



FEDERATION OF THE SCIENTIFIC ENGINEERING UNIONS (FSEU)

VI INTERNATIONAL SCIENTIFIC CONGRESS
AGRICULTURAL MACHINERY



PROGRAM

ORGANIZER:

SCIENTIFIC -TECHNICAL UNION OF MECHANICAL ENGINEERING

ROUSSE UNIVERSITY - ANGEL KANCHEV

BULGARIAN ASSOCIATION OF AGRICULTURAL MECHANIZATION

25.06 – 28.06.2018
BURGAS, BULGARIA

PROGRAM

25.06.2018 (Monday)

16:00 – 20:00	REGISTRATION	IN FRONT OF CONFERENCE HALL
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26.06.2018 (Tuesday)

08:00 – 10:00	REGISTRATION	IN FRONT OF CONFERENCE HALL
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CONFERENCE HALL		
10:00 – 10:15	OPENING OF THE CONGRESS	
10:15 – 12:30	PLENARY SESSION	

12:30 – 12:40	COLLECTIVE PICTURES OF PARTICIPANTS	IN FRONT OF SWIMMING POOL
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LUNCH 12:30 - 14:00 (NO LUNCH PROVIDED)

CONFERENCE HALL		
14:00 – 16:00	SESSION "Agricultural machines. Research and testing. New machine designs."	
16:00 – 16:30	COFFEE BREAK - CONFERENCE BAR	
16:30 – 18:00	SESSION "Uses of machines. Innovative technologies. Conserving Soils and Water."	

CONFERENCE HALL		
09:00 – 18:00	POSTER SESSION "Agricultural machines. Research and testing. New machine designs."	
09:00 – 18:00	POSTER SESSION "Uses of machines. Innovative technologies. Conserving Soils and Water."	

19:30 – 24:00	"WELCOME" COCKTAIL - The restaurant for breakfast	
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27.06.2018 (Wednesday)

CONFERENCE HALL		
09:00 – 12:00	POSTER SESSION "Agricultural machines. Research and testing. New machine designs."	
09:00 – 12:00	POSTER SESSION "Uses of machines. Innovative technologies. Conserving Soils and Water."	

10:00	CLOSING OF THE CONGRES - WINE AND CHEESE PARTY	CONFERENCE BAR
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28.06.2018 (Thursday)

CONFERENCE HALL		
10:00 – 10:15	OPENING OF THE CONFERENCE "TRANSMOT&AUTO 2018"	
10:15 – 12:30	PLENARY SESSION	

*time for presentation 10-12 minutes,
questions after each presentation*

SCIENTIFIC PROGRAM

26.06.2018 10:00 – 10:15	OPENING OF THE CONGRESS		CONFERENCE HALL	
	CHAIRMANS: Prof. Dr. MIHO MIHOV Assoc. Prof. Dsc GEORGI MITEV			
	Congratulations from Prof. Dr. VASIL NIKOLOV - Chairman of the Agricultural Academy			
26.06.2018 10:15 – 12:30	PLENARY SESSION		CONFERENCE HALL	
CHAIRMAN: PROF. DR. SZCZEPANIAK J. (PL)			CO-CHAIRMAN: PROF. DR. PAVOL FINDURA (SK)	
1	TESTING THE SYSTEMS OF THE AUTONOMOUS AGRICULTURAL ROBOT	Jasiński M. PhD ¹ , Mączak J. PhD, DSc ¹ , Szulim P. PhD ¹ , Radkowski S. Prof ¹ , Rokicki K. M.Sc ¹ , Szczepaniak J. Prof ² , Rogacki R. MSc ² , Wojciechowski J. PhD ² Warsaw University of Technology ¹ Industrial Institute of Agricultural Engineering in Poznań ²	69	PL
2	THE EFFECT OF N-BUTANOL ADDITIONS TO DIESEL FUEL ON ENGINE PERFORMANCE AND EXHAUST EMISSIONS	Prof. Labeckas G. PhD., Prof. Slavinskas S. PhD. Faculty of Agricultural Engineering Aleksandras Stulginskis University, Lithuania	03	LT
3	THE EVALUATION QUALITY OF SOWING INDEPENDENCE WITH SELECTED PROPERTIES OF SEEDS	Pavol Findura, Miroslav Prístavka, Maroš Korenko, Peter Bajus Slovak University of Agriculture in Nitra	06	SK
4	STUDY OF EFFICIENCY OF ADDITIONAL CLEANING OF RAPE SEEDS ON THE ELECTROFRICTIONAL SEPARATOR	Ph.D., professor Kovalyshyn S. Y., Ph.D. Shvets O. P. Lvov National Agrarian University, Dublyany, Ukraine	83	UA
5	IMPROVING THE EFFICIENCY OF AGRICULTURAL MACHINERY USE ON THE BASIS OF COOPERATION AND OUTSOURCING	Prof. DSc. Kundius V. - Altay State Agrarian University Dr. Kashirskiy P. - expert at Alfa Bank	16	RU
6	EFFECTS OF TILLAGE METHODS ON WEEDS DENSITY IN CORN (ZEA MAYS L.) PRODUCTION	A. Konuralp Eliçin ¹ , F. Göksel Pekitkan ¹ , Yılmaz Bayhan ² , Abdullah Sessiz ¹ Dicle University ¹ Namık Kemal University ²	04	TR
7	SOILS PROTECTION IN BULGARIA. SUCCESSFULLY COMPLETED PROJECT - RESULTS AND PROSPECTS	Assoc. Prof. DSc Georgi Mitev Angel Kanchev University of Ruse		BG

