying fresh water and spraying for pre-development hall IAP-0*	December 2015

15.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no. 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Installation for distribution of reconditioned water for the pre-development hall IDA-0*	December 2015
16.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Installation for recirculating and treating water for the pre-development hall IRT-0*	December 2015
17.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Module for growing juvenile fish MCP-0*	December 2015
18.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Fish breeding installation ICP-0*	December 2015
19.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Installation for water photothermal treatment ITF-0*	December 2015
20.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Installation for UV treatment and water cooling IUVR-0*	December 2015
21.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Juvenile fish pre-development module ICP-4.0*	December 2015
22.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Installation for water evacuation from basins for the pre-development hall IEB-0*	December 2015
23.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Incubation station IICE-0*	December 2015

24.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Incubator (nursery) IICE-1.0*	December 2015
25.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Installation for wastewater evacuation IEA -0*	December 2015
26.	Developping a technology for extra season reproduction of sturgeons bred in recirculated water systems – TESAR Research contract no 182/2014 Contracting authority: UEFISCDI (PARTNERSHIPS PROGRAMME) Internal order: 621/ 2014 - 2017 Beneficiary: SC GROUP MET- CAR SRL Collaboration agreement: 779/01.07.2014	Technical plan for: *Installation for placing reproductive fish MPR-0*	December 2015

7.1.10. Copyright protected by ORDA (Romanian Copyright Office) or other similar legal systems:

7.2. Research-development results capitalized and their effects

RESULT	Contract name	Beneficiary	Patent / Patent application	Effects obtained
Tests report	Research on determining resistance: static resistance test for special parts - 3 samples code: ACV - 051 - 055, according to CS no. 141 / 1990, Chap. 6.15.; Fatigue tests for special parts - 7 samples. ACV-051-055, according to CS no.141 / 1990, Chap.6.17	SC AVIOANE Craiova SA	-	- verification of special parts resistance against static stress - increase of INMA revenues
Tests report	Research on comparative evaluation of fuel consumption on diesel thermal engine in normal regime compared to operating regime with economiser mounted in unique position	SC IRON & STEEL SRL	-	- comparative evaluation of fuel consumption on diesel thermal engine; - increase of INMA revenues
Service	Testing and experimentation in the field services (in field conditions) and in simulated and accelerated regime in the laboratory of an experimental model and a vibrocombiner prototype	AssociationSVIL UPPO insieme and Vince	-	-verification of performance in laboratory and field condition of a vibrocombiner; - increase of INMA revenues
Service	Business support services for innovation and technology transfer in the field of technology and technical equipment for agriculture and food industry, agricultural farms and related fields	SC INNO CONSULT SRL	-	- creating conditions for increasing the innovation capacity of the incubated firm; - creating partnerships and submitting bids in the national and European RDI programs; - increase of INMA revenues
Service	Business support services for innovation and technology transfer in the field of technology and technical equipment for agriculture and food industry, agricultural farms and related fields	ROMANIA ASSOCIATION CLUSTERS - CLUSTERO	-	- creating partnerships between members of the incubated association and INMA under sectoral operational programs; - creating partnerships in order to organize scientific manifestations; - increase of INMA revenues
Service	Business support services for innovation and technology transfer in the field of technology and technical equipment for agriculture and food industry, agricultural farms and related fields	SC VALTEC TRACTORS SRL	-	- creating conditions for increasing the innovation capacity of the incubated firm; - creating partnerships and submitting bids under the national RDI programs and sectoral operational programs; - increase of INMA revenues

7.3. Capitalization opportunities of research results

- National Program for Rural Development 2014-2020;
- Romania National Strategy for Sustainable Development - Horizons 2013-2020-2030;
- MARD Programme for reconversion and replanting in fruit growing 2014-2020;
- National Programme for establishing forest belts to protect 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 belts (Law No.289 / 15.05.2002 on protection forestry belts);
- Horizon 2020 – Reindustrialization of EU member states' sectors with significant added value;
- Drawing up the innovation proposals, specific to measure 16.1 "Support for establishing and functioning of operational groups (GO)", Rural Development Plan 2014-2020.

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

- 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 SMEs corresponding to INMA activity field;
- Connecting INMA marketing department and INMA-ITA incubator to ENTREPRISE EUROPE NETWORK;
- Intensifying the participation in brokerage and/or licensing events;
- Increasing the number of partnerships with farmers and agricultural associations in order to directly transfer the innovation offers, focused on mechanizing technologies.

8. MEASURES FOR INCREASING INMA PRESTIGE AND VISIBILITY

8.1. Presentation of collaboration activity through partnerships:

- **developing national 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 – Romanian Standards Association;
  - RENAR – Romanian Accreditation Association;
  - RAR – Romanian Automotive Register;
  - CNCPIR – Romanian National Chamber of Intellectual Property Counsellors;
  - ASAS – Academy of Agricultural and Forestry Sciences "Gheorghe Ionescu-Sisesti";
  - SIR – Romanian Society of Inventors;
  - BIOCARO – Romanian Biofuels Technology Platform;
  - ARoTT – Romanian Association for Technology Transfer and Innovation;
  - ROCASCO – Committee on Conformity Assessment;
  - CT 77 – Technical Committee – Agricultural Machines and 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 Research 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
    - MANUFACTURERS PATRONAGE OF TRACTORS AND AGRICULTURAL MACHINERY FROM ROMANIA - PACTMAR
    - Romanian Association of Producers and Importers of Agricultural Machinery – APIMAR;
    - Romanian Agricultural Mechanical Engineering Society – 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;
- TRANSILVANIA University of BRASOV;
- HYDRAULICS AND PNEUMATICS RESEARCH INSTITUTE INOE IHP;
- The National Institute for Research and Development in Electrical Engineering ICPE-CA;
- The Institute of Biological Sciences – INSB;
- The Electrotechnical Research Institute – ICPE SA;
- The National Institute for Research and Development in Environment Protection;
- The National Institute of Research and Development for Mechatronics and Measurement Technique;
- The National Research & Development Institute for Textiles and Leather – INCDTP;
- University of Craiova – Faculty of Mechanical Engineering;
- University Politehnica of Bucharest – UPB;
- SC IPA SA CIFATT Craiova;
- University of Agricultural Sciences and Veterinary medicine of Iasi - USAMV;
- The Mechanical Engineering and Research Institute - SC ICTCM SA;
- Romanian Institute for Economic-Social Research and Polls – IRECSON;
- Regional Development Agency (RDA) - South East Region
- Regional Development Agency (RDA) - North East Region;
- 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 for Technology Transfer and Innovation;
- SC Inno Consult SRL;
- Chamber of Commerce, Industry and Agriculture Brasov;

- **registering INMA within international data bases which promote partnerships:**
  - ELSEVIER / SciVerse SCOPUS;
  - ULRICHS Web Global Serials Directory;
  - CABI;
  - SCIPIO;
  - INDEX COPERNICUS INTERNATIONAL;
  - PROSME ENTERPRISE EUROPE NETWORK;
  - PROQUEST;
  - Elektronische Zeitschriftenbibliothek;
  - CiteFactor.

