

Land & Water Use and Environment

Irrigation and Drainage Modelling

657 A	<i>H. Sourell, A. Hezarjaribi</i>	Possibility of using the drip irrigation laterals on center pivot irrigation machines	1
645 A	<i>M. A. Moreno P. Planells, P. Carrion, F. Ortega, J. M. Tarjuelo</i>	Improvement of the Energy Efficiency in Pumping Stations	3
369 A	<i>G. Newell, R. J. Smith, J. P. Foley, M. H. Gillies</i>	A Decision Support Model for Travelling Gun Irrigation Machines	5
648 A	<i>J. N. Ortiz, J. A. De Juan, J. F. Ortega, J. M. Tarjuelo</i>	Sugar Beet Irrigation using a Center Pivot with Different Types of Sprinklers	7
910 A	<i>M. I. Valín, L. S. Pereira</i>	DEPIVOT, a simulation model for design and performance assessment of center-pivot irrigation systems	9

Water Saving and Productivity

38 A	<i>G. A. Barani, M. B. Rahnama</i>	Conservation of Water Using Permeable Membranes in Subsurface Irrigation Methods	11
134 A	<i>J. Liu, A. J. B. Zehnder, H. Yang</i>	Global Crop Water Productivity Simulation for Wheat – An Application of the GEPIC Model	13
188 A	<i>P. Paredes, E. D. Cholpankulov, O. P. Inchekova, L. S. Pereira</i>	Irrigation Scheduling Strategies for Cotton to Cope with Water Scarcity	15
257 A	<i>M. Ataii, F. Ghooshchi, F. Bazrafshan, A. Safahani, A. Daneshmand</i>	Effect of water stress on seed yield and Chlorophyll content in rapeseed (<i>Brassica napus L.</i>) cultivars	17

Soil Sustainability

787 A	<i>W. Hoogmoed, L. Stroosnijder</i>	Infiltration characteristics for different land-use types in Burkina Faso	19
-------	---	---	----

957 A	A. Schwark, E. Isensee, E. Hartung	Long-term Effects of Cultivation with Large Machinery on the Subsoil	21
100 A	J. L. Ullman, S. Mukhtar, S. Senseman	Sorption and Degradation of Estrogenic Compounds in Agricultural Soils: Implications on Hormone Mobility Following Land Application of Animal Manures	23
249 A	Y. Zhang, Z. Ge, Y. Zhou	Traction Effect of Lateral Roots on Soil and Model Prediction	25
671 A	Z. Xiaolin, Z. Mingyao, Y. Li	Study on Dynamics of Lake Mash Resources of Lixiahe Region in China	27

Water Management and Water Quality

541 A	M. Theocharis, Ch. Tzimopoulos, M. Sakellariou- Makrantonaki, St. Yannopoulos, I. Meletiou	Design of Branched Water Supply Networks Using Labye's Method and Nonlinear Programming Optimization Method	29
646 A	A. Domínguez, A. Torres, J. F. Ortega	Simulation of an Irrigated Land Cropping System in a Semiarid Area (Albacete, Spain)	31
600 A	K. Bardowicks, J. L. Arumí, M. Billib, E. Holzapfel	Study on the Environmental Impact of the Irrigation Management at the Basin Scale	33
687 A	M. McGechan, A. Vinten, D. Lewis	Modelling River Water Pollution from Livestock Farming	35
29 A	D. Shelton	Developments in Sportsturf Drainage Machinery and Techniques	37

Soil Conservation and Improvement

94 A	R. Meissner	High Precision Measurement of Water and Solute Balances in Soils with Newly Developed lysimeter Types	39
745 A	G. Huang, Y. Xiong, Q. Huang	Non-Fickian Transport in One-Dimensional Homogeneous and Heterogeneous Soil Columns	41

		Seite	
850 A	<i>L. Yinong, Z. Shaohui, X. Di, B. Meijian</i>	An Optimized Inverse Model Used to Estimate Soil Infiltration Parameters and the Manning's roughness Coefficient under Surface Irrigation Condition	43
147 A	<i>S. Mukhtar, M. McFarland, C. Gerngross, F. Mazac</i>	Use of Dairy Manure Compost as Erosion Control Material under Vegetative and Non Vegetative Conditions	45
Landscapes and Ecosystems			
533 A	<i>K. P. Gore</i>	Impact and Economic Evaluation of Watershed Development Work in Maharashtra State – A Case Study	47
504 A	<i>F. J. Montero, A. Brasa, F. Montero, J. M. Alía, C. Verdejo</i>	Land-use planning by using Geographic Information Systems for grape-growing zoning in Valdepeñas, Spain	49
907 A	<i>Á. R. Gómez, Eu. G. Vázquez, E. A. Téllez, A. I. G. García</i>	Significant attributes of the landscape around rural roads	51
Irrigation and Drainage Modelling I			
186 A	<i>J. M. Gonçalves, A. Muga, L. S. Pereira, J. Rolim, M. G. Horst</i>	SADREG, a DSS for design and management of farm surface irrigation systems	53
511 A	<i>C. Jantschke, R. Wallach, R. Becker, K. Köller</i>	Dynamic Online Moisture Detection to Enhance Irrigation Efficiency	55
523 A	<i>J. Binder, S. Graeff, W. Claupein, M. Liu, M. Dai, P. Wang</i>	Optimizing irrigation in a double cropping system of winter wheat and summer maize in the North China Plain	57
655 A	<i>A. Hezarjaribi, H. Sourell</i>	Delineation of irrigation management zones using sensor-based soil electrical conductivity measurements	59

Irrigation and Drainage Modelling II

183 A	J. Puig-Bargués, M. Duran-Ros, J. Barragán, F. Ramírez de Cartagena	Filter and emitter performance of microirrigation subunits using secondary effluents	61
56 A	G. Lorenzini, D. De Wrachien	Thermal Fluid Dynamics of Water Droplet in Sprinkler Irrigation: A New Approach.	63
364 A	Y. Kunimitsu	Economic Evaluation for Irrigation Water in Japanese Rice Production	65
647 A	M. Jiménez, A. Moreno, J. González, J. M. Tarjuelo, J. F. Ortega, J. A. de Juan	Sprinkler Nonuniformity effect on Onion Yield	67
791 A	B. Zion, A. Barki, I. Karplus	Prospects of a "Virtual Cage-Culture" Technology for Sea-Ranching of Fish	69

Environmental Criteria for Land Uses

363 A	Y. Lu, X. Lei, J. Yang, W. Li, N. Sugiura, T. Maekawa	Treatment of Fecal Sewage by the Land Infiltration System in Haigeng Park in Dianchi Lake Catchment	71
109 A	A. Meyer-Aurich, A. Weersink, K. Janovicek, B. Deen	Cost efficient tillage and rotation options for mitigating GHG emissions from agriculture in Eastern Canada	73
799 A	M. K. Singh, M. Rounsevell, E. Audsley, M. Fekete-Farkas, E. Dobo	Assessing Environmental effects on Agricultural Land Use Changes and Agro-ecosystem in Europe	75
477 A	Th. Übleis	Oö. Wasserschutzberatung – consulting for clean groundwater	77

Postersession

412 P	<i>L. Jiuhaoy, T. Ying, Z. Zhibin, L. Xiwen</i>	Study on Water Penetration in Latosol Under Drop Irrigation	79
592 P	<i>St. Walther, Th. Schüle, N. Dingeldey, K. Köller</i>	Reducing Soil Erosion with Precision Farming Tools	81
258 P	<i>A. Daneshmand, A. H. Shirani-Rad, J. Daneshian, G. Zarei, M. R. Ardakani</i>	Solute accumulation and osmotic adjustment in leaves of Brassica oilseeds in response to soil water deficit	83
669 P	<i>X. Yafeng, Z. Mingyao, G. Taiyi, J. Hao, Z. Chunlin</i>	Study on the Character of Spatial Variability of Soil Organic Matter in the Wheat Field	85
31 P	<i>M. B. Rahnama, G. A. Barani, M. J. Arvin</i>	Measurement of Eggplant Water Requirement Using Underground Irrigation Systems	87
719 P	<i>V. Martínez Alvarez, M. M. González-Real, A. Baille, J. M. Molina Martínez</i>	Regional characterization of the pan coefficient for irrigation reservoirs in South Eastern Spain	89
251 P	<i>Ch. Wang, Z. Ge</i>	Effect of Soil Compaction on Fractal Characteristic of Soil Infiltration under Drip Irrigation	91
667 P	<i>Z. Xiaolin, Z. Mingyao, Y. Li</i>	Study on Dynamics of Lake Mash Resources of Lixiahe region in China	93
733 P	<i>J. R. Jiménez Romero, F. Agrela Sainz, M. López Aguilar, J. A. Muñoz, A. J. González Barrios</i>	Mechanical characteristics of recycled materials and feasible use in rural road construction	95

138 P	<i>R. Duarte Coelho, M. B. Teixeira, R. Ferreira de Mélo</i>	Discharge Coefficients for Center Pivot Emitters	97
195 P	<i>C. G. López, B. Velázquez Martí</i>	Evaluation of the sustainability in the soil management for the production systems in extensive horticulture	99
788 P	<i>B. Zion, L. Reshef, R. Regev, M. Lev, M. Cohen, M. Levi, Y. Steinmetz, A. Weisblum</i>	Mechanical harvesting of Leucadendron flowers	101

Power & Machinery

Tractors I

347 A	<i>P. Thiebes, S. Sarami, H. J. Meyer</i>	Validation and Verification of a MBS Tractor Model	103
601 A	<i>C. Bisaglia, M. Cutini, G. Gruppo</i>	Assessment of vibration reproducibility on agricultural tractors by a "four poster" test stand	105
705 A	<i>M. Gallmeier, H. Auernahmmer</i>	Test cycles for dynamic testing and simulation of agricultural equipment	107
656 A	<i>M. Szente</i>	Slip Calculation and Analysis for Four-wheel Drive Tractors	109
344 A	<i>J. Gil-Sierra, J. Ortiz-Cañavate, V. Gil-Quirós, J. Casanova</i>	Energy efficiency in agricultural tractors. A methodology for their classification	111