COLLECTIVE PICTURES OF PARTICIPANTS - IN FRONT OF SWIMMING POOL

LUNCH 12:30 - 14:00 (NO LUNCH PROVIDED)

*time for presentation 10-12 minutes,
questions after each presentation*

26.06.2018 14:00 – 16:00		SESSION “Agricultural machines. Research and testing. New machine designs.”		CONFERENCE HALL	
CHAIRMAN: PROF. DR. SLAVINSKAS S. (LT)			CO-CHAIRMAN: PROF. DR. KANGALOV PL. (BG)		
8	THE THEORETICAL ESTIMATION OF THE TRACTOR DRIVE WHEELS SLIPPAGE WITH THE VARIABLE TIRE INFLATION PRESSURE	Pupinis Gediminas, Janulevičius Algirdas Institute of Power and Transport Machinery Engineering Aleksandras Stulginskis University, Lithuania	13	LT	
9	VENTILATED ELECTRIC GENERATOR WITH DRIVE FROM SHAFT WITH VARIOUS ROTATION FREQUENCY	PhD Student Agimov T., Assoc. Prof. Dr. Umbetkulov E. Almaty University of Power Engineering and Telecommunication	18	KZ	
10	RESEARCH OF USING THE ALTERNATIVE FUELS FOR IMPROVING THE INDICATORS OF THE TRACTOR DIESEL WORK	L.V. Denezhko, A.A. Sadov, A.D. Ustyugov, I.M. Milstein Federal state educational institution of higher education "Ural State Agrarian University" Ekaterinburg	75	RU	
11	THEORETICAL AND EXPERIMENTAL RESEARCH OF AUTOMATIC BALANCING DEVICE	Ilona Drach ¹ , Algimantas Bubulis ² Arvydas Pauliukas ³ ¹ Khmelnytsky National University, ² Kaunas University of Technology, ³ Aleksandras Stulginskis University	28	UA/LT	
12	INFLUENCE OF THE MODE OF WORK OF MILKING RUBBER ON THE DYNAMICS OF THE STREAM OF TWO-PHASE MIXTURE	Assoc. Prof., Dr.Sc.Eng. Dmytriv V., Lect. Ph.D.Eng. Dmytriv I., postgraduate Krasnytsia B. Lviv National Agrarian University	65	UA	
13	INVESTIGATION OF DISTRIBUTION OF SOLUTION OF AIR-INJECTOR NOZZLES WITH ADDITIONAL COMPRESSED AIR	Zapryanova Y. PhD, Assoc. Prof. Zapryanov Z. PhD, Hristova G., Mitkov I. Phd, Dobreva C. Agricultural University - Plovdiv	78	BG	
14	TOTAL PRODUCTIVE MAINTENANCE AS QUALITY PROVIDING TOOL FOR REPAIRED MACHINES	Assoc. Prof. Nikolov M. PhD, Prof. Kangalov P. University of Ruse	02	BG	

16:00 – 16:30	COFFEE BREAK - CONFERENCE BAR
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26.06.2018 16:30 – 18:00		SESSION “Uses of machines. Innovative technologies. Conserving Soils and Water.”		CONFERENCE HALL	
CHAIR: PROF. DSC. KUNDIUS V. (RU)			CO-CHAIRMAN: ASSOC.PROF. DSC GEORGI MITEV (BG)		
15	SOIL CHARACTERIZATION BY THE CAPILLARY EFFECT	Prof. Dr Egger M., BSc. Halilovic S., BSc. Lettner R. Faculty of Mechanical Engineering – University of Applied Sciences Upper Austria Campus Wels, Austria Pöttinger Landtechnik GmbH, Austria	44	AT	

*time for presentation 10-12 minutes,
questions after each presentation*

16	THE USE OF GEOINFORMATION SYSTEMS IN THE DEVELOPMENT OF A FEASIBILITY STUDY FOR SMALL HYDROPOWER PLANTS FOR AGRO-INDUSTRIAL COMPLEXES IN KAZAKHSTAN	Soltanayev A.M. Almaty University of Power Engineering and Telecommunication	22	KZ
17	DEVELOPMENT OF TECHNOLOGY FOR HARVESTING A LEAF MASS OF FORAGE GRASSES AND DRYING PLANTS USING HELIUM AIR HEATER	Prof. DSc. Zhortuylov O.Zh. ¹ , PhD student Kulshikova E.S. ² , Dr. Zhumatay G.S. ¹ , master student Zhortuylov A.O. ¹ , master student Seipataliev O.E. ¹ ¹ LLP "Kazakh research institute of mechanization and electrification of agriculture", ² NC «Kazakh national agrarian university»	73	KZ
18	THE USE OF RECYCLED TRAILERS AND TRAINS FOR MAINTENANCE OF COMBINES HARVESTING GRAIN IN SIBERIA	PhD Tikhonovskiy V., Prof. DSc Blynsky Y., Assoc. Prof. Dr. Guskov Y. Master's Degree student Tikhonovskaya K. Federal State Budgetary Educational Institution of Higher Education "Novosibirsk State Agrarian University	07	RU
19	MULTIVARIATE ANALYZING AND ARTIFICIAL NEURAL NETWORKS FOR PREDICTION OF PROTEIN CONTENT IN WINTER WHEAT USING SPECTRAL CHARACTERISTICS	Ass. Prpf. Dr. Rasooli Sharabiani V. ¹ , PhD. Stu. Soltani A. ¹ , Prof. Dr. Noguchi N. ² University of Mohaghrgh Ardabili, Ardabil, Iran ¹ Graduate School of Agricultural Engineering, Hokkaido University, Sapporo, Japan ²	25	IR/JP
20	INFLUENCE OF THE TECHNOLOGY OF THE THROUGH STUDY OF AGRICULTURAL MACHINES ON THE AGROENGINEERS' READINESS FOR THE PROJECT ACTIVITY	Assoc.Prof. Dr. Viktor Pryshliak Vinnytsia National Agricultural University	66	UA