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

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

- **scientific personalities who visited INMA:**
  - NICOLESCU Mihai, Prof. Ph.D. – vice-president of Academy of Agricultural and Forestry Sciences "Gheorghe Ionescu Şişeşti" – ASAS, Romania;
  - Dr. Akuma Saningong - EurA Consult AG - Niederlassung Nord, Germany
  - Pierpaolo Cugurra – Athena CEO, Italy
  - Sergio Garau – Garau, AICOF President;
  - AnnausaGiachi, PROMO OA;
  - PIETRO Marcellino, AT&T Costruzioni Generali – Geom. Italy;
  - Valeria Fadda – ESCO SARDEGNA, Italy
  - Marco Cossu, AICOS SRL - Enrico Pani e Luigi Fantola, Italy;
  - Elia Orrù, ACANTHUS, Italy;
  - Vittorio Addis, Spiva SRL Italy;
  - Roberto Masaua Logica Informatica Srl,
  - Elia Orru. ACANTHUS, Italy;
  - Vittoris Addis, SIVA SRL, Italy;
  - Valeria Fadda, ESCO SARDEGNA, Italy;
  - Giampolo Mutzumartis, GEOBEN, Italy;
  - ENRICO Pani, AICOS SRL, Italy;
  - Lungu Daniel - Country Manager South-Eastern Europe, CABI;
  - Assoc. Prof. PhD. Eng. Atanasov Zdravkov Atanas - Director Department of Agricultural Machinery, Faculty of Agriculture Mechanization, University of Ruse.

- **invited lectures, courses and seminars held by scientific personalities invited:**
  Business. Clusters. Innovation
  - "Training for new members of Enterprise Europe Network" organized by the European Commission in the period 21-22.04.2015 in Timisoara, Romania;
  - "Training in best practices regarding French clusters' strategy with theoretical points and practical examples" organized by France Clusters in the period 18-21.05.2015 in Lyon, France;
  - Training "Introduction to the IMP³rove Approach" organized by IMP³rove - European Innovation Management Academy EWIV - Dusseldorf, Germany in the period 27-28.04.2015 in Bucharest, Romania;
  - "Workshop on the future of cluster-development and emerging industries" organized by VDI/VDE on 25.01.2015 in Berlin, Germany;
  - "CEI-JRC European Workshop on Advaced Biofuels, Biorefinery and Bio-Economy: A Challenge for Central and East European Countries" organized by Faculty of Natural Sciences, University of SS. Cyril and Methodius in Trnava in cooperation with ICARST-Bratislava, co-sponsored by CE and JRC in the period 25-27.02.2015, in Bratislava, Slovakia;
  - Workshop organized by consortium leader (EurA Consult AG - Niederlassung Nord, Germany) afferent to the project offer "Integrated Use of Carbon Biorefinery Conversion Technologies for Energy and Fertilisers and Other Applications from Biological Resources (Waste, Co- & By-Products)" within Horizon 2020 Programme, call: WASTE-7-2015: Ensuring Sustainable Use of Agricultural Waste, Co-Products and By-Products (INMA - partner), in the period 03.02.2015-06.02.2015, in Weibern, Austria;

- Workshop organized by consortium leader ((EurA Consult AG - Niederlassung Nord, Germania) afferent to the project offer "Integrated Use of Carbon Biorefinery Conversion Technologies for Energy and Fertilisers and Other Applications from Biological Resources (Waste, Co- & By-Products)" within Horizon 2020 Programme, call:WASTE-7-2015: Ensuring Sustainable Use of Agricultural Waste, Co-Products and By-Products (INMA - partner), in the period 24.03.2015-26.03.2015, in Plovdiv-Bulgaria;
- "Cluster Matchmaking Event on agri-food manufacturing value-chaining EUROMED countries", organized by the European Commission in the period 6-7.05.2015 in Milano, Italy;
- "Romania-Bulgaria company mission on environmental technologies for agro-industry", organized on 25.11.2015 in Ruse, Bulgaria;
- "Italy-Romania b2b event" organized in the period 19-20.11.2015 in Bucharest, Romania;
- "Romania-Bulgaria-Spain-Turkey-Taiwan-New Zeeland company mission on agro-industry", organized on 30.10.2015 in Bucharest, Romania;
- "Italy-Romania b2b company mission" organized in the period 22-23.06.2015 in Bucharest, Romania;
- "Romania-France fact finding event" organized on 20.05.2015 in Lyon, France;
- "Days of clusters brokerage event", organized in the period 22-23.10.2015 in Brasov, Romania;
- Thematic group organized by TDP Partners on 8.07.2015, in Slobozia, within the project "Study on Strategy for Smart Specialization in Muntenia South Region";
- Working Group for project analysis PN III 2015-2020, organized by CCDI – Advisory Board for Research - Development - Innovation;
- Working Group for setting the methodology to establish the Expert Evaluators Register on fulfilling the conditions for granting tax incentives to the taxable profit, organized by CCCDI – Advisory Board for Research - Development - Innovation
- Joining, on 3.02.2015, "Biomastec Danube Network" coordinated by EurA Consult AG - Niederlassung Nord - Hamburg, Germany.

