

## Superior Paper Award Winners

1995 - 2018

### 1995 presented 1996

#### **F.A. PAYNE**

Automatic Control of Coagulum Cutting in Cheese Manufacturing  
APPLIED ENGINEERING in AGRICULTURE, Vol. 11, No. 5

#### **D.D. JONES, M.F. KOCHER**

Auger Design for Uniform Unloading of Granular Material: I. Rectangular Cross- Section Containers  
TRANSACTIONS of the ASAE, Vol. 38, No. 4

#### **V. ROS, R.J. SMITH, S.J. MARLEY, D.C. ERBACH**

Mathematical Modeling and Computer- Aided Design of Passive Tillage Tools  
TRANSACTIONS of the ASAE, Vol 38, No. 3

#### **M. BENADY J.E. SIMON, D.J. CHARLES, G.E. MILES**

Fruit Ripeness Determination by Electronic Sensing of Aromatic Volatiles  
TRANSACTIONS of the ASAE, Vol. 38, No. 1

#### **N.L. BUCK, G.P. GROFF**

Determining the Thickness of Layers of Materials by Dielectric-Constant Measurements  
TRANSACTIONS of the ASAE, Vol. 38, No. 6

#### **D.K. GILES, J. GARDNER, H.E. STUDER**

Mechanical Release of Predacious Mites for Biological Pest Control in Strawberries  
TRANSACTIONS of the ASAE, Vol. 38, No. 5

#### **Q. ZHANG, M.G. BRITTON**

Predicting Hygroscopic Loads in Grain Storage Bins  
TRANSACTIONS of the ASAE, Vol. 38, No. 4

#### **T.J. TROUT, R.E. SOJKA, R.D. LENTZ**

Polyacrylamide Effect on Furrow Erosion and Infiltration  
TRANSACTIONS of the ASAE, Vol. 38, No. 3

#### **L.G. SCHUMACHER, S.C. BORGELT, W.G. HIRES**

Fueling a Diesel Engine with Methyl- Ester Soybean Oil  
APPLIED ENGINEERING IN AGRICULTURE, Vol. 11, No. 1

#### **H. RAMON, J. DE BAERDEMAEKER**

Using Principal Gains for Evaluating and Optimizing the Performance of Sprayers  
TRANSACTIONS of the ASAE, Vol. 38, No. 5

### 1996 presented 1997

#### **B. Park, Y.R. Chen**

Multispectral Image Co-Occurrence Matrix Analysis for Poultry Carcasses Inspection  
TRANSACTIONS of the ASAE, Vol. 39, No. 4

#### **R.W. Claycomb, M.J. Delwiche, C.J. Munro, R.H. BonDurant**

Enzyme Immunoassay for On-Line Sensing of Milk Progesterone  
TRANSACTIONS of the ASAE, Vol. 39, No. 2

**X.C. Zhang, M.A. Nearing, L.M. Risse, K.C. McGregor**

Evaluation of WEPP Runoff and Soil Loss Predictions Using Natural Runoff Plot Data TRANSACTIONS of the ASAE, Vol. 39, No. 3

**K. Chao, R.S. Gates**

Design of Switching Control Systems for Ventilated Greenhouses  
TRANSACTIONS of the ASAE, Vol. 39, No. 4

**T.G. Franti, G.R. Foster, E.J. Monke**

Modeling the Effects of Incorporated Residue on Rill Erosion Part II: Experimental Results and Model Validation  
TRANSACTIONS of the ASAE, Vol. 39, No. 2

**W.H. Yang, S. Cenkowski, H.S. Wang**

Microwave-Enhanced Denaturation of Sugar Beet Tissues  
TRANSACTIONS of the ASAE, Vol. 39, No. 3

**G.D. Williams, D.R. Bohnhoff, R.C. Moody**

Locating Butt-Joints in Four-Layer, Nail- Laminated Assemblies  
TRANSACTIONS of the ASAE, Vol. 39, No. 2

**H. Xin, I.L. Berry, G.T. Tabler**

Minimum Ventilation Requirement and Associated Energy Cost for Aerial Ammonia in Broiler Houses  
TRANSACTIONS of the ASAE, Vol. 39, No. 2