19:30 – 24:00	“WELCOME” COCKTAIL - The restaurant for breakfast
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Tuesday (26.06)	09:00 – 19:00	POSTER SESSION “Agricultural machines. Research and testing. New machine designs.”	CONFERENCE HALL 1	
Wednesday(27.06)	09:00 – 12:00			
21	DEVELOPMENT OF EQUIPMENT FOR THE STORAGE OF SOYBEANS WITH ACTIVE VENTILATION	Prof. DSc Atyhanov A.K ¹ , PhD Student Duisenova S.T. ¹ , Assoc. Prof. Dr. Karaivanov D. ² ¹ KazNAU, Almaty, Kazakhstan. ² Chemical-Technological and Metallurgical University, Sofia, Bulgaria.	01	KZ/BG

*time for presentation 10-12 minutes,
questions after each presentation*

22	THEORETICAL INVESTIGATION OF A REAR-MOUNTED LINKAGE FOR WIDE-SPAN TRACTORS	Volodymyr Bulgakov ¹ , Ivan Holovach ¹ , Viktor Melnik ² , Zinovii Ruzhylo ¹ , Semjons Ivanovs ³ , Volodymyr Kuvachov ⁴ ¹ National University of Life and Environmental Sciences of Ukraine, ² Kharkiv Petro Vasylenko National Technical University of Agriculture, ³ Latvia University of Agriculture, ⁴ Tavria State Agrotechnological University, Ukraine,	19	UA/LV
23	EXPERIMENTAL STUDY OF OPERATION INDICATORS OF BEET TOPS HARVESTING MACHINE FOR SUGAR BEET TOPS CONTINUOUS CUTTING	Prof. Eng. Volodymyr Bulgakov ¹ PhD., Prof. Eng. Valerii Adamchuk ² PhD., Eng. Yevhen Ihnatiev ³ , Prof. Eng. Hristo Beloiev ⁴ , Prof. Eng. Plamen Kangalov ⁴ , PhD., Prof., Eng, Boris Borisov ⁴ , PhD., Assos. prof. Eng. Georgi Mitev ⁴ , PhD. ¹ National University of Life and Environmental Sciences of Ukraine, ² National Scientific Centre "Institute for Agricultural Engineering and Electrification" ³ Tavria State Agrotechnological University, ⁴ "Angel Kanchev" University of Rousse, Bulgaria	20	UA/BG
24	VACUUM CONTROL OF MILKING MACHINES BY USING THE FREQUENCY CONVERTER AND THE REDUCING VALVE	Ass. Prof. Ing. CSc. Fryč, J. Bc. Ing. Ph.D. Kudělka, J. Ing. Ph.D. Los J. Mendel University in Brno Czech Republic	21	CZ
25	INVESTIGATION OF THE GRAIN SEPARATION PROCESS IN THE THREE-DRUM THRESHING-SEPARATING DEVICE OF A COMBINE HARVESTER	Dr. Eng., Senior Researcher Sheychenko V. ¹ , Ph.D., Senior Fellow Anelak M. ² , Ph.D. Kuzmych A. ² , eng. Gritsaka O. ² , Ph.D., Assoc. Prof. Dudnikov I. ¹ , Ph.D., Assistant Tolstushko N. ³ ¹ National Scientific Centre "Institute for Agricultural Engineering and Electrification", Hlevakha; ² Poltava State Agrarian Academy; ³ Lutsk National Technical University	27	UA
26	EXPERIMENTAL STUDY OF VACUUM DRYING SEEDS OF GRAIN CROPS	Prof. Doc. Eng. Adamchuk V., PhD., Doc. Eng. Shvidia V. National Scientific Centre, "Institute for Agricultural Engineering and Electrification"	32	UA
27	METHOD FOR DIAGNOSING THE TIGHTNESS OF MILK PIPES MILKING INSTALLATIONS	Prof. DSc Ushakov Y.A., Prof. DSc Shakhov V.A., Prof. DSc Asmankin Y.M., Danilova N.G., Teacher-researcher, Pugacheva N.A., Graduate student Faculty of Engineering, Orenburg State Agrarian University	35	RU
28	TECHNOLOGICAL AND TECHNICAL PRINCIPLES FOR IMPROVING THE QUALITY OF POTATO HARVESTERS	Conf. dr. eng. Smolinskyi S. National University of Life and Environmental Sciences of Ukraine	38	UA