<table>
<tr><td colspan="2">c) seminars, conferences</td></tr>
<tr><td colspan="2"><u>SEMINARS</u></td></tr>
<tr><td colspan="2">♦ In the country: 1</td></tr>
<tr><td rowspan="3">SEMINAR no. 1 within the project "NETWORK AND WEB PLATFORM TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION IN THE CROSS-BORDER AREA GIURGIU-RUSE AND ADJACENT CROSS-BORDER AREA" - AEMPROBG Code MIS-ETC 594, Romania-Bulgaria Cross Border Cooperation Programme 2007-2013, 06.04.2015, Giurgiu Theological Seminary</td><td>Muraru Vergil, Nedelcu Daniela, Muraru – Ionel Cornelia, Cardei Petru, Sfiru Raluca - Database on environmental legislation</td></tr>
<tr><td>Cârdei Petru - Environmental philosophy - Environment and Theology. Awareness and spirit</td></tr>
<tr><td>Mateescu Marinela - Agricultural mechanization technologies with reduced environmental impact</td></tr>
<tr><td rowspan="2">SEMINAR no. 2 within the project "NETWORK AND WEB PLATFORM TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION IN THE CROSS-BORDER AREA GIURGIU-RUSE AND ADJACENT CROSS-BORDER AREA" - AEMPROBG Code MIS-ETC 594, Romania-Bulgaria Cross Border Cooperation Programme 2007-2013, 07.04.2015, Cross-Border Business Centre "Danubius" Giurgiu</td><td>Muraru Vergil, Nedelcu Daniela, Muraru – Ionel Cornelia, Cardei Petru, Sfiru Raluca - Database on environmental legislation</td></tr>
<tr><td>Cardei Petru, Muraru Vergil, Muraru – Ionel Cornelia – Awareness of mathematical modeling value in environmental science</td></tr>
</table>

♦ **Abroad: 2**	
SEMINAR within the project ***"NETWORK AND WEB PLATFORM TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION IN THE CROSS-BORDER AREA GIURGIU-RUSE AND ADJACENT CROSS-BORDER AREA"*** - AEMPROG Code MIS-ETC 594, Romania-Bulgaria Cross Border Cooperation Programme 2007-2013, 24.03.2015, RUSE University, Bulgaria	Muraru Vergil, Muraru – Ionel Cornelia, Cardei Petru, Sfiru Raluca - *Protection of areas in which they practice beekeeping in the border area Giurgiu – Ruse*
	Cardei Petru, Muraru Vergil, Muraru – Ionel Cornelia**,** Sfiru Raluca - *Estimating soil erosion rain for environmental awareness*
SEMINAR *within the project* ***"NETWORK AND WEB PLATFORM TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION IN THE CROSS BORDER AREA GIURGIU - RUSE AND ADJACENT CROSS BORDER AREAS"*** - AEMPROG MIS-ETC code: 594, Romania-Bulgaria Cross Border Cooperation Programme 2007-2013, 28.10.2015, Ruse - Bulgaria	Muscalu A. - *Testing of machinery in accelerated regime and environment protection*
	Muraru Vergil, Atanasov Atanas - *Presentation of the project website and interpretations for the impending competition in the different levels of training*
	Marinela Mateescu **-** *Environment protection by using soil minimum tillage mechanization technologies*
CONFERENCES	
CONFERENCE ***"IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION IN THE CROSS BORDER AREA GIURGIU - RUSE"*** within the project ***"NETWORK AND WEB PLATFORM TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION IN THE CROSS-BORDER AREA GIURGIU-RUSE AND ADJACENT CROSS-BORDER AREA" -*** AEMPROBG Code MIS-ETC 594, Romania-Bulgaria Cross Border Cooperation Programme 2007-2013, 18.05.2015, Nicolae Balanescu Athenaeum, 21 Portului Street, Giurgiu	Muraru V., Muraru – Ionel C., Cardei P., Nedelcu D., Sfiru R. - *Making legislative databases - Support for improving public awareness regarding environmental management and protection*
	Cârdei P., Muraru V., Muraru – Ionel C., Sfiru R., Ticu T. - *Education and ecology*
CONFERENCE to close the project ***"AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION"*** within the project ***"NETWORK AND WEB PLATFORM TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION IN THE CROSS BORDER AREA GIURGIU - RUSE AND ADJACENT CROSS BORDER AREAS" -*** AEMPROBG Code MIS-ETC 594, Romania-Bulgaria Cross Border Cooperation Programme 2007-2013, 04.12.2015, Cultural Centre "Ion Vinea", 2 Hristo Botev street, Giurgiu	Muraru V., Muraru – Ionel C., Cardei P., Sfiru R., Ciobanu V., Tania T. - *Project results - Network and web platform to improve the public awareness on environmental management and protection in the cross border area Giurgiu - RUSE and adjacent cross border area*
	Cârdei P., Muraru V., Muraru – Ionel C., Sfiru R. - *Environmental awareness in Giurgiu-Ruse cross-border area in terms of environmental tests*
	Ciobanu V., Paun A., Muraru V., Pruteanu A. - *Awareness regarding the necessity of integrated control of parasitic weeds in agricultural crops.*
CONFERENCE within the project ***"NETWORK AND WEB PLATFORM TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION IN THE CROSS BORDER AREA GIURGIU - RUSE AND ADJACENT CROSS BORDER AREAS"*** - AEMPROG MIS-ETC code: 594, Romania-Bulgaria Cross Border Cooperation Programme 2007-2013, 28.04.2015 Ruse, Bulgaria	Muscalu A. - *Animal manure management and environment protection*
	Vergil Muraru Cornelia Muraru – Ionel, Petru Cardei, Nedelcu Daniela, Sfiru Raluca - *Legislation databases achievement as support to improve the public awareness on environmental management and protection*