Tractors II

978 A	<i>E. L. Eisele, R. Gugel, M. Reinards, H. Schäfer, N. Tarasinski</i>	Power assisted transmission shift unit	113
676 A	<i>O. Pettersson</i>	Experiences of Expensive Breakdowns in Hydraulic and Transmission Systems Coursed by Contaminated Oil	115

		Seite	
387 P	<i>P. Linares, J. Fernández, L. Puente, L. Márquez</i>	Displacements ratio in the hydraulic units of an output-coupled CVT transmission	117
Tractors III			
593 A	<i>Ch. Brinkmann, St. Böttlinger, H. D. Kutzbach</i>	Investigations on high-frequency vibration behaviour of agricultural tyres	119
595 A	<i>B. Ferhadbegović, Ch. Brinkmann, St. Böttlinger, H. D. Kutzbach</i>	Hohenheim Tyre Model – A Dynamic Model for Agricultural Tyres	121
658 A	<i>R. Obermeier- Hartmann, St. Bleischwitz, R. Käsler</i>	New Track Undercarriage for Agricultural Application	123
535 A	<i>A. Grečenko, P. Prikner, C. Verner, F. Lachnit</i>	Aiming at agricultural tyre rating based on soil compaction potential	125
Tillage & Seeding I			
764 A	<i>A. Rucins, A. Vilde</i>	Impact of the Plough Body Parameters on the Soil Tillage Efficiency	127
502 A	<i>J. Expido, J. Bueno, J. M. Pereira</i>	Influence of tillage systems on potato productivity, soil penetration resistance and soil water content	129
487	<i>B. Lehmann, M. Klindtworth, R. Sperveslage, E. Wißerodt, M. Leinker, J. Weinert, J. Kakau</i>	Technical approach to reduce contamination of cereals by Fusarium mycotoxins	131
868 A	<i>A. Block</i>	Evaluation of machinery for mechanised land preparation in tropical agroforestry systems to avoid slash-burning practice	133

Fertilising & Plant protection I

85 A	<i>S. Villette, F. Cointault, B. Chopinet, P. Zwaenepoel, M. Paindavoine</i>	Centrifugal spreading: motion blurred images to determine the three components of fertiliser outlet velocity	135
930 A	<i>J. G. Gil, L. M. N. Gracia, F. González Herrero, M. Rodríguez Álvarez</i>	Development and validation of a software tool for the modelling of spreaders with centrifugal distributors	137
851	<i>P. Á. Mesterházi, G. Milics, M. Neményi, St. Maniak</i>	A possible solution for speeding up Machine Vision-based Weed Monitoring	139
516 A	<i>A. Geva, G. Manor</i>	Methods for measuring sprayer drift	141

Harvesting Technology I

961 A	<i>B. Hamphoff, D. Bürmann, St. Liedmeier, F. Hovenga</i>	New Crop Intake System for Combine Harvesters	143
568 A	<i>S. Rothaug, St. Böttlinger, H. D. Kutzbach</i>	Investigations on a Combine Cleaning Unit with Circular Oscillation	145
794 A	<i>O. Hensel</i>	Yield mapping and smart harvesting control by the combine's corn header	147
206 A	<i>H. Bernhardt, V. Klüber, M. Schreiber</i>	Development of mechanical floor loading by using combine harvesters	149

Tractors IV

941 A	<i>Ch. Oberhaus, G. Keuper, P. Stachnik</i>	A tyre-surface model to predict traction in off-road application	151
615 A	<i>M. Schreiber, H. D. Kutzbach</i>	Fuel consumption of agricultural tractors	153
843 A	<i>P. Back</i>	Dual Temperature Cooling System for the 6000 Series Agricultural Tractor	155

Tillage & Seeding II

- 931 A *I. J. Jóri,
J. Rádics,
I. Szabó* Long term effect to tillage on soil CO₂ emission 157
- 885 A *J. A. Gil Ribes,
J. Agüera,
G. Blanco,
N. Marcos,
F. Hinojosa* Comparison of conventional and low Pressure Tyres through Traction and Soil Compaction Tests 159
- 934 A *G. Kerényi,
F. Zsolt,
J. Jóri* Vibratory Analysis of Active Cultivation Tools 161

Harvesting Technology II

- 955 A *M. Ewers,
E. Isensee,
E. Hartung* NIR – Sensor for determination of product quality of grain while combining 163
- 288 A *G. Chen,
J. Schultz,
R. Sulman* Design and Development of a Prototype Small-Plot Research Harvesting System 165
- 1002 A *C. Plouffe,
J. Favier,
M. Kremmer* Industrial Needs for Soil & Crop Systems Modelling 167

Automation Technology I

- 436 A *G. Gruppo,
C. Bisaglia,
M. Cutini,
L. Ragni,
G. Santoro* A laboratory methodology to compare the performances of cutting bar suspension systems by a four posters test rig 169
- 89 A *M. R. Mostofi,
R. J. Godwin,
M. J. O'Dogherty,
S. Minaee* Performance Evaluation of a Continuous Mass Flow Rate Measurement System for Root Crop Harvesting 171
- 166 A *C. Weltzien,
N. Diekhans,
H.-H. Harms* Distance Measurement Application with Automotive Radar Sensors in Agricultural Environment 173

Tillage & Seeding III

- 494 F. Pforte,
O. Hensel Online-measurement of percent residue cover for implement control in conservation tillage 175

628 A	Z. Xin, L. G. Wells, L. Xiwen	The Development and Testing of a System to Continuously Measure Soil Tillage Resistance	177
28 A	R. Tabatabaekoloor	Development, test and evaluation of a tractor mounted cone penetrometer	179
80 A	A. Sharifi, R. J. Godwin	Measuring Changes in Tine Facial Pressure Distribution on Soils with varying Strength	181
964 A	A. Rucins, A. Vilde	Impact of the Plough Body Parameters on the Soil Tillage Efficiency	183
Tillage & Seeding IV			
901 A	R. Victor, G. M. Ioan, F. T. L. Viorel	Mathematical Model for Soil Tillage Energy Evaluation	185
221 A	R. L. Kushwaha, S. Karmakar	Application of Computational Fluid Dynamics (CFD) to Soil Tillage	187
967 A	J. Liu, R. L. Kushwaha	Modeling Soil Redistribution by Multiple Sweeps	189
210 A	D. V. Petrović, M. S. Đević, Z. I. Mileusnić	Some Relationships between the Skewness and Flatness Factors in a CULTIVATED Soil Structure	191
Harvesting Technology III			
778 A	B. Loibl, K. Köller	Effect of different row cleaners and closing wheels on the emergence of sugar beets in direct planting	193
863 A	J. Przybył, I. Kowalik, J. Dach, T. Sęk	Working Quality of Sugar-Beet Harvesters in a Drought Conditions	195
948 A	O. Schmittmann, I. Lengyel, P. Schulze Lammers	Methods for online Determination of Soil Trafficality – in Example of a Sugar Beet Harvester	197
194 A	Ch. Brüser, H.-H. Harms	Cutting Sugar Beets with High-Pressure-Waterjet	199
853	S. Kosutic, D. Filipovic, Z. Gospodarcic, S. Husnjak, R. Zimmer, I. Kovacev	Effect of Soil Tillage Systems in Soybean and Winter Wheat Production on Gleyic Podzoluvisol in Croatia	201

Automation Technology II

625 A	<i>Y.-Ch. Chiu, S. Chen, G.-J. Wu, Y.-H. Lin</i>	3D Computer-aided human factor engineering analysis of a grafting robot	203
809 A	<i>R. Ehsani, D. Grejner- Brzezinska, M. Sullivan</i>	Comparing the Performance of RTK GPS Receivers Used in Agriculture	205
219 A	<i>M. Holpp, L. Dürr</i>	Automatic guidance system for tractors in fruit farming	207
661 A	<i>R. W. Coates, M. J. Delwiche</i>	Wireless Network for Individual Emitter Control in Irrigation	209
802 A	<i>E. Van Henten, D. Van't Slot, C. Hol, G. Van Willigenburg</i>	Optimal Design of a Cucumber Harvesting Robot	211

Product Development

163 A	<i>J. E. Lenz, R. G. Landman, T. D. Fuss</i>	Software Quality in Distributed Embedded Systems	213
899 A	<i>P. Degen, J. Möller</i>	Increasing efficiency in R&D projects	215
981 A	<i>Ch. von Holst</i>	Fatigue Life Prediction of Welded Structures	217
1001 A	<i>M. Zhu</i>	New Development of Agricultural Engineering in China	219

Fertilising & Plant protection II

859 A	<i>D. Nuyttens, K. Baetens, B. Nicolaï, H. Ramon, M. De Schampheleire, W. Steurbaut, B. Sonck</i>	The effect of droplet characteristics on spray drift	221
753 A	<i>D. Pessina, D. Facchinetti</i>	Check and set up of used sprayers in Lombardy	223

341 A	<i>L. Moltoni, A. Moltoni, G. Masiá</i>	An Economic Analysis of a Weed Detection System in Argentina	225
714 A	<i>P. Gay, P. Piccarolo, D. R. Arimonino, C. Tortia</i>	Steam injection systems for soil disinfection	227
Harvesting Technology IV			
589 A	<i>W. Berg, A. Prochnow, R. Latsch</i>	Assessing high performance techniques for the production of wilted grass silage	229
772 A	<i>M. Hawlas</i>	A New Pre Chamber System for Large Square Balers	231
469 A	<i>J. Peça, A. Almeida, A. Pinheiro, A. Dias, L. Santos, J. Lopes, J. Gomes D. Reynolds</i>	Mechanized Rolling Canvas for olive harvesting	233
855 A	<i>T. Wegener, A. Block</i>	Development of a Self-Cutting Bush Chopper for Mechanised Landscape Conservation Measures	235
Automation Technology III			
782 A	<i>Z. Schmilovitch, C. Shemdry, I. Shmulevich, V. Alchanatis, H. Egozi, A. Hoffman, V. Ostrovsky, S. Lurie, R. B. Arie</i>	NIRS Detection of Moldy Core in Apples	237
331 A	<i>A. Gutierrez, P. Chueca, E. Molto</i>	Automatic machine for foliar application of bait insecticides	239
389 A	<i>J. G. Sanchis, J. Blasco, N. Aleixos, F. Juste, E. Molto</i>	Hyperspectral computer vision system for the detection of <i>Penicillium digitatum</i> in citrus packinglines	241