*time for presentation 10-12 minutes,
questions after each presentation*

29	MATHEMATICAL MODELING OF SPATIAL MOVEMENT OF WALKING TRACTOR WITH THE PARTICIPATION OF THE OPERATOR	PhD, as. Prof. Ovsyannikov S. Belgorod State Technological University named after V.G. Shukhov	41	RU
30	CONTEMPORARY TRENDS IN THE IMPROVEMENT OF BEET TOP REMOVING MECHANISMS AND MACHINES	DrSc., Prof. Bulgakov V. ¹ ; DrSc., Prof. Melnik V. ² , DrSc.; Prof. Ruzhylo Z. ¹ ; Prof. Doc. Eng. Semjons Ivanovs ³ , PhD; Eng. Ihnatiev Ye. ⁴ ¹ National University of Life and Environmental Sciences of Ukraine, ² Kharkiv Petro Vasilenko National Technical University of Agriculture, ³ Latvia University of Agriculture, ⁴ Tavria State Agrotechnological University	48	UA/LV
31	THE INFLUENCE OF MODIFICATION MOLDBOARD PLOW ON THE IMPLEMENT HORIZONTAL FORCE AND PLOWPAN LAYER	PhD Student Flaieh Hammed Kassar ¹² Prof. Dr. Wojciech Tanaś ¹ , Dr. Mariusz Szymanek ¹ ¹ University of Life Sciences, Faculty of Engineering Production, Department of Agricultural, Forestry and Transport Machines ² AL- Muthanna University, Collage of Agriculture, AL Muthanna, Iraq	50	PL/IQ
32	EVALUATION OF THE HORIZONTAL AND VERTICAL FORCE OF REVERSIBLE MOLDBOARD PLOW IN SILTY LOAM SOIL.	Flaieh Hammed Kassar ⁽¹⁾⁽²⁾ , Mariusz Szymanek ⁽²⁾ , Wojciech Tanaś ⁽²⁾ ¹ Ministry of Higher Education of Iraq, University of Al Muthanna, Agricultural College. Iraq. ² University of Life Sciences in Lublin	51	PL/IQ
33	DETERMINATION OF THE OPTIMUM PARAMETERS OF THE ROLLERS OF THE ROLLER SURFACE FOR SORTING POTATOES	Yednach V. N. – Belarussian State Agrarian Technical University, Minsk Tanaś W. – Lublin University of Life Sciences, Poland Szymanek M. - Lublin University of Life Sciences, Poland Sprawka M. - Lublin University of Life Sciences, Poland	52	BY/PL
34	IMPROVEMENT OF CONSTRUCTION OF SMALL-SIZED HAMMER CRUSHER OF GRAIN MATERIALS	Dr. Sc. Eng., Docent Kuzminskyj R., Assistant Sheremeta R. Lviv National Agrarian University	53	UA
35	DETERMINATION OF THE DEGREE OF INFLUENCE OF MAIN STRUCTURAL PARAMETERS ON THE CHANGE OF INTERNAL COMBUSTION ENGINE TECHNICAL AND ECONOMIC CHARACTERISTICS	Assis. Prof. E. Enchev. PhD, Assoc. Assoc. Prof. T. Delikostov. PhD Agrarian and Industrial Faculty – University of Ruse	54	BG
36	DEVELOPING ALGORITHM FOR DIAGNOSIS OF INTERNAL COMBUSTION ENGINE WITH KNOWN COEFFICIENT OF STRUCTURAL INFORMATION	Assis. Prof. E. Enchev. PhD, Assoc. Prof. T. Delikostov. PhD Agrarian and Industrial Faculty – University of Ruse	55	BG
37	RESEARCH OF GRAPEVINE PROTECTION TECHNIQUES	Kiril Stefanov ¹ , Zhivko Davchev ² University of Forestry, Sofia ¹ University of St. St. Cyril and Methodius, Skopje ²	56	BG/MK

38	AUTOMATED SYSTEM FOR CONTROLLING THE PRODUCTIVITY OF A SMALL FEED PREPARATION UNIT	Prof. DSc Keshuov C. A. ¹ , Prof. Dr. Iliev M. ² , Dr. Baisenova G.S. ³ , Ph.D student Berdimurat A.D. ⁴ LLP «Kazakh scientific research institute mechanization and electrification of agriculture» ^{1,3,4} - Kazakhstan. “Angel Kanchev” University of Ruse ²	71	KZ/BG
39	THE JUSTIFICATION FOR COLTER SPREADER CONFIGURATION SELECTED FOR BROADCAST SEEDING AND MINERAL FERTILIZER APPLICATION	Acad. Prof. DSc S. Nukeshev ¹ , Assoc. Prof. Dr.K. Yeskhodzhin ¹ , Assoc.Prof. Dr., M. Ramaniuk ² , K. Tleumbetov ¹ , PhD student D. Kosatbekova ¹ , PhD student ¹ Saken Seifullin Kazakh Agrotechnical University, Astana ² Belarusian State Agrarian Technical University, Minsk	72	KZ/BY
40	FIELD TESTS OF AN AUTONOMOUS FIELD ROBOT FOR WIDE-ROW CULTIVATION	Prof. M.Sc. Eng. Szczepaniak J. PhD ¹ , M.Sc Grzechowiak R. PhD. ¹ , M.Sc. Eng. Wojciechowski J. PhD. ¹ , M.Sc. Eng. Maleszka M. ¹ , Prof. M.Sc. Eng. Radkowski S. ² , Prof. M.Sc. Eng Mączak J. PhD ² , M.Sc. Eng. Jasiński M. PhD. ² ¹ Industrial Institute of Agricultural Engineering in Poznań ² Warsaw University of Technology,	76	PL
41	INFLUENCE OF DIESEL COMPOSITE FUEL ON THE BASIS OF RICINIC OIL ON INDICATORS OF THE TRACTOR DIESEL OPERATION	L.V. Denezhko, A.A. Sadov, I.M. Milstein, A.D. Ustyugov, Federal state educational institution of higher education "Ural state agrarian university" Yekaterinburg,	77	RU