CONFERENCE within the project ***"NETWORK AND WEB PLATFORM TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION IN THE CROSS BORDER AREA GIURGIU – RUSE AND ADJACENT CROSS BORDER AREAS"*** - AEMPROBG MIS-ETC CODE: 594", Romania-Bulgaria Cross Border Cooperation Programme 2007-2013, 23.09.2015, Ruse, University of Ruse	Pruteanu A. - *Possibilities of using the medicinal plants in the phytoremediation process of environmental factors*
	Vergil Muraru Cornelia Muraru – Ionel, Petru Cardei, Sfiru Raluca, Cornelia Muraru – Ionel, Petru Cardei, Sfiru Raluca - *Environmental legislation databases implementation on web platform*
	Ciobanu Valeria - *Awareness regarding the necessity of integrated control of parasitic weeds in agricultural crops*
PROJECT FINAL CONFERENCE within the project ***"NETWORK AND WEB PLATFORM TO IMPROVE THE PUBLIC AWARENESS ON ENVIRONMENTAL MANAGEMENT AND PROTECTION IN THE CROSS BORDER AREA GIURGIU – RUSE AND ADJACENT CROSS BORDER AREAS"*** - AEMPROBG MIS-ETC CODE: 594", Romania-Bulgaria Cross Border Cooperation Programme 2007-2013, 25.11.2015, University of Ruse, Bulgaria	Vergil Muraru, Cornelia Muraru – Ionel, Petru Cardei, Raluca Sfiru, Valeria Ciobanu - *The results of the project "Network and web platform to improve the public awareness on environmental management and protection in the cross border area Giurgiu – Ruse and adjacent cross border areas"*
	Petru Cardei, Cornelia Muraru – Ionel, Petru Cardei, Sfiru Raluca - *The state of the environment in the cross-border area Giurgiu-Ruse from the perspective of environmental tests*

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

Members in editorial staffs and boards	2014	2015
• International and/or national conferences/symposia	14	**14**
• ISI journals (or included in international data bases)	15	**15**

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 2015, Novi Sad, Serbia
2.	Vlăduţ Valentin	**International Scientific Conference on "*ENVIRONMENT AND BIODIVERSITY*" - ECOLOGICA** Belgrade - Serbia
3.	Vlăduţ Valentin	**The Second International Symposium on Agricultural Engineering, ISAE' 2015, 9th-10th October 2015, Belgrade–Zemun, Serbia**
4.	Vlăduţ Valentin	ISB-INMA TEH' 2015 **INTERNATIONAL SYMPOSIUM 30th ÷31st October 2015, Bucharest, Romania**
5.	Pîrnă Ion	
6.	Popa Lucreţia	
7.	Ştefan Vasilica	
8.	Ganea Ioan	
9.	Păun Anişoara	
10.	Matache Mihai	
11.	Petcu Albert	
12.	Vlăduţ Valentin	**SCIENTIFIC SYMPOSIUM WITH INTERNATIONAL PARTICIPATION *"SUSTAINABLE DEVELOPMENT IN AGRICULTURE AND HORTICULTURE - Second edition"* Craiova, 12-13 November 2015, ANNALS OF THE UNIVERSITY OF CRAIOVA - AGRICULTURE, MONTANOLOGY, CADASTRE**

13.	Vlăduţ Valentin	**VIth International Scientific Conference, EE&AE' 2015, 11-12 November 2015, Ruse / Bulgaria**
14.	Vlăduţ Valentin	**Fifth International Conference "RESEARCH PEOPLE AND ACTUAL TASKS ON MULTIDISCIPLINARY SCIENCES", Lozenec, Bulgaria**
ISI Journals (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.	Popa Lucreţia	
11.	Cârdei Petru	
12.	Cioica Nicolae	
13.	Vlăduţ Valentin	**4th International Conference on Thermal Equipment, Renewable Energy and Rural Development, TE-RE-RD 2015** 4 – 6 July 2015, Posada-Vidraru (Arges), Romania
14.	Vlăduţ Valentin	**HUNGARIAN AGRICULTURAL ENGINEERING,** Gödölló, Hungary HU ISSN 0864-7410 (Print); HU ISSN 2415-9751 (Online) DOI: 10.17676/
15.	Vlăduţ Valentin	**PROCEEDINGS OF THE 43 INTERNATIONAL SYMPOSIUM ON AGRICULTURAL ENGINEERING *"Actual Tasks on Agricultural Engineering",*** Opatija - Croatia

8.2. Results obtained at national and international fairs and exhibitions

Fairs and exhibitions	2014	2015
• international	5	7
• national	1	4

- **international fairs and exhibitions**

Den. No.	Exhibition / Fair name
1.	**International Exhibition of Inventions PROINVENT Cluj-Napoca, 2015**
2.	**International Fair "INVEST-INVENT SIR" IASI 2015**
3.	**International Exhibition of Inventions Geneva 2015**
4.	**INVENTICA Exhibition Baia Mare 2015**
5	**International Exhibition of Inventions and Innovation "Traian Vuia" Timisoara 2015**
6.	**EXPO Milano 2015**
7.	**International Exhibition of Innovation, Research and New Technologies BRUSSELS INNOVA, 2015**

8.3. Awards obtained by selection process / distinctions, etc.

Awards obtained by selection process	2014	2015
• international	21	46
• national	-	-