**H. Xin, K. Lee**

Use of Aqua-Jel. and Feed for Nutrient Supply During Long Journey Air Transport of Baby Chicks  
TRANSACTIONS of the ASAE, Vol. 39, No. 3

**T.G. Franti, G.R. Foster, E.J. Monke**

Modeling the Effects of Incorporated Residue on Rill Erosion Part I: Model Development and Sensitivity Analysis  
TRANSACTIONS of the ASAE, Vol. 39, No. 2

### **1997 presented 1998**

**D.K. GILES, D.C. SLAUGHTER**

Precision Band Spraying with Machine- Vision Guidance and Adjustable Yaw Nozzles  
TRANSACTIONS of the ASAE, Vol. 40, No. 1

**D.E. RESSLER, R. HORTON, J.L. BAKER, T.C. KASPAR**

Testing a Nitrogen Fertilizer Applicator Designed to Reduce Leaching Losses  
APPLIED ENGINEERING IN AGRICULTURE Vol. 13, No. 3

**E.T. WEATHERLY, C.G. BOWERS, JR.**

Automatic Depth Control of a Seed Planter Based on Soil Drying Front Sensing  
TRANSACTIONS of the ASAE, Vol. 40, No. 2

**T.L. FOUTZ, G.N. ROWLAND, M. EVANS**

An Avian Modeling Approach for Analyzing Modeling and Analysis of Mixed-Flow Bone Loss Due to Disuse  
TRANSACTIONS of the ASAE, Vol. 40, No. 6

**M.P. ZEIGLER, H.B. MANBECK, W.B. ROUSH**

Sources of Variance in Feed Distribution Systems  
TRANSACTIONS of the ASAE, Vol. 40, No. 2

**R.H. ZHANG, P.N. DUGBA, D.S. BUNDY**

Laboratory Study of Surface Aeration of Anaerobic Lagoons for Odor Control of Swine Manure  
TRANSACTIONS of the ASAE, Vol. 40, No. 1

**M.A. BREVE, R.W. SKAGGS, J.E. PARSONS, J.W. GILLIAM**

DRAINMOD-N, A Nitrogen Model for Artificially Drained Soils  
TRANSACTIONS of the ASAE, Vol. 40, No. 4

**Q. LIU, C. CAO, F.W. BAKKER- ARKEMA**

Modeling and Analysis of Mixed Flow Grain Dryer  
TRANSACTIONS of the ASAE, Vol. 40, No. 4

**1998 presented 1999**

**D.C. YODER, J.B. WILKERSON, J.R. BUCHANAN, K.J. HURLEY, R.E. YODER**

Development and Evaluation of a Device to Control Time Varying Flows  
TRANSACTIONS of the ASAE, Vol. 41, No. 2

**Y. TAO**

Closed-loop Search Method for On-Line Automatic Calibration of Multi-camera Inspection Systems  
TRANSACTIONS of the ASAE, Vol. 41, No. 5

**Q. ZHANG, X. BU, M.G. BRITTON**

An Analytical Model for Predicting Stresses in Grain Storage Bins  
TRANSACTIONS of the ASAE, Vol. 41, No. 6

**R. BAJEMA, G.M. HYDE, K. PETERSON**

Precision Farming with Kinematic GPS Instrumentation Design for Dynamic Axial Compression of Cylindrical Tissue Samples  
TRANSACTIONS of the ASAE, Vol. 41, No. 3

**T.D. GLANVILLE, J.L. BAKER, J.K. NEWMAN**

Evaluation of Methods for Diagnosing Contamination in Rural Wells  
TRANSACTIONS OF THE ASAE, Vol. 41, No. 6

**K.M. ROBINSON, C.E. RICE, K.C. KADAVY**

Design of Rock Chutes  
TRANSACTIONS of the ASAE, Vol. 41, No. 3

**N. GALILI, I. SHMULEVICH, N. BENICHO**

Acoustic Testing of Avocado for Fruit Ripeness Evaluation  
TRANSACTIONS of the ASAE, Vol. 41, No. 2