Tuesday (26.06)		10:00 – 19:00	POSTER SESSION SESSION “Uses of machines. Innovative technologies. Conserving Soils and Water.”	CONFERENCE HALL 1	
Wednesday(27.06)		09:00 – 12:00			
42	EFFECTS OF TILLAGE METHODS ON WEEDS POPULATION IN SECOND CROP SOYBEAN (<i>GLYCINE MAX. MERIL L.</i>)	Ferhat Öztürk ¹ , A.Konuralp Eliçin ² , F.Gökel Pekitkan ² , Abdullah Sessiz ² ¹ Şırnak University ² Dicle University	05	TR	
43	ANALYSIS OF WORK OF SMALL MACHINE FOR CLEANING OF THE FRUITS	Prof. DSc Nugzar Ebanoidze Agricultural Engineering Division of the Scientific-Research Centre of Agriculture	10	GE	
44	FORMATION ISSUES OF TEA PLANTATIONS	Nugzar Ebanoidze, Giorgi Kutelia Agricultural Engineering Division of the Scientific-Research Centre of Agriculture	11	GE	
45	ON THE POSSIBILITY OF USING PHYSICAL FIELDS FROM ACOUSTIC CAVITATION IN LIQUID ENVIRONMENTS IN THE PROCESSING OF SEEDS BY DRY TECHNOLOGY	Assoc. Prof. Dr. Ivanov Yevgeny G., Assoc. Prof. Dr.Saharov Alexander Nizhny Novgorod State Agricultural Academy	15	RU	

*time for presentation 10-12 minutes,
questions after each presentation*

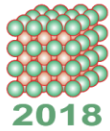
46	IMPROVEMENT OF WHEELED TRACTOR'S REGULATOR IN DIESEL ENGINE	Prof., D.Sc. Eng. Zaharchuk V., Assoc. Prof., Ph.D. Eng. Zaharchuk O., Assist. Lecturer, Ph.D. Eng. Tolstushko N. Lutsk National Technical University	17	UA
47	EFFECT OF FUEL ADDITIVES ON DIESEL ENGINE PERFORMANCE AND EXHAUST EMISSIONS	Dr. Laurinaitis K., Dr. Mickevičius T. Faculty of Agricultural Engineering – Aleksandras Stulginskis University, Lithuania	23	LT
48	RENEWABLE ENERGY STORAGE METHODS	İrem Demir, Ahmet Kiliçkan Faculty of Agriculture, Adnan Menderes University, Department of Biosystem Engineering	26	TR
49	ABOUT DISTRIBUTION OF REINFORCING MATERIAL IN MIXTURE AT SELECTION OF SAMPLES	Prof. Dr. Peleshenko B. ¹ , Assoc. Prof. Dr. Derkach A. ¹ , eng. Makarenko D. ¹ , Prof. DSc Aulin V. ² ¹ Dnipro State Agrarian and Economic University ² Central Ukrainian National Technical University	37	UA
50	DRONE TECHNOLOGY IN AGRICULTURAL MECHANIZATION	Assist. Prof. Aydoğan Y. ¹ Faculty of Agriculture, Adnan Menderes University ¹ , Turkey	39	TR
51	SERVICE CO-OPERATIVES IN UKRAINE: TECHNICAL AND INFRASTRUCTURE DEVELOPMENT	Associate Prof., PhD Volovyk I. Faculty of Management and Marketing – Dnipro State Agrarian and Economic University, Ukraine	40	UA
52	RATIONALE OF AGRO-TECHNICAL PERIOD HARVESTING WALNUT	PhD, s.r.o., Kudrynetsky R. ¹ , Postgraduate Student, Krupych S. ¹ , Assoc. Prof. Dr. Krupych O. ² , Assoc. Prof. Dr. Kuzenko D. ² ¹ National Scientific Center «Institute for Agriculture Engineering and Electrification» ² Lviv National Agricultural University	43	UA
53	USING THE SPRAY OF MACRO- AND MICRONUTRIENTS OF FERTILIZERS TO INCREASE THE PRODUCTIVITY OF POTATO TUBERS (<i>SOLANUM TUBEROSUM</i> L.)	Ali Hulail Noaema, Barbara Sawicka, Department of Technology and Commodity Plant Production, University of Life Sciences in Lublin	46	PL
54	JUSTIFICATION OF SCIENTIFIC AND PRACTICAL APPROACHES TO RATIONAL USE OF STRAW AND PLANT RESIDUES	DrSc., Prof. Bulgakov V. ¹ ; DrSc., Prof. Melnik V. ² , DrSc.; Prof. Ruzhylo Z. ¹ ; Prof. Doc. Ing. Margus Arak ³ , PhD; Prof. Doc. Ing. Jüri Olt ³ , PhD; Eng. Ihnatiev Y. ⁴ ¹ National University of Life and Environmental Sciences of Ukraine, ² Kharkiv Petro Vasylenko National Technical University of Agriculture, ³ Estonian University of Life Sciences, ⁴ Tavria State Agrotechnological University	47	UA/EE