Den. No.	Exhibition / fair / competition name	Awards
1.	**International Exhibition of Inventions PROINVENT Cluj-Napoca, 25 – 27 March 2015**	**Excellence diploma and Gold medal with special mention** **1. PIVOTING WHEEL HEAVING DEVICE** *Constantin Nicolae, Pirnă Ion, Ganea-Christu Ioan, Neniţă Florin*, Mocanu Vasile, Hermenean Ioan **2. PNEUMATIC EQUIPMENT FOR ALVEOLAR SOWING OF SMALL SEEDS** Sărăcin Ion, *Ganea-Christu Ioan*, Pandia Olimpia, *Ion Alexandru*, Bozgă Ion **3. INSTALLATION FOR REMOVING CHERRY AND SOUR CHERRY STONES** Ioniţă Ghiţă, Păun Anişoara, Pirnă Ion, Ganea-Christu Ioan **4. HAY AND STRAW BALE CHAMBER, WITH CONSTANT VOLUME AND EVACUATION ROLLER** Mircea Radu, Pirna Ion, Ganea Ioan, Robe Eugeniu **Excellence diploma and Gold medal** **5. WATER RECONDITIONING INSTALLATION FOR ACVACOLE RECIRCULATING SYSTEMS** Pop Augustin, Ştefanov Petru, Andrei Sorin, Grozea Adrian
2.	**International Exhibition of Inventions Geneva – Switzerland 15 – 19 April 2015**	**Diploma and Silver medal** **Special award France** **1. EQUIPMENT FOR APPLE GRAVIMETRIC SORTING** Popa Lucreţia, Ciupercă Radu, Drăgan Romeo, Lazăr George **Diploma and Silver medal** **Special award Qatar** **2. TECHNICAL EQUIPMENT FOR PLANTING ENERGETIC WILLOW** Marin Eugen, Mircea Radu, Manea Dragoş, Găgeanu Paul
3.	**INVENTICA Exhibition Baia Mare 28 – 29 May 2015**	**Excellence diploma and trophy** **1. PROCEDURE AND INSTALLATION FOR ALTERNATIVE SUPPLY OF DIESEL ENGINES WITH VEGETABLE OILS** Nicolescu Mircea, Ivan Gheorghe, Păun Anişoara, Ganea-Christu Ioan **2. Invention group -** Ion PIRNĂ **Excellence diploma** **3. EQUIPMENT FOR CHOPPING PLANT STEMS, WITH MECHANICAL AUTOMATIC DECOUPLING** Stanciu Lucian, Pirnă Ion, Ganea-Christu Ioan **4. BIOGAS INSTALLATION FOR AGRICULTURAL MICRO FARMS** Matache Mihai, Pirnă Ion, Muscalu Adriana, Vlăduţ Valentin **5. ENERGETICALLY INDEPENDENT AUTOMATIC SYSTEM FOR MAINTAINING A CONTROLLED MICROCLIMATE** Manea Dragoş, Marin Eugen, Matache Mihai, Sorică Cristian Marian **6. TECHNICALEQUIPMENT FOR PLANTING ENERGETIC WILLOW** Marin Eugen, Mircea Radu, Manea Dragoş, Găgeanu Paul **7. MODULATED EQUIPMENT FOR THE MAINTENANCE OF ENERGY PLANT CULTURES** Manea Dragoş, Marin Eugen, Pirnă Ion, Mateescu Marinela, Gheorghe Gabriel **8. SYSTEM REDUCING THE NECESSARY POWER TO DRIVE THE MACHINERY FOR HARVESTING AND CHOPPING ENERGETIC WILLOW** Găgeanu Paul, Ivancu Bogdan, Milea Dumitru, Zaica Alexandru **9. AUTOMATED INSTALLATION OF IRRIGATION AND FERTIGATION BY DRIPING AND/OR MICRO-SPRAYING** Marin Eugen, Pirnă Ion, Manea Dragoş, Matache Mihai, Sorică Cristian Marian **10. Ion PIRNĂ**

4.	**International Exhibition of Inventions and Innovation "Traian Vuia" Timisoara 11 – 13 June 2015**	**Diploma and Gold medal** **1. HIGH PRECISION SPRAYING MACHINE** Dragoş MANEA, Mihai MATACHE, Eugen MARIN, Bogdan TĂNASE **2. INSTALLATION FOR REMOVING CHERRY AND SOUR CHERRY STONES** Ghiţă IONIŢĂ, Anişoara PĂUN, Ion PIRNĂ, Ioan GANEA-CHRISTU **3. APPARATUS FOR BOVINE ARTIFICIAL BREATHING** Ganea-Christu Ioan, Drăgolici Victor, Drăgolici Ecaterina, Ion Alexandru **4. WATER RECONDITIONING INSTALLATION FOR ACVACOLE RECIRCULATING SYSTEMS** Pop AUGUSTIN, Constantin Petru ŞTEFANOV, Sorin ANDREI, Adrian GROZEA **5. EQUIPMENT FOR APPLE GRAVIMETRIC SORTING** Lucretia POPA, Radu CIUPERCĂ, Romeo DRĂGAN, George LAZĂR **Diploma and Silver medal** **6. INTEGRATED SYSTEM AND PROCEDURE FOR OBTAINING EXTRACTS WITH FOLIAR BIO-FERTILIZER / BIO-INSECTICIDE ROLE IN ECOLOGICAL FARMING** Iulian VOICEA, Mihai MATACHE, Valentin VLĂDUŢ, Dan CUJBESCU, Cătălin PERŞU, Marian MIHAI **7. AUTOMATED INSTALLATION OF IRRIGATION AND FERTIGATION BY DRIPING AND/OR MICRO-SPRAYING** Eugen MARIN, Ion PIRNĂ, Dragoş MANEA, Mihai MATACHE, Cristian-Marian SORICĂ **8. EQUIPMENT FOR DEEP LOOSENING, GRINDING, COMPACTING AND LEVELING OF SOIL** Eugen MARIN, Nicolae CONSTANTIN, Dragoş MANEA, Cristian Marian SORICĂ **Diploma and Bronze medal** **9. PRECISION WATERING INSTALLATION** Eugen MARIN, Dragoş MANEA, Anişoara PĂUN, Marinela MATEESCU, Gabriel GHEORGHE **10. MODULATED EQUIPMENT FOR THE MAINTENANCE OF ENERGY PLANT CULTURES** Dragoş MANEA, Ion PIRNĂ, Eugen MARIN, Marinela MATEESCU, Gabriel GHEORGHE **11. DECONTAMINATION INSTALLATION OF HORTICULTURAL PRODUCTS EXTERNAL SURFACES** Cristian Marian SORICĂ, Ion PIRNĂ, Ion GRIGORE, Elena SORICĂ, Dan Dorian PĂUNESCU **12. BULK HAY VENTILATION INSTALLATION WITH COLD AND HOT AIR** Ancuţa NEDELCU, Radu CIUPERCĂ, Mihai Gabriel MATACHE, Lucreţia Popa, Valeria-Gabriela CIOBANU, George LAZĂR **Excellence diploma and USAMVB special award "King MHCHAEL I of Romania" from Timişoara** **13. INMA Bucharest** - Outstanding inventions and innovations in the field of agriculture and food industry installations **SIB Special award** **14. APPARATUS FOR BOVINE ARTIFICIAL BREATHING** *Ganea-Christu Ioan*, DRĂGOLICI Victor, DRĂGOLICI Ecaterina, ION Alexandru **Excellence diploma –CORNELIU GROUP assciation** **15. PNEUMATIC EQUIPMENT FOR ALVEOLAR SOWING OF SMALL AND VERY SMALL SEEDS** Sărăcin Ion, *Ganea-Christu Ioan*, Pandia Olimpia, *Ion Alexandru*, Bozgă Ion **16. DISTRIBUTION DEVICE FOR HIGH PRECISION SEEDERS WITH GPS**