442 A	<i>N. Díaz-Gorgojo, E. C. Correa, P. Barreiro, M. C. Chamorro, R. Pérez de Rueda</i>	Supervision of milk coagulation with scatter red LED light	243
Postersession			
598 P	<i>M. Cutini, C. Bisaglia</i>	A method to assess the longitudinal dynamic stability during braking of agricultural tractors fitted with front-end loaders	245
561 P	<i>A. Szafarz, Z. Błaszkiewicz</i>	A Model For The Prediction Of Driving Wheel Performance Parameters And Soil Compaction	247
956 P	<i>V. Höltkemeyer, E. Isensee, E. Hartung</i>	Control of contact-area and interior pressure of tires at varying influence of ground and wheel load	249
79 P	<i>A. Sharifi, R. J. Godwin</i>	Tine facial pressure prediction model for uniform soils	251
982 P	<i>M. Khaledian, P. Ruelle, J.-C. Mailhol, R. Lahmar, L. Delage, P. Rosique</i>	The Long-Term Impacts of Direct Seeding into Mulch in the South of France	253
836 P	<i>M. Vincini, M. Boschetti, D. Stroppiana, C. Giardino, F. Coren, P. D'Alessio, E. Frazzi</i>	Comparison of narrow-band and broad-band Vegetation Indexes for canopy chlorophyll density estimation in sugar beet	255
651 P	<i>Z. Kassai</i>	Possibilities of Correction for Spreading-uniformity at Manure Spreaders	257
577 P	<i>Y. Gil, C. Sinfont, B. Palagos, B. Bonicelli</i>	Study on response surface methodology (RSM) of pesticide emission to the air during an air-assisted sprayer application	259
139 P	<i>G. Kanai, K. Tamaki, Y. Nagasaki</i>	Harvesting Conditions and Quality of the High-Moisture Wheat	261
585 P	<i>C. Marouzé, F. Godé</i>	Minibatt, Result of a Distributed Design Approach	263

463 P	<i>P. Amirante, P. Catalano, C. De Palma, F. Giametta, A. Leone, G. Montel</i>	Vibration analysis of an olives mechanical harvesting system	265
409 P	<i>Z. Zhao, N. Wang, X. Luo</i>	A new approach of boundary following for mobile robots with only 180°-vision	267
312 P	<i>M. Gavrić, M. Martinov</i>	GPS-based system for site-specific farming in developing countries	269

Information Systems and Precision Farming

Data Acquisition and Management

709 A	<i>G. Steinberger, M. Rothmund, H. Auernhammer</i>	Agricultural Process Data Service (APDS)	271
97 A	<i>J. P. Chanet, D. Boffety, G. André, F. Vigier</i>	Ad Hoc Network for Agriculture: Irrigation Management	273
560 A	<i>M. Miettinen, T. Oksanen, M. Öhman, A. Visala</i>	Implementation of ISO 11783 Compatible Task Controller	275
677 A	<i>P. Suomi, T. Oksanen, L. Pesonen, J. Kaivosoja, H. Haapala, A. Visala</i>	Intelligent functions for crop production automation	277

Crop Sensing/Plant Recognition

621 A	<i>F. Fender, M. Hanneken, S. In der Stroth, A. Kielhorn, A. Linz, A. Ruckelshausen</i>	Sensor Fusion Meets GPS: Individual Plant Detection	279
642 A	<i>J. B. Vioix, T. Sliwa, Ch. Gée</i>	An automatic inter and intra-row weed detection in agronomic images	281

		Seite	
330 A	<i>Ch. Gée, J. Bossu, F. Truchetet</i>	A Double Hough Transform for a Crop-Weed discrimination	283
497 A	<i>S. Graeff, W. Claupein</i>	Sensor based estimation of grain protein content in wheat	285
566 A	<i>R. Bastida, P. Barreiro, C. Valero</i>	On-board sensors for vine harvesters	287
Soil Sensing			
480 A	<i>P. Schulze Lammers, Y. Sun, D. Ma</i>	A Combined Horizontal Penetrometer for Transient Detection of Soil Water Content and Mechanical Resistance	289
584 A	<i>H. Domsch, A. Giebel, K. Witzke</i>	Determination of soil strength at field scale using a penetrometer	291
970 A	<i>M. Gohari, A. Hemmat, A. Afzal</i>	Design, Development of a Variable-Depth Subsoiler for Site-Specific Tillage: A Study of Response Time	293
143 A	<i>M. R. Maleki, A. M. Mouazen, H. Ramon, J. De Baerdemaeker</i>	Optimisation of Variable Rate Application System of Soil Phosphorus Using On-line VSI-NIR Sensor	295
775 A	<i>L. Jianhan, W. Machua, L. Gang, S. Yongsheng</i>	Development of a Laser Controlled System for Land Leveling Machinery	297
Field Robots			
404 A	<i>T. Blass, R. Linker, I. Shmulevich</i>	Path-planning Algorithm for Vehicle Operating in Orchards	299
441 A	<i>D. Bochtis, S. Vougioukas, K. Tsatsarelis</i>	A Vehicle Routing Problem Formulation of Agricultural Field Operations Planning for Self-Propelled Machines	301
444 A	<i>Y. Ampatzidis, St. Vougioukas, S. Blackomore, D. Bochtis</i>	An Object-Oriented Asynchronous Kalman Filter with Outlier Rejection for Autonomous Tractor Navigation	303
509 A	<i>St. Vougioukas, Y. Ampatzidis</i>	Nonlinear Model Predictive Path Tracking for Precision Guidance	305

619 A	<i>R. Klose, A. Linz, A. Ruckelshausen</i>	Robotic Platform for Remote Control and Teleservice in Agricultural Environments	307
Crop Sensing I			
212 A	<i>D. Ehlerl, R. Adamek</i>	Analyse of laser-rangefinder readings in crop stands	309
214 A	<i>J. Arnó, J. M. Vallès, J. Llorens, R. Blanco, J. Palacín, R. Sanz, J. Masip, M. Ribes-Dasi, J. R. Rosell</i>	Ground laser scanner data analysis for Leaf Area Index (LAI) prediction in orchards and vineyards	311
430 A	<i>F. Cointault, B. De Solan, B. Chopinet</i>	A semi-automatic wheatears counting method based on a supervised colour-texture image processing technique	313
638 A	<i>J. Link, S. Graeff, W. D. Batchelor, W. Claupein</i>	Performance of a precision farming crop growth model in three different regions	315
922 A	<i>S. Begiebing, H. Bach, M. Wehrhan, W. Mauser</i>	Derivation of Canopy Parameters of Wheat Using Hyperspectral, Directional Remote Sensing Data and the Canopy Reflectance Model SLC	317
Weed Control			
490 A	<i>P. Hloben, J. Vondricka, P. Schulze Lammers</i>	Study on Response Time of Direct Nozzle Injection System for Variable Rate Application of Herbicides	319
870 A	<i>J. Vondricka, P. Hloben, P. Schulze Lammers</i>	Study on the Mixing Process in Direct Injection Systems for Site-Specific Herbicide Application	321
175 A	<i>Z. Gobor, P. Schulze Lammers</i>	Concept and virtual prototype of a rotary hoe for intra-row weed control in row crops	323
708 A	<i>H. W. Griepentrog, M. Nørremark, J. Nielsen</i>	Autonomous intra-row rotor weeding based on GPS	325

- 814 A *H. W. Griepentrog, Close-to-crop thermal weed control using a CO₂ laser* 327
M. Nørremark,
J. F. Soriano

Guidance & Auto-steering

- 635 A *G. Nienaber,*
N. Diekhans Accuracy analysis of GPS based autoguidance systems 329
- 636 A *Ch. Pein,*
Ch. Kitzler,
P. Skjodt,
J. McClure Combining GPS- and Camera Steering- (LPS) Systems: in-field applications and experiences 331
- 898 A *A. Fekete,*
I. Földesi,
L. Kovacs GPSbased Automatic and Manual Vehicle Steering 333
- 538 A *P. Balsari,*
M. Tamagnone,
P. Marucco Field tests on GPS lightbar guidance systems for agricultural machines 335
- 406 A *X. Luo,*
Z. Zhang An Automatic Guidance System for Rice Transplanter 337

Crop Sensing II

- 526 A *A. Calcante,*
F. Mazzetto,
R. Oberti,
L. Brancadoro Ultrasonic Canopy Sensing for Precision Viticulture Practice 339
- 261 A *G. Kormann,*
W. Flohr Development of a Constituent Sensor for Agricultural Applications 341
- 587 A *J. Xin,*
T. Momol,
L. Buss,
F. Zazueta,
P. Vergot Dynamic Mapping Pest Distribution Using SVG and AJAX under Java Platform 343
- 953 A *H. Andree,*
M. Dolud,
E. Hartung Near-Infrared Spectroscopy as a Analytical Process Technology in Manure Application for Fertilizing 345
- 798 A *A. Hetzroni,*
S. Yosef,
D. Shapira,
I. Esquira,
I. Fraier,
E. Zemach,
Y. Ackerman,
V. Edan Cellular Phones for Data Capture in Agricultural Settings 347