55	MODEL OF AN FINANCIAL ANALYSIS OF AN GREENHOUSE FOR ORGANIC PRODUCTION	Stoilov V. ¹ , Assoc. Prof. Dr. Nedeva K. ² , Prof. Dr. Nanev N. ³ ¹ Zeminvest EAD - Sofia, ² Agricultural University - Plovdiv, ³ MZHG - Sofia	49	BG
56	PROBLEMS OF RECYCLING OF ORGANIC WASTE OF AGRICULTURE	Post graduate student Gayfullin I., Prof. DSc Ziganshin B., Prof. DSc Rudakov A., DSc Shogenov Yu., Dr. Nafikov I., Dr. Safiullin I. Kazan State Agrarian University,	57	RU
57	IMPACT OF MAGNETIC TREATMENT OF TOMATO AND ONION SEEDS ON THEIR PRODUCTIVITY	R. Kireva, M. Mihov Institute for Soil Science, Agrotechnology and Plant Protection "N.Pushkarov", Sofia	59	BG
58	CHALLENGES FACING CONTEMPORARY SEED DRILLS FOR REDUCED TILLAGE, REVIEWING VARIOUS TECHNICAL SOLUTIONS AND DISCUSSING A METHOD FOR EVALUATING THEIR EFFICIENCY	Asst. Prof. Bratoev K.PhD., M.Sc. Vezijska G., Assoc. Prof. Mitev G. DSc. University of Ruse "Angel Kanchev"	60	BG
59	PRACTICAL ADVICES TO CHOOSING APPROPRIATE SOIL TILLAGE MACHINES	Asst. Prof. Bratoev K.PhD., Assoc.Prof. Mitev G. DSc., M.Sc. Vezijska G. University of Ruse "Angel Kanchev"	61	BG
60	TESTING AVAILABILITY OF NUTRIENTS IN SOME SOILS	Angelova P.PhD., Assoc. Prof. Mitev G. DSc. University of Ruse "Angel Kanchev"	62	BG
61	HEALTHY SOILS AND ADVANTAGES OF THE COVER CROPS	Asst. Prof. Bratoev K.PhD, Assoc. Prof. Mitev G. DSc. University of Ruse "Angel Kanchev"	63	BG
62	CHOOSING APPROPRIATE MACHINERY FOR REDUCED TILLAGE	Asst. Prof. Bratoev K.PhD., Asst. Prof. Dobrinov V.PhD., Assoc. Prof. Mitev G. DSc., M.Sc. Vezijska G., University of Ruse "Angel Kanchev"	64	BG
63	LOGISTIC APPROACHES IN ACTIVITY OF AGRICULTURAL ENTERPRISES	graduate student Hankievich Y., Assoc. Prof. DSc Ovchinnikov E. Grodno State University named after Yanka Kupala	74	BY
64	EVAPOTRANSPIRATION AND BIOPHYSICAL COEFFICIENTS OF LONG-FRUIT CUCUMBERS GROWN IN PLASTIC GREENHOUSES IN DRIP IRRIGATION CONDITIONS	Rumyana Kireva, Miho Mihov - Institute of Soil Science, Agrotechnology and Plant Protection, Sofia	80	BG
65	SEED PROTECTION DURING EARLY SOWING	Assist. Prof. Vasil Kopchev, PhD, Assoc. Prof. Georgi Mitev, DSc, Kr. Bratoev, PhD University of Ruse "Angel Kanchev"	81	BG
66	LIVESTOCK FARMS SERVICING PERIMETER OPTIMIZATION	M.Mihov - Institute for Soil Science, Agrotechnology and Plant Protection "N.Pushkarov", Sofia	82	BG



III INTERNATIONAL SCIENTIFIC CONFERENCE
CONSERVING SOILS AND WATER

29.08.-01.09.2018, BURGAS, HOTEL ATLANTIS
www.conserving-soils.eu



IV INTERNATIONAL SCIENTIFIC CONFERENCE
MATERIAL SCIENCE.
NONEQUILIBRIUM PHASE TRANSFORMATIONS 2018

10-13.09.2018, VARNA, HOTEL AQUA AZUR
www.material-science.eu



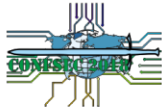
XV INTERNATIONAL SCIENTIFIC CONGRESS - SUMMER SESSION
MACHINES. TECHNOLOGIES. MATERIALS 2018