		CONTROL Muraru Vergil, Pirnă Ion, Muraru Cornelia, Ganea-Christu Ioan, Sfîru Raluca, Ţicu Tania **17. CONTROL AND SHOCK DRIVING DEVICE** Coţa Constantin, Nagy Elena, Cioica Nicolae **18. ADDITIONAL SYSTEM OF HYDROSTATIC DRIVING FOR 45 HP TRACTOR** Coţa Constantin, Nagy Elena, Cioica Nicolae **Diploma - Institute of Genetics, Physiology and Plant Protection of the Moldovan Academy of Sciences** **19. Ioan GANEA** – INMA Bucharest **Society Award for Romania Inventors – SIR** **20. CONTROL AND SHOCK DRIVING DEVICE** Coţa Constantin, Nagy Elena, Cioica Nicolae
5.	**EXPO Milano 2 – 4 September 2015**	**1. EQUIPMENT FOR APPLE GRAVIMETRIC SORTING** Popa Lucreţia, Ciupercă Radu, Drăgan Romeo, Lazăr George **2. TECHNICAL EQUIPMENT FOR PLANTING ENERGETIC WILLOW** Marin Eugen, Mircea Radu, Manea Dragoş, Găgeanu Paul
6.	**International fair INVEST – INVENT Iasi, 19-20 October, 2015**	**3 Diplomas and Gold medals** **1. ADAPTIVE TYRE FOR AGRICULTURAL TRAILER WHEELS** Biriş S.S., *Ganea-Christu I., Vlăduţ V.* **2. SYSTEM FOR POSITIONING OBSTACLES TO TEST TRAILERS AND SEMITRAILERS** Soricâ C.M., Vlăduţ V., Matache M.G., Pirnă I. **3. MECANICAL DISTRIBUTION DEVICE FOR SMALL AND VERY SMALL SEEDS** Marin E., Mateescu M., Păun A., Manea D., Gheorghe G. **Excellence diploma and Fair Medal** **4. HIGH PRECISION SPRAYING MACHINE** Manea D., Matache M., Marin E., Tănase B.
7.	**INNOVA – EUREKA Brussels, 2015**	**Diploma and Silver Medal** **Special award France** **1. HIGH PRECISION SPRAYING MACHINE** Dragoş Manea, Mihai-Gabriel Matache, Eugen Marin, Bogdan Tănase
	Total:	**46 awards**

- **International awards obtained by selection process: 46**

PARTICIPAREA INMA LA SALOANELE INTERNATIONALE DE INVENTII – 2015

* Salonul Internaţional de inventica PROINVENT, Cluj-Napoca, 2015 = 5 Diplome de excelenta si 5 Medalii de Aur si 1 Medalie Argint
* Salonul internaţional de inventii – Geneva, Elvetia 2015 = 2 Diplome si Medalii de Argint; 2 Premii speciale Qatar si 1 Franta
* Salonul international de inventii – INVENTICA, Baia Mare, 2015 = 2 Diplome de Excelenta cu trofeu si 8 Diplome de Excelenta
* Salonul International INVENTII "Traian Vuia", Timisoara, 2015 = 12 medalii si 7 premii speciale
* Salonul EXPO Milano 2015
* Targul Internaţional "INVEST- INVENT SIR", Iasi, 2015 = 4 Diplome de excelenta si Medalii de Aur, 1 Premiu special
* Salonul international de inventii INNOVA – EUREKA, Bruxelles, 2015 = 1 Diploma si Medalie de Argint, 1 Premiu special Franta

INMA participation at international fairs and exhibitions:

International Exhibition of Research, Innovation and inventions
PRO INVENT 2015
Cluj-Napoca, 19 – 21 March

International Exhibition of Inventions Geneva – Switzerland
15 - 19 April 2015

INVENTICA Exhibition
Renewable and alternative energies
Baia Mare, 28 - 29 May 2015


CAMERA DE COMERȚ ȘI INDUSTRIE MARAMUREȘ

acordă

Diplomă de excelență

la

Salonul INVENTICA

ediția a VIII-a

Manea Dragoș, Marin Eugen, Pîrnă Ion, Mateescu Marinela, Gheorghe Gabriel

Echipament modulat pentru întreținerea culturilor de plante energetice


CAMERA DE COMERȚ ȘI INDUSTRIE MARAMUREȘ

acordă

Diplomă de excelență

la

Salonul INVENTICA

ediția a VIII-a

Găgeanu Paul, Ivancu Bogdan, Milea Dumitru, Zaica Alexandru

Sistem de reducere a puterii necesare acționării mașinilor de recoltat și tocat salcie energetică


CAMERA DE COMERȚ ȘI INDUSTRIE MARAMUREȘ

acordă

Diplomă de excelență

la

Salonul INVENTICA

ediția a VIII-a

Marin Eugen, Pîrnă Ion, Manea Dragoș, Matache Mihai, Sorică Cristian-M.

Instalație automatizată de irigare și fertirigare prin picurare și/sau microaspersie


CAMERA DE COMERȚ ȘI INDUSTRIE MARAMUREȘ

acordă

Diplomă de excelență

la

Salonul INVENTICA

ediția a VIII-a

Matache Mihai, Pîrnă Ion, Muscalu Adriana, Vlăduț Valentin

Instalație de biogaz pentru microferme agricole


CAMERA DE COMERȚ ȘI INDUSTRIE MARAMUREȘ

acordă

Diplomă de excelență

la

Salonul INVENTICA

ediția a VIII-a

Manea Dragoș, Marin Eugen, Matache Mihai, Sorică Cristian M.