**R.L. CLARK, R. LEE**

Development of Topographic Maps for Precision Farming with Kinematic GPS  
TRANSACTIONS of the ASAE, Vol. 41, No. 4

**1999 presented 2000**

**G.J. Riley, K.G. Gebremedhin**

Axial and Rotational Stiffness Model of Metal-Plate-Connected Wood Truss Joints  
TRANSACTIONS of the ASAE, Vol. 42, No. 3

**J.G. Ibarra, Y. Tao, J. Walker, C. Griffis**

Internal Temperature of Cooked Chicken Meat Through Infrared Imaging and Time Series Analysis  
TRANSACTIONS of the ASAE, Vol. 42, No. 5

**J. Arogo, R.H. Zhang, G.L. Riskowski, D.L. Day**

Mass Transfer Coefficient for Hydrogen Sulfide Emission From Aqueous Solutions and Liquid Swine Manure

TRANSACTIONS of the ASAE, Vol. 42, No. 5

**H. Zhou, H. Xin**

Effects of Heat Lamp Output and Color on Piglets at Cool and Warm Environments

TRANSACTIONS of the ASAE, Vol. 15, No. 4

**L. Tian, J.F. Reid, J.W. Hummel** Development of a Precision Sprayer for Site-Specific Weed Management

TRANSACTIONS of the ASAE, Vol 42 No. 4

**R.R. Ruan, Z. Long, K. Chang, P.L. Chen, I.A. Taub**

Glass Transition Temperature Mapping Using Magnetic Resonance Imaging

TRANSACTIONS of the ASAE, Vol 42 No. 4

**S. Kang, S.R. Delwiche**

Moisture Diffusion Modeling of Wheat Kernels During Soaking

TRANSACTIONS of the ASAE, Vol. 42, No. 5

**A. Bechar, I. Shmulevich, D. Eisikowitch, Y. Vaknin, B. Ronen, S. Gan-Mor**

Modeling and Experiment Analysis of Electrostatic Date Pollination

TRANSACTIONS of the ASAE, Vol.42, No. 6

### **2000 presented 2001**

**W.C. HOFFMANN, H.H.TOM**

Effects of Lowering Spray Boom in Flight on Swath Width and Drift

APPLIED ENGINEERING IN AGRICULTURE Vol. 16, No. 3

**A. MILLMIER, J. LORIMOR, C. HURBURGH, JR., C. FULHAGE, J. HATTEY, H. ZHANG** Near-Infrared Sensing of Manure Nutrients

TRANSACTIONS of the ASAE Vol. 43, No. 4

**H.M. KEENER, D.L. ELWELL, M.J. MONNIN**

Procedures and Equations for Sizing of Structures and Windrows for Composting Animal Mortalities

APPLIED ENGINEERING in AGRICULTURE Vol. 16, No. 6

**A. AL-FARAJ, G.E. MEYER, G.R. SCHADE, G.L. HORST**

Dynamic Analysis of Moisture Stress in Tall Fescue (*Festuca Arundinacea*) Using Canopy Temperature, Irradiation, and Vapor Deficit

TRANSACTIONS of the ASAE Vol. 43, No. 1

**D.L. BJORNEBERG, J.K. AASE, D.T. WESTERMANN**

Controlling Sprinkler Irrigation Runoff, Erosion and Phosphorus Loss with Straw and Polyacrylamide

TRANSACTIONS of the ASAE Vol. 43, No. 6

**J.N. IKEDIALA, J. TANG, T. WIG**

A Heating Block System for Studying Thermal Death Kinetics of Insect Pests

TRANSACTIONS of the ASAE Vol. 43, No. 2

**B.J. HE, Y. ZHANG, Y. YIN, T.L. FUNK G.L. RISKOWSKI**

Operating Temperature and Retention Time Effects on the Thermochemical Conversion Process of Swine Manure

TRANSACTIONS of the ASAE Vol. 43, No. 6

**A. SRIWATANAPONGSE, M. BALABAN, A. TEIXEIRA**

Thermal Inactivation Kinetics of Bromelain in Pineapple Juice

TRANSACTIONS of the ASAE Vol. 43, No. 6

**2001 presented 2002**

**N. SCHEERLINCK, P. VERBOVEN, K.A. FIKIIN, J. DE BAERDEMAEKER, B.M. NICOLAÚ**

Finite Element Computation of Unsteady Phase Change Heat Transfer During Freezing or Thawing of Food Using a Combined Enthalpy and Kirchhoff Transform Method