Yield Sensing

- 165 A C. Shuren,
W. Maohua,
Z. Yane,
L. Peng On-Line Experiment Research of Cotton Yield Monitor Based on PF3000 349
- 375 A F. Kumhala,
Z. Kviz,
V. Prosek Parallel Plate Weight Sensor for Forages 351
- 170 A M. Konstantinovic,
S. Wöckel,
P. Schulze Lammers,
J. Sachs Concept and features of an ultra wideband radar system for mapping sugar beet yield 353
- 844 A M. Pérez,
J. Agüera,
J. Gil,
G. Blanco Spatial Variability of Cone Index and Yield Cotton 355
- 613 A St. Böttlinger,
P. Wacker,
W. Hermann Small Scaling Differences in Yield and other Parameters for Winter Wheat 357

Crop Sensing III

- 988 A A. Castignanò,
F. Morari,
G. Morelli Assessment of Spatial Relationship Between Some Soil Properties and Electromagnetic Induction Scans 359
- 834 A M. Loghavi,
B. B. Mackvandi Development of a New Approach for Weed Control on the Basis of Site-Specific Management 361
- 680 A K. Gröll,
S. Graeff,
W. Claupein Use of leaf-based sensor technologies to assess the effects of various plant diseases on wheat growth and development 363
- 897 A C.-L. Hsieh,
W.-S. Huang Detection on Biologically Contaminated Phalaenopsis Plantlets in Vitro by Multispectral Image Technique 365

Adoption

- 102 A T. Juliszewski Compatibility of Signalling Equipment in Tractors and Farming Machines 367
- 484 A M. Reichardt,
C. Juergens The Farmers View on the Usability of Precision Farming in Germany – Results of a Multitemporal Survey 369
- 570 A P. Wagner,
M. Schneider Prerequisites for the Adoption of new Technologies – the Example of Precision Agriculture 371
- 307 A D. Trautz,
A. Kielhorn The need for special precision farming techniques in organic farming – Current technology and outlook 373

Postersession

848 P	<i>V. Rataj, J. Havránková</i>	Farm Production Planning Based on 4-years Site-specific Information	375
472 P	<i>L. Nozdrovicky, R. Svarda</i>	Implementation of the site-specific fertilizers application and manager knowledge requirements	377
489 P	<i>J. O. Peça, J. M. Serrano, V. Gonçalves, P. Palma, M. de Carvalho, J. R. Silva, J. Mendes, J. Roma</i>	Variable Rate Application of Fertiliser in a permanent Pasture of the montado Ecosystem of Portugal	379
366 P	<i>X. Luo, X. Zhou</i>	An Image Segmentation Algorithm for the CT Images of Plant Root Based on Histogram Analysis and Region Growing	381
699 P	<i>F. Mazzetto, A. Calcante, F. Salomoni</i>	Italian Experiences of Automatic Monitoring of Slurry Distribution Activities	383
639 P	<i>K. Oetzel, St. Hubrich, L. Autermann, P. Juerschik</i>	New GPS-based solutions for automated process documentation and traceability	385
849 P	<i>M. Pérez, J. Agüera, J. Gil, A. Madueño, G. Blanco</i>	Comparative Study of some Vegetation Indices calculated from different spectral Images	387
193 P	<i>W. Fitzner</i>	Concept of a teleservice based machine adjustment	389
461 P	<i>L. Beplate-Haarstrich, D. von Hörsten, K. Bobey, W. Lücke</i>	Detection of Fusarium spp. in Wheat Grain by Colorimetry	391
780 P	<i>W. Maohua</i>	Prospective Contributions of ICT for Renovation of Traditional Agriculture in Less Developed Regions	393
640 P	<i>D. Jung, A. Kluge, R. Pagel, H. Hamacher, M. Sanders</i>	International use of Telematics in harvesting machinery – experiences and benefits	395

Livestock Technology

Livestock & Structures VII

385 A	<i>S. E. Ozcan, E. Vranken, D. Berckmans</i>	Development of a Temperature-based Ventilation Rate Sensor for Naturally Ventilated Building Openings	397
552 A	<i>K.-H. Jeppsson, G. Gustafsson</i>	Diurnal Variation in Animal Activity, Carbon Dioxide and Moisture Production in a Cowshed with Tied Dairy Cows	399
571 A	<i>M. Barbari</i>	Evaluation of Individual Systems for Cooling of Pregnant Sows in Collective Pens	401
355 A	<i>V. F. da Cruz, M. Perissinotto, E. M. Lucas, D. J. de Moura</i>	Efficiency evaluation of pad cooling systems design with different pad materials	403
238 A	<i>P. Panagakis, P. Axaopoulos</i>	Simulation comparison of fogging strategies based on growing swine apparent heat-stress indices	405

Precision Livestock Farming I

603 A	<i>Ch. Umstatter, J. Holland, T. Waterhouse</i>	Sensor guided hill farming – a management option	407
707 A	<i>Ch. Eckardt, H. Auernhammer</i>	Sustainable pasture management with high resolution location and behavioural data of farm animals	409
702 A	<i>M. Klindtworth, M. Nelle, M. Käck, H. Westendarp</i>	Automatic Registration of Individual Water Intake as a Tool for Management in Calf-rearing	411
62 A	<i>M. H. Hatem, R. R. Sadek, M. Samer</i>	Effects of Cowshed Height on Cooling Efficiency and Microclimate in Hot Climate	413
233 A	<i>E. S. Nadimi, Th. Bak, R. Izadi-Zamanabadi</i>	Monitoring Animals and Herd Behavioral Parameters Using a Wireless Sensor Network	415

Livestock & Structures VIII

650 A	<i>S. Kraatz, W. Berg, B. Küstermann, K.-J. Hülsberg</i>	Energy and Carbon Balancing in Livestock Keeping	417
-------	--	--	-----

			Seite
830 A	<i>Th. Banhazi</i>	Influence of piggery building construction on thermal control in Australian	419
617 A	<i>G. Cascone, A. D'Emilio, R. Mazzarella</i>	CFD analysis of natural ventilation inside dairy houses	421
246 A	<i>H.-j. Müller, W. Franke, B. Möller, U. Stollberg, Ch. Loebelin</i>	Determination of Climatic Parameters and Emission Mass Flows in Naturally Ventilated Large Animal Houses	423
321 A	<i>B. Bjerg, L. C. Sørenson</i>	Modelling of Radial Inlet in Numerical Simulation of Airflow in Livestock Buildings	425
Livestock & Environment I			
464 A	<i>T. Haas, P. Schulze Lammers, B. Diekmann, P. Boeker</i>	Online Measurement of Odour with a Chemosensor System	427
845 A	<i>E. Gallmann, Th. Jungbluth, E. Hartung, Y. Buchleithner, D. Ahrens, K. Sucker, R. Both</i>	Case Study in the Relations between Odour Impact and Odour Nuisance	429
152 A	<i>V. Blanes-Vidal, P. A. Topper, E. F. Wheeler</i>	Development and Validation of a Static Flux Chamber for Measuring Ammonia Emissions from Dairy Cow Manure	431
243 A	<i>R. Kosch, L. Hensmann, H. F. A. Van den Weghe,</i>	Reduction in Ammonia Emissions through the use of Benzoic Acid as an Acid Regulator in Pig Fattening Units	433
532 A	<i>P. Balsari, E. Dinuccio, F. Gioelli</i>	Emission of ammonia from animal waste storage	435
Precision Livestock Farming II			
222 A	<i>R. Karoui, A. M. Mouazen, J. De Baerdemaeker</i>	The joint use of NIR and MIR spectroscopic methods for the determination of some parameters in European Emmental cheeses	437

		Seite
734 A	<i>E. F. Wheeler, P. A. Topper, G. A. Varga, N. Brown, R. E. Graves, V. Ishler, A. Jud Heinrichs, V. Blanes-Vidal, Th. L. Richard</i>	Ammonia Emission Monitoring from Dairy Housing using Flux Chamber Methods 439
476 A	<i>M. Fogarty, T. Curran, V. Dodd, J. Stewart</i>	Sensor Array for the Measurement of Malodour Concentration from Intensive Agricultural Sources 441
717 A	<i>M. Brambilla, M. Guarino, P. Navarotto</i>	Sensorial and Olfactometric Analysis of the odours emitted by one pig barn 443
Livestock & Environment II		
191 A	<i>I. H. Oh, J. H. Lee, B. H. Choi</i>	A continuous process to remove phosphorus from the swine wastewater forming struvite 445
213 A	<i>K.-H. Krause, St. Linke, M. Mußlick, H.-J. Müller, C. Weihs</i>	A New Ventilation System for Reduction of Odour and Ammonia Emissions from Pig Houses 447
332 A	<i>A. Haeussermann, D. Fischer, Th. Jungbluth, J. Baur, E. Hartung</i>	Aerosol Indoor Concentration and Particulate Emission in Fattening Pig Husbandry 449
454 A	<i>Ch. Nannen, W. Büscher</i>	The influence of animal activity on dust generation and particle emissions from fattening pig barns 451
Livestock & Structures I		
88 A	<i>M. Culina, J. Hahne, K.-D. Vorlop</i>	Design of an online sensor array for an early detection of udder affections in automatic milking systems 453
133 A	<i>S. Rose, R. Brunsch, W. Huschke</i>	Single tube guiding in conventional milking parlours 455
232 A	<i>M. Kauke, D. Nosal</i>	Noise and Vibration in Milking Parlours and their Effects on Animals and Milker 457