Sistem automat independent energetic de menținere a unui microclimat controlat


Universitatea Tehnică din Cluj-Napoca
Centrul Universitar Nord din Baia Mare
Facultatea de Inginerie

DIPLOMA DE EXCELENTA

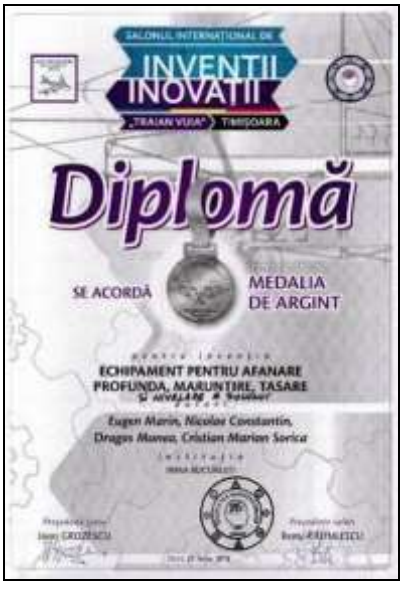
Domnului Prof. dr. ing. Ion PIRNA

Institutul Național de Cercetare-Dezvoltare pentru Mașini și Instalații destinate Agriculturii și Industriei Alimentare

Pentru merite deosebite în sprijinirea și coordonarea activității de inventică

Baia Mare

International Exhibition of Inventions and Innovation "Traian VUIA"
Timisoara, 11 – 13 June 2015

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INVENŢII
TRAIAN VUIA
TIMIŞOARA


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INSTALAŢIE DE DECONTAMINARE A SUPRAFEŢELOR EXTERIOARE ALE PRODUSELOR HORTICOLE
Cristian Marian SORICĂ, Ion PÎRNA, Ion GRIGORE
Elena SORICA, Dan Dorian PALINESCU
INMA BUCUREŞTI


SALONUL INTERNATIONAL DE
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Ancuţa NEDELCU, Radu CIUPERCĂ, Mihai Gabriel MATACHE
Lucreţia Popa, Valeria-Gabriela CIOBANU, George LAZĂR
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DIPLOMA
SALONUL INTERNAŢIONAL DE INVENŢII
ŞI INOVAŢII „TRAIAN VUIA" TIMIŞOARA
PREMIUL SPECIAL
SIR
APARAT PENTRU REZERVAŢIE ARTIFICIALĂ LA BOVINE
INMA BUCUREŞTI


INVENŢII
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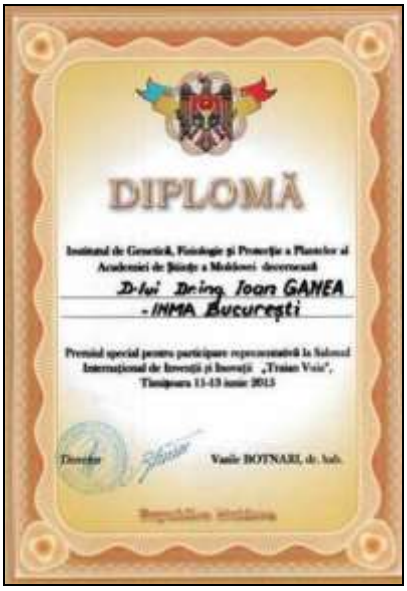
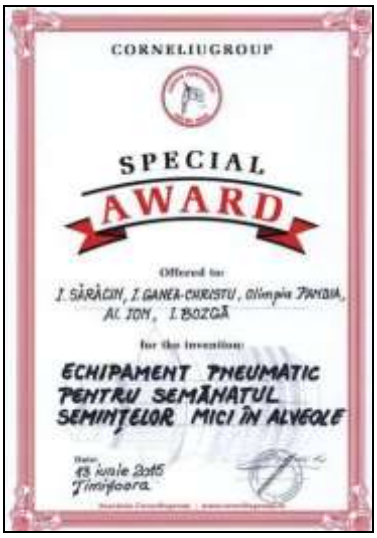

DIPLOMĂ
D-lui Dr.ing. Ioan GANEA
- INMA Bucureşti
Vasile BOTNARI, dr. hab.


Societatea Inventatorilor din România
PREMIUL S.I.R.
COŢA C., NAGY E.M., CIOICA N.
Dispozitiv de comandă şi acţionare hidraulică cu şocuri


Universitatea de Ştiinţe Agricole şi Medicină Veterinară a Banatului "REGELE MIHAI I AL ROMÂNIEI" din Timişoara
Salonul Internaţional de Invenţii şi Inovaţii "TRAIAN VUIA" Timişoara 11-13 iunie 2015
DIPLOMĂ DE EXCELENŢĂ
şi
PREMIUL SPECIAL al USAMVB "REGELE MIHAI I AL ROMÂNIEI" din Timişoara
Pentru lucrarea :
Autori :
RECTOR
PROIECTOR



International Exhibition of Innovation, Research and New Technologies INNOVA - Eureka
Brussels, Belgium, 19-21 November 2015

EXPO Milano
2 - 4 September 2015

EXPO MILANO 2015

International Fair of Inventions and Practical Ideas
INVENT – INVEST 2015
Iasi, October 2015

INMA participation at national fairs and exhibitions

National Fair for Agriculture and Food Industry
AGRALIMEX – Alexandria, 20 – 23 August

National Fair for Agriculture and Food Industry
PARTNER AGROIAL 2015
Slobozia, 23 – 25 September

AgriCultural National Fair, Braila, 1 – 4 October 2015

Researchers' night
Bucharest AFI Palace Mall, 26 September 2015

POLIFEST 2015
University POLITEHNICA of Bucharest, 6 – 8 April 2015
- Open doors days –

OPEN DOORS WEEK,
Chamber of Commerce and Industry of Bucharest,
2 – 8 April, 2015

In collaboration with the Technical College "V. Harnaj"

Romanian Research Fair
within TIB 2015
Bucharest, ROMEXPO, 14 – 17 October

International Fair for Industry and Agriculture – INDAGRA 2015
Bucharest, ROMEXPO, 27 October – 2 November

International Symposium

AGRICULTURAL AND MECHANICAL ENGINEERING

- ISB-INMA TEH 2015 -

Polytechnic University of Bucharest 29 - 31 October 2015

Welcoming the participants

Opening the Symposium

Presenting papers by sections

Brokerage session

Symposium
RESEARCH, DEVELOPMENT AND INOVATION – SUPPORT FOR ECONOMIC COMPETITIVENESS AND SOCIAL DEVELOPMENT

Day of Researcher and Designer in Romania INMA - 19 November

8.4. Presentation of advertising activity:

- Media passages (interviews)
- Participation in TV and radio broadcast debates

Activities of advertising	2014	2015
Number	1	1

1. "MARKET WATCH" Journal No. 173 / March 2015
2. "TechnoMarket" Journal No. 2 / 2015


Provocări şi soluţii tehnice pentru dezvoltarea mecanizării şi automatizării în agricultură