TRANSACTIONS OF THE ASAE Vol. 44, No. 2

**S. ZOLNIER, R.S. GATES, R.G. ANDERSON S.E. NOKES, G.A. DUNCAN**

Non-Water-Stressed Baseline as a Tool for Dynamic Control of a Misting System for Propagation of Poinsettias

TRANSACTIONS of the ASAE Vol. 44, No. 1

**V.I. ADAMCHUK, M.T. MORGAN, H. SUMALI**

Application of a Strain Gauge Array to Estimate Soil Mechanical Impedance On-The Go

TRANSACTIONS of the ASAE Vol. 44, No. 6

**T.C. PEARSON**

Detection of Pistachio Nuts with Closed Shells Using Impact Acoustics

APPLIED ENGINEERING IN AGRICULTURE Vol. 17, No. 2

**M.D. SCHROCK, J.J. GRIMM, D.L. OARD R.K. TAYLOR, T.C. KOLB, J.D. ANDERSON** Performance of a Multipoint Pulse-Width Modulation Metering System for Ammonia

TRANSACTIONS of the ASAE Vol. 44, No. 2

**B. PANNETON, R. THÉRIAULT, B. LACASSE**

Efficacy Evaluation of a New Spray-Recovery Sprayer for Orchards

TRANSACTIONS of the ASAE Vol. 44, No. 3

**A. LUO, J. ZHU, P.M. NDEGWA**

Phosphorus Transformations in Swine Manure During Continuous and Intermittent Aeration Processes

TRANSACTIONS of the ASAE Vol. 44, No. 4

**Y. SHI, D.B. PARKER, N.A. COLE, B.W. AUVERMANN, J.E. MEHLHORN**

Surface Amendments to Minimize Ammonia Emissions from Beef Cattle Feedlots

TRANSACTIONS of the ASAE Vol. 44, No. 3

**T.E. GRIFT, J.T. WALKER, J.W. HOFSTEE**

Mass Flow Measurement of Granular Materials in Aerial Application – PART 2: Experimental Model Validation

TRANSACTIONS of the ASAE Vol. 44, No. 1

**2002 presented 2003**

**R.D. LAMM, D.C. SLAUGHTER, D.K. GILES**

Precision Weed Control System for Cotton  
TRANSACTIONS OF THE ASAE Vol. 45, No. 1

**C.-C. JIA, W. YANG, T.J. SIEBENMORGEN, R.C. BAUTISTA, A.G. CNOSEN**

A Study of Rice Fissuring by Finite-Element Simulation of Internal Stresses Combined with High-Speed Microscopy Imaging of Fissure Appearance  
TRANSACTIONS OF THE ASAE Vol. 45, No. 3

**T.E. GRIFT, J.W. HOFSTEE**

Testing an Online Spread Pattern Determination Sensor on a Broadcast Fertilizer Spreader  
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**M. KACIRA, P.P. LING, T.H. SHORT**

Machine Vision Extracted Plant Movement for Early Detection of Plant Water Stress  
TRANSACTIONS OF THE ASAE Vol. 45, No. 4

**S. MONGPRANEET, T. ABE, T. TSURUSAKI**

Far Infrared - Vacuum and - Convection Drying of Welsh Onion  
TRANSACTIONS OF THE ASAE Vol. 45, No. 5

**Y.M. BAE, S.I. CHO**

Response of Polymer Membranes as Sensing Elements for an Electronic Tongue  
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**A.C. SHETH, A.D. TURNER**

Kinetics and Economics of Catalytic Steam Gasification of Broiler Litter  
TRANSACTIONS OF THE ASAE Vol. 45, No. 4

**A.J. BUKTA, K. SAKAI, A. SASAO, S. SHIBUSAWA**

Free Play as a Source of Nonlinearity in Tractor-Implement Systems During Transport  
TRANSACTIONS OF THE ASAE Vol. 45, No. 3