		Seite	
384 A	<i>J. Harms, G. Wendl</i>	Automatic Milking – Status quo and development trends	459
634 A	<i>P. Zappavigna, P. Liberati, L. Spotti, F. Calegari, L. Stefanini</i>	Implementing the Monitoring Systems of Dairy Cow by means of a Multifunctional Data Acquisition Network	461
Livestock & Environment III			
550 A	<i>F. Teye, H. Gröhn, M. Pastell, M. Hautala, A. Pajumägi, J. Praks, V. Poikalainen, J. Ahokas</i>	Gaseous emissions in cold uninsulated dairy buildings	463
244 A	<i>H.-J. Müller, R. Brunsch, U. Stollberg, D. Werner</i>	Determination of Ammonia Emission Cycles in Broiler Houses and Possibilities of Reduction of These Emissions	465
245 A	<i>H.-J. Müller, K. Schröter, T. Hinz, R. Eisenschmidt</i>	Analysis of Dispersion of Ammonia Emissions in the Surroundings from Broiler Houses	467
291 A	<i>A. Reinhardt-Hanisch, E. Hartung</i>	Comparison of Novel Urease Inhibitors to Reduce Ammonia Emissions under Laboratory Conditions	469
Livestock & Structures II			
160 A	<i>A. Franck, B. Sonck, N. De Belie</i>	Frictional Properties between Bovine Claw and Concrete Floor	471
433 A	<i>M. Kilian, B. Haidn</i>	Combined Evaluation of Flooring Materials in Dairy Barns by Friction and Surface Measurement	473
928 A	<i>E. Berge, O. J. Hoel, Ø. Thuen</i>	Slatted floor design for non-corroding reinforcement	475
949 A	<i>M. Magnusson, M. Ventorp, Ch. Nilsson</i>	Drainage capacity of concrete slatted floors	477

Livestock & Environment IV

- 309 A *E. Wensauer,
St. Neser* Sensitivity analysis of the German dispersion model austal2000-g simulating ambient pollution of animal housings 479
- 304 A *S. Morsing,
J. S. Strøm,
G.-Q. Zhang* Scale model test of floor and air flow effects on gas emission 481
- 376 A *F. Schneider,
St. Neser,
A. Gronauer,
C. Schneider,
F. Sabo* Modelling Measured Particle Size Distributions in Stables – a new Approach to Specify Particulate Matter 483
- 937 A *H.-J. Müller,
H. B. Rom,
S. Pedersen* Comparison of Methods of Determination of Ventilation Flow in Animal Houses with Different Kinds of Animals 485

Livestock & Structures III

- 108 A *E. F. Hessel,
M. Wülbbers-
Mindermann,
Ch. Berg,
H. F. A.
Van den Weghe,
B. Algiers* Influence of increased feeding frequency on the behaviour of and integument lesions in fattening pigs fed restrictedly 487
- 390 A *Th. Jungbluth,
W. Pflanz,
J. Beck,
J. Troxler,
H. Schrade* Assessment of Four Innovative Pig-fattening Systems in the Frame of a Field Study 489
- 683 A *E. Sánchez
Espinosa,
J. Massana,
M. A. Garcimartín,
A. Moragues* Evolution of Resistance of Cement Mortar Pastes during Contact with Pig Slurry in Trials under real Conditions 491

Precision Livestock Farming III

- 336 A *T. Hinz,
St. Linke,
H.-J. Müller,
K. Schröter* Analysis of Dispersion of Ammonia Emissions in the Surroundings from Turkey Houses 493

913 A	<i>St. Thurner, G. Wendl, R. Preisinger, G. Fröhlich, St. Böck, R. Weinfurtner</i>	Evaluating systems for automatic recording of laying performance and ranging behaviour of individual hens	495
-------	--	---	-----

Livestock & Structures IV

695 A	<i>H. Georg, G. Ude</i>	Reducing cross-sucking of group housed calves by an environmental enriched feeding area	497
945 A	<i>Ch. Nilsson, K.-H. Pålsson, M. Ventorp</i>	Pressure Distribution on Bovine Claws in Slatted Concrete Floors	499
743 A	<i>V. Spreng, M. Rothmund, H. Auernhammer</i>	Data Communication Networking in Precision Livestock Farming for improved Calf-Rearing	501

Precision Livestock Farming IV

74 A	<i>U. Brehme, U. Stollberg, B. Strickler, R. von Niederhäusern H. Zurkinden</i>	Daily biorhythm from horses measured with ALT pedometer for checking the well-being in different horse keeping systems	503
720 A	<i>E. Frazzi, F. Calegari, P. D'Alessio, L. Calamari</i>	Effectiveness of cooling by surface carried out in the resting area in dairy cows barns during summer	505
932 A	<i>E. Maltz, A. Antler</i>	Behaviour sensor to detect approaching calving of the dairy cow	507
289 A	<i>Ch. Appel, Th. Jungbluth, E. Hartung</i>	LEIA – Low-End Image Analysis to Continuously Monitor Growth and Body Conformation of Fattening Pigs	509

Livestock & Structures V

618 A	<i>A. C. Yañez, P. A. Rodríguez, A. de Juan Valdés, J. Morán del Pozo</i>	Calculation method of pressures caused by swelling of materials stored in agricultural silos	511
121 A	<i>K. Fleming, E. F. Hessel, H. F. A. Van den Weghe</i>	Airborne dust and ammonia formation of bedding materials for horse stables	513

415 A	<i>S. Calvet, O. Blumetto, A. G. Torres</i>	Nitrogen balance and ammonia emissions in a rabbit farm in Mediterranean conditions	515
388 A	<i>J. M. Morán, A. Juan, R. Robles, A. Couto, P. J. Aguado</i>	The Influence of the Height/Diameter Silos Ratio in Thermal Pressures	517
Precision Livestock Farming V			
215 A	<i>F. Nydegger, M. Schick</i>	Effect of Using an Automatic Feed Pusher on Feed Intake, Milk Yield and Work Economics in Dairy Farming	519
218 A	<i>S. Schrade, M. Zähner, W. Schaeren</i>	Compost and Recycled Manure Solids as Bedding Material in Cubicles for Dairy Cattle	521
694 A	<i>G. Ude, H. Georg</i>	Effect of exercise yard design, toys and automatic calf brush on the behaviour of group housed calves	523
688 A	<i>M. Pastell, A.-M. Aisla, M. Hautala, J. Ahokas, V. Poikalainen, J. Praks</i>	Measuring Lameness in Dairy Cattle Using Force Sensors	525
Livestock & Structures VI			
269 A	<i>M. C. B. Alencar, I. A. Nääs, L. A. Gontijo, D. D. Salgado</i>	Broiler Mortality Correlation to Worker's Perceptions and Beliefs Related to Work	527
805 A	<i>P. Groot Koerkamp, B. Bos, S. van der Kroon</i>	Development of New Husbandry Concepts for Laying Hens for Sustainable Egg Production	529
877 A	<i>S. Nimmermark</i>	Air Quality in Livestock and Poultry Operations and Symptoms in Persons Working with the Animals	531
Postersession			
46 P	<i>V. Blanes-Vidal, S. Pedersen, H. B. Rom</i>	Effect of Environmental and Housing Conditions on Ammonia and Methane Emissions from a Pig House	533
301 P	<i>S. Schrade, F. Nydegger</i>	Mechanical distribution of round bales – a comparison of feeding methods	535

			Seite
883 P	<i>E. Maltz, A. Antler</i>	Behaviour sensor to detect approaching calving of the dairy cow	537
333 P	<i>M. Lebuhn, M. Effenberger, G. Henkelmann, A. Gronauer</i>	Environmental and Health Benefits from Anaerobic Digestion of Animal Waste	539
392 P	<i>A. Villagrá, Ó. Blumetto, M. Lainez, A. Torres</i>	Comparison of different materials used as litter in broiler production	541
732 P	<i>J. Kaihilahti, S. Raussi, H. Khalili, J. Sariola</i>	Cow Behaviour and Disturbances at Automatic Concentrate Feeder	543
216 P	<i>F. Nydegger, Ch. Moriz</i>	Influence on Feed Intake, Milk Yield and Working-time Requirement of Mixing a Basic Ration with a High Proportion of Basic Feed	545
452 P	<i>K. Litschauer, B. Haidn, H. Auernhammer</i>	Circular Crates for Farrowing Sows – Effects on Animal Behaviour	547
575 P	<i>M. Barbari, P. Ferrari</i>	Hygienic Conditions of Milking Cows in Loose Housing Systems with Different lying Areas	549
713 P	<i>F.J. Bockisch, M. Georges, K.-W. Haake</i>	Test concerning temperature passage through solid walls	551
400 P	<i>S. Calvet, M. Cambra-López, A. G. Torres</i>	Ventilation measurement systems in mechanically ventilated farms for estimating gas emissions	553
564 P	<i>H. J. Chepete, R. Tsheko</i>	Hot and Cold Weather Heat Load Dynamics of Uninsulated Broiler House in Botswana	555
653 P	<i>M. Georges, K.-W. Haake, F.J. Bockisch</i>	Architectural Designs of Buildings for Dairy Cows in Arid and Semiarid Regions	557
620 P	<i>P. Aguado, A. Tascón, Á. Ruiz</i>	Analysis of the passive explosion protection systems in agricultural silos using numerical methods	559
935 P	<i>M. Puumala</i>	Different Kinds of Surfaces for Exercise Yards	561

869 P	<i>J. García Torrent, E. Q. Aragon, Á. R. Gomez, P. A. Rodriguez</i>	Experimental Research on Explosibility of Agricultural Materials stored in Silos	563
-------	--	--	-----

242 P	<i>A. Juan, J. M. Morán, A. Couto, I. Guerra, P. J. Aguado</i>	Three-dimensional Finite Element Models to Predict Structural Behaviour in Steel Agricultural Silos	565
-------	--	---	-----

114 P	<i>G. Gustafsson, E. von Wachenfeldt</i>	Reactions of Laying Hens on Artificial Light in a Floor Housing System	567
-------	--	--	-----

357 P	<i>S. Calvet, M. Cambra-López, F. Estellés, F. Carbonell, P. Ferrer, A. G. Torres</i>	Ammonia emissions and nitrogen balance in a broiler farm in Spain in summer conditions	569
-------	---	--	-----

310 P	<i>A. Natsis, St. Christopoulos, G. Papadakis</i>	Interaction between the natural Environment and agricultural Machines	571
-------	---	---	-----

608 P	<i>M. Cambra-López, S. Calvet, A. G. Torres</i>	Determination of the Best Available Techniques in the intensive rearing of poultry for meat production, in Mediterranean conditions in Spain	573
-------	---	--	-----