INSTALAŢIE DE ÎNCERCĂRI ÎN REGIM SIMULAT ŞI ACCELERAT TIP HIDROPULS

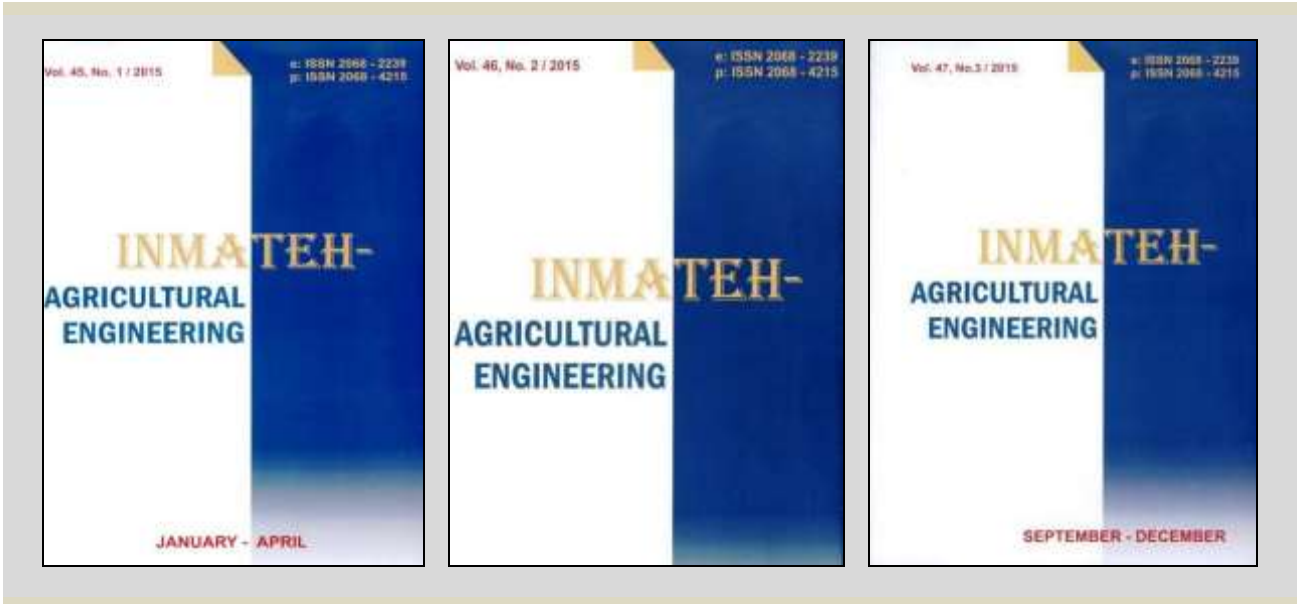
INMA BUCUREŞTI

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

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

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

Indexed in 10 international data bases, with the codes
***online*: ISSN 2068-2239** and ***print*: ISSN 2068-4215,**
continued to be issued, with edited numbers **45, 46** and **47 / 2015.**



***INMATEH - Agricultural Engineering* Journal**
is under evaluation by Thomson Reuters (2012) and is indexed in the following international data bases:

ULRICHS mai - 2010	CABI Trim. III - 2011	Platforma Editoriala Romana SCIPIO - 2011	ELSEVIER /SciVerse SCOPUS - Nr.1 / 2012	Index Copernicus International - 2012
ULRICHSWEB	www.cabi.org	SCIPIO	ELSEVIER SciVerse	EMAIL - INDEX COPERNICUS INTERNATIONAL
Elektronische Zeitschriftenbibliothek Nr. 2 /2014	EBSCO Nr. 2 /2014	citefactor.org Nr. 3 /2014	OAJI Open Academic Journals Index	Scientific Indexing Services (SIS)

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	Realised
1.	Scientific/technical papers published in ISI specialty journals	**32**
2.	Books / chapters INMATEH – Agricultural Engineering Journal	**-** **No. 45, 46, 47**
3.	INMA patent applications, registered Patents issued by OSIM	**8** **5**
4.	Homologated products Homologated services Homologated technologies Prospective and technological studies Norms Procedures Methodologies Technical plans Experimental models	**7** **4** **2** **9** **3** **4** **11** **26** **7**
5.	Scientific/technical papers published in specialty journals, without ISI quotation (BDI and other international journals)	**73**
6.	Scientific communications presented in international conferences	**92**
7.	Members of editorial boards of ISI journals (or included in international data bases) and of national and/or international editorial boards	**29**
8.	Participation of INMA in national and international fairs and exhibitions Distinctions and prizes	**11** **46**

11. PERSPECTIVES/ PRIORITIES FOR THE FOLLOWING REPORTING PERIOD

The 2016 priorities related to RDI activities are focused on:

- finalising specific equipment testing for the superior use of culture biomass (Miscanthus, camelina, castor oil plant, etc.) and of the biomass resulted as a by-product of the basic agricultural cultures;
- further research to achieve the integrated technologies of mechanization and automation of culture or endemic medicinal plants processing;
- further research to achieve specific methodologies / procedures for quality assessment of mechanization technologies used in agriculture (impact on medium and long term);
- the technical basis for mechanization and automation technological elements of agricultural processes afferent to the biomass cultures, horticulture, the primary processing of agricultural products;
- technology transfer of research results to interested economic agents (SC RURIS SRL Craiova, SC Mechanical CEAHLAU SA Piatra Neamt, SC MECANOFIC SA Iasi);
- accomplishing contractual projects within national, cross-border programs (Bulgaria, Hungary) and preparing new proposals;
- identifying new partners and making proposals within the following programs: HORIZON 2020, Competitiveness Operational Programme (COP), RO-BG, EUREKA, ERASMUS +, EN-HU, SUERD, etc.;
- results dissemination: organizing international symposia and promoting the Institute journal "INMATEH - Agricultural Engineering" in new international databases;
- registration of original technical solutions with OSIM;
- supporting continuous vocational training of staff in the agrifood industry, at the employees' request, through the Centres for Vocational Training and Evaluation of the Institute;
- continuation and strengthening connections with the universities in the country to support them in carrying out short and long term internships in the Institute;
- investments to modernize the research base: test stands, pilot systems and stations, etc.;
- broadening the offer of technical and scientific services for the products of rolling stock and special equipment.

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