12-15.09.2018, VARNA, HOTEL AQUA AZUR
www.mtmcongress.com



THE 20th INTERNATIONAL WORKSHOP
ON COMPUTER SCIENCE
AND INFORMATION TECHNOLOGIES

24-27.09.2018, VARNA, HOTEL AQUA AZUR
www.csit-bg.com



II INTERNATIONAL SCIENTIFIC CONFERENCE
CONFSEC 2018

10-13.12.2018, BOROSETS, HOTEL ELA
www.confsec.eu



III INTERNATIONAL SCIENTIFIC CONFERENCE - WINTER SESSION
INDUSTRY 4.0

12-15.12.2018, BOROSETS, HOTEL ELA
www.industry-4.eu



II INTERNATIONAL SCIENTIFIC CONFERENCE
MATHEMATICAL MODELING

12-15.12.2018, BOROSETS, HOTEL ELA
www.mathmodel.eu



IV INTERNATIONAL SCIENTIFIC CONFERENCE
HIGH TECHNOLOGIES. BUSINESS. SOCIETY 2019

11-14.03.2019, BOROSETS, HOTEL ELA
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XII CONFERENCE FOR YOUNG RESEARCHERS
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Пришляк В.М.
Доповідь

INFLUENCE OF THE TECHNOLOGY OF THE THROUGH STUDY OF AGRICULTURAL MACHINES ON THE AGROENGINEERS' READINESS FOR THE PROJECT ACTIVITY

The purpose of studying the discipline is to provide students with in-depth knowledge of the structure, work and setting up of agricultural machines in accordance with specific conditions, as well as obtaining knowledge on the theory and calculation of technological processes and working machinery of machines, which is necessary for research aimed at improving existing and creating new high-performance machines.

According to the requirements of the higher education standard, the student must know:

- agrotechnical requirements for growing crops and conducting technological operations in crop production;
 - the best achievements of science and production in the application of agricultural machinery in technological processes;
 - purpose, structure, working processes and technological adjustment of machines;
 - methods of substantiation and determination of the basic parameters, modes and indicators of the work of agricultural machines, machine aggregates and complexes;
 - methods of assessing the quality of machines, their advantages and disadvantages;
 - peculiarities of mechanization of plant growing processes in the conditions of a market economy;
 - the main trends and trends of the development of individual groups of machinery and agricultural machinery in general;
- should be able to:
- to set up machines for the given mode of operation, to work on them, to detect and eliminate malfunctions;
 - independently master the constructions and working processes of new agricultural machines and technological complexes;
 - perform technological, kinematic and energy calculations of machines and their working bodies and units.

Effective learning technology in higher education is breakthrough study of subjects, breakthrough of the project activity, breakthrough of the practical training and so on. As the influence of technology breakthrough study agricultural machines for forming readiness for project activities of the agroengineers is not properly investigated because it is an urgent scientific and technical and pedagogical problem, which is advisable to be addressed comprehensively and systematically. Thus, the main objective of these studies is a programming and scientific and methodical study of educational technology a breakthrough study of the specialty "Agroengineering" first (bachelor's) degree of higher education discipline "Farm machines" and examine its impact on the process of preparedness for design of future professionals from agroengineering according to real agricultural production conditions, which can sometimes be special, for example, bioenergetic crop sowing on sloping lands of variable steepness [2].

Particular attention is paid to the breakthrough-art technology of training, independent work of students of agroengineering specialties in the scientific works by Bender I.M. [3]. Innovative pedagogical technology of breakthrough design significantly increases the requirements for coursework and graduate papers or projects, needs a lot of professional commitment and the ability to develop educational projects for the development of student project activities. The prediction of the effectiveness of the development of the breakthrough line design, the right choice of the scientific direction, the themes should be based on a person-oriented approach, which will maximally reveal the motivational-value, cognitive-understanding and activity-practical criteria of productive learning technology.

Breakthrough eliminates the simple repetition of the material passed. Therefore, at each stage of the process of studying agricultural machines at least 80% should be the latest for the student character, enrich him with new knowledge, expand and deepen professional competencies. Repetition of the studied material in auditorium is allowed, but no more than 20%. In extracurricular time as an independent work, students can, if necessary, devote more time to this, especially in view of the need for in-depth study of agricultural machines in foreign languages, which is necessary for them in the case of going abroad for practice or doing work there according to their specialty. The method of realization of the planned breakthrough program for studying agricultural machines involves consistent gradual growth of professional competencies at the expense of optimal use of all types of educational work with a comprehensive study of the content and amount of lectures, laboratory and practical classes, course design, training and production practices, independent work, etc.

The creative potential of the student is most revealed in the project activity of agricultural machines. In order to ensure efficient and high-quality implementation of the 3-year course work on agricultural machines, it is important to develop a scheme for the thematic introduction of non-core types of independent work of agricultural machinery basic discipline and related disciplines in course work. In order to provide a breakthrough course design in basic disciplines it is important to be able to allocate the content of the term paper or diploma project by sections, parts and fragments. An important and up-to-date is the development of a mechanism for the implementation and operation of the method of a breakthrough stage phased in development of professional competencies, including the project within one of the basic disciplines – "Agricultural machines".

Agricultural machines the students of specialty 208 – "Agroengineering" begin to study from the 1st year in the form of theoretical study within the discipline "Introduction to the specialty", as well as during the training practice on agricultural machines. To understand the content of training, structure, general provisions, etc. working programs have been developed.