91 P	<i>K. Suzuki, Y. Tanaka, K. Kuroda, D. Hanajima, Y. Fukumoto, T. Yasuda, M. Waki</i>	Phosphate Recovery as Struvite from Swine Wastewater	575
------	--	--	-----

528 P	<i>A. Costa, M. Guarino, V. Mazzotta, P. Navarotto</i>	Diurnal pattern and seasonal variations in indoor PM ₁₀ concentration and emissions from a swine barn: application of a correction factor to continuously collected data by filter-based gravimetric technique	577
-------	--	---	-----

703 P	<i>J. Kaihilahti, M. Pastell, A. Huhtala, A.M. Aisla, F. Teye, M. Hautala, O. Vainio, J. Lensink, J. Ahokas</i>	New Monitoring Methods of Dairy Cattle Welfare in Finland	579
-------	---	---	-----

Processing & Post Harvest Technologoy and Logistics

Image Processing/Analysis and Computer

806 A	<i>M. T. Riquelme, M. Ruiz-Altsent, C. Valero, P. Barreiro</i>	Olive classification by external damage using image analysis	581
599 A	<i>S. Cordero, L. Lleó, P. Barreiro, M. Ruiz-Altsent</i>	Peach multispectral images related to firmness and maturity	583
588 A	<i>A. Moya-Ganzález, P. Barreiro, F. Chauhard, J. M. Roger</i>	Calibration transfer techniques for on-line NIR evaluation of SSC in onions	585
686 A	<i>L. Baranyai</i>	Analysis of 3D structure of the surface of seed grains using stereo images	587
807 A	<i>M. T. Riquelme, M. Ruiz-Altsent, P. Barreiro, C. Valero</i>	NIR commercial equipments for the analysis of internal quality of citrus (mandarins and oranges)	589

Drying and Dehydration of Food and Agriculture

659 A	<i>L. Bodria, M. Fiala, R. Guidetti</i>	Experimental trials of a dryer for officinal plants	591
146 A	<i>B. A. A. Amer, K. Gottschalk</i>	Experimental Determination of the Factors Affecting the Drying Rates of Apple rings under Varying Controlled Drying Air Conditions	593
624 A	<i>P. Podadera, L. Queiroz Simon, S. Frey Sabato</i>	Effect of Gamma Radiation on Rheological Behavior of Inverted Liquid Sugar	595
408 A	<i>T. Orikasa, L. Wu, Y. Ogawa, A. Tagawa</i>	Hardening of Sample Surface and Drying Rate during hot Air Drying for Kiwifruit	597

Postharvest Technology

328 A	<i>M. Matthiesen, A. Wagner, W. Büscher</i>	Preservation of Crimped High Moisture Grain in a Plastic Tube Silo –Influence of the Moisture Content	599
-------	---	---	-----

264 A	<i>Y. Makino, M. Ichimura, Y. Kawagoe, S. Oshita</i>	Relationship between Respiration Rate of Vegetables and Cytochrome c Oxidase Activity or Staining in Vegetables	601
858 A	<i>A. Mizrach, Z. Schmilovitch, B. Avidan</i>	Maturity Measurements of Olive Fruits using Acoustic and Compression Methods	603
478 A	<i>B. Bojdzinski, Ch. Fürll, H. Hempel</i>	A new Technology for the Cleaning and Sizing of the Shives within a new Natural Fiber separation Plant	605

Food Quality

832 A	<i>D. Ajiro, Y. Nakai, T. Fukumoto, S. Oshita, Y. Kawagoe, Y. Makino</i>	The Effect of low temperature exposure on suppression of water loss of Spinach Leaf through Cell Membrane permeability	607
854 A	<i>L. Radosavljevic, R. Pecenka, Ch. Fürll</i>	Natural Fibre Boards: Method of Binder Spreading to achieve a high Quality Products	609
684 A	<i>L. Drummond, D.-W. Sun</i>	Immersion Vacuum Cooling for Meat Joint Samples – Heat Transfer Modes, Cooling Times and Losses	611
856 A	<i>J. Felföldi, Z. Gillay, V. Muha</i>	Optical method for non-destructive quality assessment of horticultural produces	613

Drying and Dehydration of Food and Agricultural Products

983 A	<i>Z. Pan, C. Shih, T. H. McHugh</i>	Study of banana dehydration using sequential infrared radiation and freeze-drying	615
700 A	<i>W. Lücke</i>	Microwave Drying of Agricultural Materials – Basics, Effects and Mathematical Simulation	617
706 A	<i>M. Böckelmann, W. Lücke, A. Wolf</i>	Microwave Drying of Maize – Computer Tomography as a Method to describe increasing Drying Velocity	619
368 A	<i>P. Maneechot, S. Tojo, K. Watanabe</i>	The Potential Analysis of FIR Drying Vegetables by Using CT Scanner	621

Image and Processing/Analysis and Computer Vision Technology

581 A	<i>J. Blasco, S. Cubero, R. Arias, F. Juste, E. Moltó</i>	On-line quality grading of mandarin segments by computer vision	623
872 A	<i>F. Firtha</i>	Hyper-spectral image processing method for real-time measurements of features	625
591 A	<i>S. Geyer, G. Wormanns, A. Jacobs</i>	Electronic Image Catalogue of Food Defects Assessing Fruit and Vegetable Quality	627
457 A	<i>Ch. Du, D.-V. Sun</i>	Evaluating the Relationships between Image Texture Features and Tenderness of Cooked Pork Ham	629

Mathematical Modelling and Simulation for Food Processing I

382 A	<i>St. Kübler, P. Pickel</i>	Development of modular software to simulate farming processes	631
386 A	<i>B. Noche, P. Pickel, St. Kübler</i>	Modular Simulation Software for Logistics in Agricultural Processing and Food Chain Management	633
520 A	<i>A. Arabhosseini, A. van Boxtel, W. Huisman, J. Müller</i>	Optimization of Drying Tarragon (<i>Artemisia dracunculus L.</i>) by Modeling	635

Sensors for Quality Assessment and Control

663 A	<i>A. Csordas, M. Delwiche, J. Barak</i>	PCR Biosensor for Detection of Bacterial Pathogens on Fruits and Vegetables	637
329 A	<i>A. Gutierrez, J. A. Burgos, C. Garcerá, A. I. Padilla, M. Zarzo, E. Moltó</i>	Validation of an Electronic Sensor for Assessing Grape Quality for Wine Making	639
418 A	<i>P. Gutierrez, L. Ruiz-García, P. Barreiro, J. I. Robla, J. Rodriguez Bermejo</i>	Application of LVF-IR Specific Sensors for Volatile Assessment in Fruits	641

892 A	D. B. Kantor, P. Meszaros, A. Fekete	Analysis of Fruit Juice Concentration by Electronic Tongue	643
Mathematical Modelling and Simulation for Food Processing II			
348 A	S. Minaei, D. Zare, M. Mohammad Zadeh, MH. Khoshtaghaza	Development of Computer Simulation Software for Drying of Paddy in a Deep-Bed Batch Dryer	645
265 A	L. Fenyvesi, L. Csorba, D. Fenyvesi	Mathematical Simulation of the Mechanical Interaction between Grape Harvester and Trellis	647
611 A	J. Mellmann, I.-G. Richter, W. Maltby, Ch. Fürll	Modelling of grain drying and experiments at a semi-technical mixed flow dryer	649
995 A	M. Konstantinovic, M. Martinov, B. Veselinov, B. Konstantinovic	New Highly Flexible Solution for Decentralised Cold Pressing of Oil Seeds	651
Physical Properties of Food and Agricultural Products			
394 A	L. Wu, T. Orikasa, Y. Ogawa, A. Tagawa	Effect of Vacuum Dehydration Treatment on Physical Properties and Freezing Process of Dehydrofrozen Eggplant	653
298 A	Z. Qing, M. Zude, B. Ji	Wavelengths selection for sensing physico-chemical apple properties using NIRS feasible for automation	655
604 A	B. Diezma-Iglesias, P. García Rebollar, M. Ruiz-Alrisent, C. Álvarez Carro	Instrumental measurement of textural characteristics of hard-cooked egg yolk enriched with different levels of conjugated linoleic acid	657
Food Packaging and Storage			
783 A	J. Zhu, X. Wang, Y. Xu, J. Wang	Controlled Atmosphere Preservation Technology of Agaricus Bisporus	659
915 A	S. Geyer, K. Gottschalk	Infrared Thermography Technology Used as Climate Control for Free Convective Ventilated Potato Stores	661

			Seite
499 A	<i>H. Manolopoulou,</i> <i>P. Diamantopoulou,</i> <i>Gr. Lambrinos,</i> <i>G. Xanthopoulos</i>	Storage of Mushrooms (<i>Agaricus bisporus</i>) under Modified Atmosphere	663
590 A	<i>Th. Hoffmann,</i> <i>P. Maly,</i> <i>Ch. Fürll,</i> <i>K. Scheibe</i>	Harvest and storage of potatoes in boxes	665
835 A	<i>A.-P. Cherng,</i> <i>Ch.-Y. Yang</i>	Experimental Evaluation of a Frequency-based Firmness Index for Solid Ellipsoidal Fruits and Vegetables	667

Sensing Technology Development

306 A	<i>N. Hernández-Sánchez,</i> <i>P. Barreiro,</i> <i>J. Ruiz-Cabello,</i> <i>J. M. Pérez</i>	Prospective of Ultra-fast MRI Sequences for On-line Fruit Quality Inspection	669
781 A	<i>M. H. Movahednejad,</i> <i>M. H. Khoshtaghaza,</i> <i>S. Abbasi</i>	Effect of Some Physical Parameters on the Lime Juice Efficiency as well as Electrical Power Consumption of Screw Type Extractor	671
812 A	<i>J. Pecen</i>	Direct Visualisation Internal Damage of the Seed by Electronic Radiographs	673
207 A	<i>M. Zude,</i> <i>I. Birlouez-Aragon,</i> <i>D. N. Rutledge</i>	A rapid method for sensing carotenoids and tocopherol in carrots	675

Postersession

808 P	<i>M. T. Riquelme,</i> <i>C. Valero,</i> <i>M. Ruiz-Altisent</i>	Performance of near infrared equipment to measure of internal quality in melon	677
413 P	<i>L. Ruiz-Garcia,</i> <i>P. Barreiro,</i> <i>J. Rodriguez-Bermejo,</i> <i>J. I. Robla,</i> <i>M. Ruiz-Altisent</i>	Specifications of a CANbus system for monitoring fruit transports	679

498 P	H. Manolopoulou, Gr. Lambrinos, E. Chatzis, H. Mitropetrou, P. Makri, G. Xanthopoulos	Effects of temperature and modified atmosphere packaging on storage behaviour of whole and fresh-cut mushrooms	681
314 P	E. Arbones, L. Ordóñez, J. Gómez, M. López, L. Calvo, A. Romero	Useful Variables for Monitoring Tomato Concentration Processes	683
594 P	L. Bodria, R. Guidetti	Energy analysis of a pasta factory and application of cogeneration	685
49 P	A. Manukova, I. Evstatiev, N. Mihajlov, G. Georgiev	Modeling of Temperature Processes of Grain Under Drying	687
495 P	G. Xanthopoulos, G. Lambrinos, H. Manolopoulou	Mathematical modelling of single layer air-drying of mushroom (<i>Agaricus bisporous</i>)	689
990 P	J. Blasco, S. Cubero, S. Mira, E. Moltó	Prototype for the automatic inspection of pomegranate arils by means of computer vision	691
488 P	U. Hoppe, B. Corves	Modern Simulation Tools for the Development of Potato Size Sorting Machines	693
586 P	M. Claude, F. Giroux	Rationalization of a Fonio Processing Equipment Design Process in West Africa	695
514 P	K. Yoneoka, Y. Ogawa, A. Tagawa	Relationships between amount of boiling water and histological structures of cooked rice grain	697
926 P	F. Firtha, A. Fekete, T. Kaszab, P. Takács, B. Herold, W. Herppich, B. Borsa, L. Kovács	Analysis of Carrot Drying by Hyperspectral Imaging	699

916 P	<i>T. Kaszab, A. Fekete</i>	Comparison of Compression and Shear Test of Viscoplastic Materials	701
397 P	<i>Y. Muramatsu, A. Tagawa, T. Kasai</i>	Drying Characteristics of Kidney Beans (Shirohanamame)	703
Appendix			
1009 A	<i>F. Khoshnam, A. Tabatabaeefar, A. Borghei</i>	Modeling of Pomegranates Volume Based on its Physical Attributes	911

Energy and Non-Food Production Technology

Biogas I

473 A	<i>V. Aschmann, R. Kissel, A. Gronauer</i>	Exhaust emissions and performance of biogas-driven combined heat and power plants	705
320 A	<i>R. Schmersahl, J. Ellner, V. Scholz</i>	Fuelling a PEM Fuel Cell System with Bigas	707
721 A	<i>P. Mähnert, B. Linke</i>	Biogas Production from Energy Crops and Cattle Slurry under Meso- and Thermophilic Conditions	709
939 A	<i>F. Kaiser, A. Gronauer</i>	Potentials and Risks of Using Renewable Raw Materials for Biogas Production	711
323 A	<i>B. Frau, U. Weinmann, H. Oechsner, Th. Jungbluth</i>	Potential Deactivation of Fusarium Spores by Fermentation combined with simultaneous Mycotoxin Monitoring in Biogas Plants	713

Biogas II

954 A	<i>E. Thiessen, H. Andree, E. Hartung</i>	Optimized Biogas Production by means of Nearinfrared-Spectroscopy	715
722 A	<i>Z. Pastorek, J. Kára, J. Mazancová, I. Hanzlíková</i>	Possibilities of slaughterhouse waste processing in the biogas plants	717
176 A	<i>M. Mukengele, M. Brulé, H. Oechsner</i>	Wheat grain and ensiled maize as substrates for biogas production	719
23 A	<i>H. Bakhoda, M. Almassi, S. Minaee, N. Nasirian</i>	Studying Suitability of Using Camelina Sativa as Biodiesel	721

Biomass Handling and Processing

522 A	A. Zomorodian, M. Barati	A single glazed solar Air Heater with metallic transpired Absorber for solar Dryers	723
318 A	V. Scholz, Ch. Idler, J. Egert	Problems and Solutions of Storing Wood Chips in Piles	725
704 A	R. Pecenka, Ch. Fürll, Ch. Idler, L. Radosavljevic	A Novel Technology for the Processing of Wet Preserved Natural Fibre Plants from Agriculture	727
448 A	C. Boehmel, B. Schumacher, W. Claupein	Energy production potential of different cropping systems in south western Germany	729

Biomass Emissions

84 A	St. N. Ondimu, H. Muase	Thermophysical Properties of a Biological Roof Greening Material by Inverse Modeling	731
893 A	B. Miladin, M. Milan	Efficiency and Emission of Solid Biomass Combustion Facilities in Vojvodina	733
755 A	F. He, J. Zha, W. Yi, X. Bai	Heat Emission Characteristics of Agro-stalks during Smoldering	735

Energy Efficiency

451 A	U. Klee, F. Tetzlaff, P. Pickel	Aspects of process engineering and power engineering for utilization of biomass in a 200 kW-gasification system	737
735 A	M. Hoki, Y. Umezawa, H. Monobe, B. D. Tadeo	Rice Husk Gasification for small-scale Applications	739
239 A	S. Kusch, H. Oechsner	Biogas production with agricultural substrates in batch-operated solid-phase digestion systems	741
173 A	B. Schumacher, C. Böhmel, H. Oechsner, Th. Jungbluth, W. Claupein	Crop rotation systems for biogas production	743

Liquid Biofuels – Biodiesel

- 405 A *J. Krahl,
A. Munack,
Y. Ruschel,
O. Schröder,
N. Grope,
S. Schwarz,
J. Bünger* Emissions from a Heavy Duty Diesel Engine: Gaseous Compounds, Particles and Related Health Effects 745
- 437 A *A. Balafoutis,
D. Melas,
A. Natsis,
A.
Papagianopoulou,
G. Papadakis* Experimental investigation of the use of sunflower crude oil as fuel in a compression ignition engine 747
- 378 A *N. Mihailov,
I. Stoyanov* Statistical parameters of the process global solar radiation 749
- 867 A *K. Kacz,
M. Némethné
Varga,
Zs. Sítepán,
M. Neményi,
A. J. Kovács* The possible Use of Vegetable Oil as Fuel 751

Gaseous Fuels and Pyrolysis

- 359 A *G. Vox,
G. Scarascia-
Mugnozza,
E. Schettini* Photovoltaic solar Cells and Wind Turbine for Greenhouse Climate Control in Mediterranean Areas 753
- 420 A *M. Nikolaj,
T. Stancev,
I. Evstatiiev,
G. Georgiev* Investigation of Heat Parameters of a Sock-Breeding Farm by Means of Modelling with a Known Heat Flux 755
- 767 A *R. Berruto,
S. Bechis,
P. Busato,
P. Piccarolo* Technologic and Energetic Aspects of Using Corn as a Fuel in Grain Driers 757
- 960 A *C. E. L. de Oliveira,
A. J. Defendi* Energy Performance of Climate Control for Poultry House in South of Brazil 759

Postersession

421 P	<i>G. Papadakis</i>	Autonomous Desalination System Concepts for Sea Water and brackish Water in rural Areas with renewable Energies – Potentials, Technologies, Field Experience, Socio-Technical and Socio-Economic Impacts ADIRA Project	761
724 P	<i>C. E. L. Oliveira, J. A. Rabi, J. Freitas Letra, F. Makishi</i>	Assessment of energy saving in sugar-alcohol mills: a case study in Brazil	763
792 P	<i>M. Martinov, M. Tescic, V. Ros, M. Konstantinovic</i>	Study on self-supply possibilities of biomass energy in a Pannonian village	765
765 P	<i>B. Zhang, G. Xu, S. Yang</i>	Advances in China's Agricultural biomass energy	767
543 P	<i>P. Balsari, M. Manzone, G. Airolidi</i>	Development of a new planter for poplar and willow SRF cultivation	769
90 P	<i>B. Velázquez Martí, T. Cremer, H. Lechner</i>	Analysis of the Potential of Energy Wood obtained by Means of different Harvesting Systems in different Types of Forest in Germany	771
151 P	<i>C. Bisaglia, M. Cutini</i>	Development of a high-density round baler for orchard and vineyard pruning residues harvesting suitable for narrow tractors	773

Systems Engineering and Management**Systems Engineering**

429 A	<i>P. Catalano, F. Giometta, A. Simoni</i>	Traceability in beef cattle breeding farms	775
481 A	<i>C. F. Jaarsma</i>	Passing Bays as a Solution to Reconcile Agricultural Vehicles with Through Traffic on Major Roads?	777
352 A	<i>E. Quendler, I. Krisller, J. Boxberger</i>	Driver assistance system IISA	779
549 A	<i>D. Pessina, D. Facchinetti, M. Belli</i>	Contribution for the definition of a vibrations standard for Big Self-propelled Harvesting Machines	781

Safety and Ergonomics I

991 A	<i>N. A. S. Silveira, I. A. Nääs, D. J. Moura, D. D. Salgado, R. T. R. Silva, K. P. Ribeiro, V. C. Carvalho</i>	Characteristics of Labor Activities in Swine Production in Brazil and their Occupational Health Symptoms	783
460 A	<i>D. Tooy, H. Murase</i>	Decomposting of Human Mind to Farmer Behavior Recognition on Tropical Farming Decision System	785
888 A	<i>S. R. Hassan-Beygi, B. Ghobadian, R. A. Chayjan, M. H. Kianmehr</i>	Intelligent Prediction of a Power Tiller Sound Pressure Levels in 1/3rd Octave Using Artificial Neural Networks	787