In the work program of the academic discipline "Introduction to the specialty", developed at the department of agricultural machines of the Vinnitsa National Agrarian University, the description, structure, purpose and tasks of studying the discipline are presented, the competence of the specialist, from whom the student must learn in the process of study, is indicated. Within the framework of interdisciplinary relations, the discipline "Introduction to a specialty" is oriented practically to all disciplines that in one way or another form the general and professional competences, which include the formation of preparedness for the project activity of the agroengineer. These are the disciplines such as: Higher Mathematics, Theory of Machines and Mechanisms, Material Science and Technology of Structural Materials, Mechanics of Materials and Structures, Applied Mathematics, Fuel and lubrication and other operational materials, Machine parts and design bases, Tractors and cars, Agricultural machines, Tolerances, landing, interchangeability, Machinery and equipment for processing of agricultural products, Machines and equipment for livestock, Hoisting and transport vehicles, Machinery and equipment maintenance, Technical service of agrarian and industrial complex, Machinery use in crop production, Design of technological processes in crop production.

The purpose of the educational practice of agricultural machines on the first year, that is, at the initial stage of acquiring practical knowledge of students by the structure, the working process of agricultural machines and modern means of planting mechanization, is the formation of skills, professional competencies to substantiate the choice of the design of the working bodies of agricultural machines, their arranging for the personal participation of a trainee for optimal working conditions in accordance with the specific conditions of use of technical means of mechanization.

Basic study of agricultural machines is based on the developed program [4] of the discipline "Agricultural machines", compiled on the thematically generalized basis, taking into account the requirements of the educational and qualification characteristics of the bachelor's direction of preparation 6.100102 "Processes, machines and equipment of agro-industrial production". From each group of cars the basic ones are allocated. On their basis, the general structure, the design of the working bodies, the technological process of work and regulation, the theory and methods of calculating the parameters of machines, its evaluation by qualitative, energy and economic indicators are studied. The program includes a description of the discipline, its purpose, qualification requirements, interdisciplinary connections, forms of final control and means of diagnostics of success.

At the end of the 3rd year of study, students undergo industrial practice in using agricultural machines (3 weeks), as well as the operation of a machine-tractor park (4 weeks). Before leaving for practice, each student receives an individual task from the head of the practice, which involves in-depth study of individual issues that can be used for writing course and diploma projects. These questions may affect the technology of growing individual crops and types of aggregates that are used on the farm, evaluation of the quality of the implementation of technological operations in crop production, methods of harvesting of cultivated crops, modern technologies of quality control of agricultural machines, experience of rationalizers on the improvement of structures of mechanization facilities, studying the experience of introducing the latest technologies in the production of agricultural products [12, 13].

The tests of measuring the residual knowledge of agricultural machines [14] have been developed, which are intended to evaluate and determine the level of professional competence of the future agroengineering at the final stage of training. The tests in the discipline "Agricultural Machines" for the control of bachelor's knowledge of the direction 6.100102 "Processes, machines and equipment for agro-industrial production" consist of 3 parts in accordance with the typical discipline program [1].

Part 1 (Test tasks of less complexity) include 49 questions and are characterized by an assessment of knowledge on the purpose, characteristics and structure of agricultural machinery and machine components.

Part 2 (Test tasks of greater complexity) include 46 questions and are characterized by an assessment of knowledge of the structure, process of work and technological adjustment of agricultural machines and machine aggregates.

Part 3 (Practical tasks, calculations) include 51 questions and are characterized by an assessment of knowledge of the theory and calculation of agricultural machines.

The educational discipline "Agricultural Machines" is one of the main disciplines of agroengineering training, which ensures their readiness for the project activity. As the theoretical analysis and experimental pedagogical research showed, the breakthrough technology of studying agricultural machines provides better results, which is confirmed by conducting control measures in the form of credits, examinations, as well as a breakthrough of residual knowledge, which was conducted 5 months after the main control. In the tests it is expedient to include questions with varying degrees of complexity of theoretical, computational and practical orientation that would affect the increase of soil fertility due to the introduction of organic and mineral fertilizers, timely and quality agricultural crop sowing, cropping operations, harvesting with minimum costs, and with the maximum profit. Therefore, economic indicators must be taken into account when developing and designing agricultural machinery and technology.

The theoretical and experimental studies carried out made it possible to clarify certain positions of the features of the influence of pedagogical technology of the breakthrough study of agricultural machines on the formation of readiness for the project activity of future agroengineers. In this direction, new scientific results were obtained, in particular, the theoretical basis for the software system of the educational disciplines "Introduction to the speciality" and "Agricultural machines", developed and tested working programs and practice diaries taking into account their relationship with the material of lectures, laboratory and practical classes, methods of course and diploma design. In the development of training programs and tests of knowledge control, project activities of future agroengineers were taken into account. The use of tests for the diagnosis of training significantly increases the objectivity of the assessment and reduces the time spent by the teacher and students to control knowledge by 2-4 times. The developed model of the innovative system of forming the readiness for the project activity of future agroengineers includes a diagnostic component of assessment and correction of learning outcomes using testing as a form of knowledge control.



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AGRICULTURAL MACHINERY 2018

TO

Assoc. Prof. Dr. Pryshliak V.

FOR THE REPORT

INFLUENCE OF THE TECHNOLOGY OF THE THROUGH STUDY OF AGRICULTURAL MACHINES ON THE AGROENGINEERS'
READINESS FOR THE PROJECT ACTIVITY



25 - 28.06.2018, Burgas, Bulgaria

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