Farm Management Planning and Calculation I

770 A	<i>P. Busato, R. Berruto, P. Piccarolo</i>	Simulation of Rice Harvesting Chain: Logistic Game for Real Farm	789
524 A	<i>D. Herd, H. Seufert</i>	Milking Productivity and Milking Procedures on German Dairy Farms	791
578 A	<i>R. Geischeder, M. Demmel, M. Rothmund, A. Weber</i>	Organisation and management problems using large, high-capacity self-propelled and tractor-mounted mowers	793

Safety and Ergonomics II

104 A	<i>H. Haapala, P. Nurkka, K. Kaustell, T. Mattila, J. Suutarinen</i>	Usability as a challenge in Precision Agriculture	795
196 A	<i>M. Riegel, M. Schick</i>	Work load in dairy farming – New method for measuring and judgement	797
354 A	<i>M. Lätti, T. Luoma</i>	Information and Communication System in Farm Release Work	799
455 A	<i>C. Bisaglia, D. Pochi, G. Santoro, G. Colorio</i>	A project to introduce specific adaptations on agricultural machineries for farmers with physical disabilities	801

682 A	Q. Geng, M. Andersdotter, A. Torén	Screening of the working environment in dairy farms	803
Farm Management Planning and Calculation II			
290 A	J. Sonnen, R. Tölle, L. Frerichs, J. Hahn	Simulation toolbox for the R&D of harvesting machinery and logistic chains	805
383 A	Ch. Moriz,	Model-based planning of working time requirements for farm management	807
527 A	M. Schick	Work-Budget Systems Taking Account of Work Organisation and Time Planning	809
Postersession			
479 P	C. F. Jaarsma	Agricultural Vehicles & Minor Roads: an Uneasy Embrace?	811
475 P	M. Hiskakis, D. Briassoulis	Design of Agriculture Plastic Waste Chain for Greece from Generation to Disposal; A Pilot Test for Energy Recovery	813
203 P	J. Pawlak	Farm Machinery Market in Poland	815
401 P	V. D. Popov	Computer-aided Engineering System for Development of Forage Making Technologies and Farm Machinery Sets	817
769 P	K. Yutaka, S. Yoshiyuki	Bridge between cultivated and Livestock Farmers in Terms of Biomass Utilization – Case study of cattle manure at Miyako Island, Japan –	819
652 P	M. Cutini, C. Bisaglia	Ergonomic adaptability of agricultural tractor and machinery cabs to disabled operators	821
958 P	V.-M. Tuure	Cold exposure on dairy farms in Finland	823
968 P	C. J. Álvarez, M. F. Marey, J. A. Riveiro	Model for classification and characterization of farms for agricultural production planning. Application in the Northwest of Spain	825
756 P	M. Suárez de Cepeda, B. Recio, F. Rubio	Decision-Making Support System for Farm Machinery Selection	827
Appendix			
77 P	T. Maki, M. Du	Characteristics of Micrometeorological Alleviation of Sandy Lands by a Straw-mat Network in China and Japan	913

Fruit & Vegetable Cultivation Systems

Greenhouses I

434 A	<i>D. Briassoulis, A. Mistriotis</i>	Full-scale measurement of the aerodynamic coefficients for agricultural nets	829
252 A	<i>A. Mistriotis, D. Eleftherakis, D. Briassoulis</i>	Numerical estimation of wind loads on a windbreak segment covered with plastic net	831
506 A	<i>G. Scarascia-Mugnozza, F. R. De Salvador, G. Vox, E. Schettini</i>	Innovative photoselective plastic films for protected cultivation of fruit trees	833
64 A	<i>M. Fadel</i>	Utilizing Deep Soil Temperature for Greenhouse Cooling in Arid lands (Mathematical Modeling)	835
632 A	<i>T. Kuroyanagi, Y. Nakamoto, H. Tanaka, S. Shibata, H. Sugaya, T. Ibuki, T. Higashide, Y. Kasahara</i>	A Study on Roof-vent Arrangement of Sloped Greenhouse using CFD Simulation	837

Plant Protection and Horticulture

852 A	<i>A. Ecolà, F. Camp, F. Solanelles, S. Planas, F. Gracia</i>	Effect of Volume Application Rate in the Spray Application Efficiency in Apple and Pear Orchards. Results of a Three-Year Test	839
317 A	<i>R. Holownicki, G. Doruchowski, W. Świechowski, A. Godyń</i>	The influence of adjuvants and nozzle type on spray coverage on apple leaves	841
540 A	<i>M. Tamagnone, P. Balsari, P. Marucco</i>	Spray distribution in vineyard using multi-row air-assisted sprayers	843
275 A	<i>S. Gan-mor, B. Ronen, Y. Glick</i>	Air-assisted sprayer/pollinator for dates – conflicting and complementary design aspects	845

629 A	<i>P. Chueca, A. Gutiérrez, E. Molto</i>	Comparing the efficiency between cover treatments and bait treatments to control <i>Ceratitis capitata</i>	847
Greenhouses II			
141 A	<i>M. Ushada, H. Murase, H. Fukuda</i>	Development of Intelligence Diagnostic System for Moss Quality in Plant Factory	849
679 A	<i>G. Zaragoza, M. Buchholz, P. Jochum</i>	Project Watergy: a closed greenhouse for minimized water consumption and optimized solar energy use	851
547 A	<i>A. Rodríguez, J. L. García, V. Valiño, S. de la Plaza</i>	PWM control of the fog system in greenhouses	853
810 A	<i>J. Vera, L. M. Navas, S. de la Plaza, J. M. Durán, A. C. Guimarães, L. M. Cárcel, I. Nevares, M. del Álamo, J. Gómez</i>	Development of a Multivariate Predictive Controller for Greenhouses Climate, based on Models using Dynamic Matrix Control	855
Harvesting in Horticulture			
491 A	<i>P. Tarrio, A. Bernardos, J. R. Casar</i>	A vision system to efficiently harvest fruits which grow in clusters	857
539 A	<i>P. Wawzyńczak, P. Konopacki, J. Rabcewicz</i>	Continuous Move Harvester for Sour Cherry	859
280 A	<i>L. Zhang, Q. Yang, G. Bao, F. Xu</i>	Adaptive Fruit Picking End-effector	861
150 A	<i>A. Torregrosa, B. Martín, J. J. Bernad, C. Ortiz</i>	Mechanical Harvesting of processed Peaches cv. Caterina in Murcia (Spain)	863

Fruit and Vegetable Cultivation

- 579 A Á. Carreño Ortega, Modification in the Building Method of Greenhouses
J. Pérez Alonso, to Reduce the Labour Risks and Assembly Costs 865
J. A. Salinas Andújar,
J. M.-G. García
- 626 A L. Pingping, H. Yongguang, W. Zhongshi Preliminary Establishment of Greenhouse Economics 867
- 338 A M. Djevic, A. Dimitrijevic Energy Consumption for Different Greenhouse Structures 869
- 103 A Z. Láng A simple Fruit-Tree Model for the Prediction of Root damaging during mechanical Shaking 871
- 534 A I. Sichert, M. Schick, M. Riegel Working time requirement for harvesting and handling outdoor vegetable 873
- 459 A I. Kyrikou, D. Briassoulis, M. Hiskakis The mechanical behaviour of photodegradable LDPE mulching films with pro-oxidants under UV exposure 875

Postersession

- 731 P G. Scarascia-Mugnozza, P. Picuno, C. Sica Innovative Solution for the Management of the agricultural Plastic Wastes 877
- 760 P M. Hanping, H. Yongguang, W. Deling Greenhouse Climate Control Strategy Based On Temperature Optimized 879
- 431 P A. Sánchez-Gimeno, J. Sánchez-Hermosilla, F. Rodríguez, M. Berenguel Self-propelled vehicle for agricultural tasks in greenhouses 881
- 300 P S. Castellano, A. Candura, G. Scarascia Mugnozza Collapse full scale test on a duo pitched roof steel greenhouse structure 883

FAO

- 132 A Ch. Jenane, S. Lingohr, M. Tockert Development Strategies for the Agricultural Machinery Industrial Sector in Africa 885

356 A	<i>V. Karuppiyah, H. Coenen</i>	Linking Global Markets	887
92 A	<i>B. Sims, J. Kienzle, Th. Friedrich</i>	Optimising land and water use for sustainable and profitable agricultural production	889
1004 A	<i>I. Higuera-Ciapara</i>	Innovation, Value addition, Quality and Competitiveness in the Mexican Agrifood Industry	891
959 A	<i>G. François, M. Claude</i>	Local design capacity building applied to small-scale food processing equipment: a strategic way for adding value to producers	893
825 A	<i>R. Winger</i>	Product development systems for agri-food innovation in developing and transition countries	895
276 A	<i>K. Muenthaisong, T. Toyoda</i>	The Study of Resource Recycling Based Sustainable Agricultural Development in Thailand: Thai-Japanese Joint Venture Agribusiness	897
110 A	<i>Ch. Jenane, Th. Niehaus, M. Tockert</i>	A competency-based qualification program in automation technology and process control applied for agro-Industries in developing countries	899
701 A	<i>A. I. Olorunfemi, M. O. Ashaolu</i>	Poverty Reduction and Food Production in Developing Nations: A Case Study of Nigeria	901

Academic Education

1003 A	<i>D. Briassoulis, P. Panagakis, E. Nikopoulos</i>	University Studies of Agricultural Engineering in Europe; in a crucial transition from Agricultural to Biosystems Engineering	903
996 A	<i>E. S. Sepulveda Bustos, S. Hansen, H. W. Beck, R. Bucklin, W. Cooke, F. S. Zazueta</i>	Curriculum Development Using Ontologies and Learning Objects	905
1007 A	<i>J. F. Reid</i>	University Relationships as Part of the Open Innovation Model for Industry	907
1008 A	<i>W. Lücke</i>	Bachelor- and Master-Degrees in Agricultural Engineering	909
		List of Authors	915