**2003 presented 2004**

**S. WANG, J. TANG, R. CAVALIERI, D. DAVIS**

Differential Heating of Insects in Dried Nuts and Fruits Associated with Radio Frequency and Microwave Treatments  
TRANSACTIONS OF THE ASAE Vol. 46, No. 4

**M. VANOTTI, A. SZOGI, P. HUNT**

Extraction of Soluble Phosphorus From Swine Wastewater  
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**J. BONTA, F. PIERSON**

Design, Measurement, and Sampling with Drop-Box Weirs  
APPLIED ENGINEERING IN AGRICULTURE Vol. 19, No. 6

**C. AGUIRRE, K. HAGHIGHI**

Stochastic Finite Element Analysis of Transient Unsaturated Flow in Porous Media  
TRANSACTIONS OF THE ASAE Vol. 46, No. 1

**R. LU**

Detection of Bruises on Apples Using Near-Infrared Hyperspectral Imaging  
TRANSACTIONS OF THE ASAE Vol. 46, No. 2

**K. ARORA, S. MICKELSON, J. BAKER**

Effectiveness of Vegetated Buffer Strips in Reducing Pesticide Transport in Simulated Runoff  
TRANSACTIONS OF THE ASAE Vol. 46, No. 3

**K. GILLIS, D. KEN GILES, D. SLAUGHTER, D. DOWNEY**

Injection Mixing System for Boomless, Target-Activated Herbicide Spraying  
TRANSACTIONS OF THE ASAE Vol. 46, No. 4

**J. SUTTLES, G. VELLIDIS, D. BOSCH, LOWRANCE, J. SHERIDAN, E. USERY**

Watershed-Scale Simulation of Sediment and Nutrient Loads in Georgia Coastal Plain Streams Using the Annualized AGNPS Model  
TRANSACTIONS OF THE ASAE Vol. 46, No. 5

**2004 presented 2005**

**R. SIVAKESAVA, J. IRUDAYARAJ, C. DEBROY**

Differentiation of Microorganisms by FTIR-ATR and NIR Spectroscopy  
TRANSACTIONS of the ASAE Vol. 47, No. 3

**J. CHAPLIN, N. HEMMING, B. HETCHLER**

Comparison of Impact Plate and Torque- Based Grain Mass Flow Sensors  
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**M.C. SIEMENS, D.E. WILKINS, R.F. CORREA**

Development and Evaluation of a Residue Management Wheel For Hoe-Type No-Till Drills  
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**M.H. NICHOLS**

A Radio Frequency Identification System for Monitoring Coarse Sediment Particle Displacement  
APPLIED ENGINEERING IN AGRICULTURE Vol. 20, No. 6

**H.Y. JEON, A.R. WOMAC, J. GUNN**

Sprayer Boom Dynamic Effects on Application Uniformity  
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**T.M. BROWN-BRANDL, J.A. NIENABER H. XIN, R.S. GATES**

A Literature Review of Swine Heat Production  
TRANSACTIONS OF THE ASAE Vol. 47, No. 1

**D.K. GILES, D. DOWNEY, D.C. SLAUGHTER J.C. BREVIS-ACUNA, W.T. LANINI**

Herbicide Micro-Dosing for Weed Control in Field-Grown Processing Tomatoes  
APPLIED ENGINEERING IN AGRICULTURE Vol. 20, No. 6

**J.W. JONES, W.D. GRAHAM, D. WALLACH W.M. BOSTICK, J. KOO**

Estimating Soil Carbon Levels Using an Ensemble Kalman Filter  
TRANSACTIONS OF THE ASAE Vol. 47, No. 1

**K.E. PERSYN, H. XIN, D. NETTLETON, A. IKEGUCHI, R.S. GATES**

Feeding Behaviors of Laying Hens With or Without Beak Trimming  
TRANSACTIONS of the ASAE Vol. 47, No. 2

**2005 presented 2006**

**E.D. VORIES, P.L. TACKER, R. HOGAN**

Multiple Inlet Approach to Reduce Water Requirements for Rice Production  
APPLIED ENGINEERING IN AGRICULTURE Vol. 21, No. 4

**D. BRABEC, R. MAGHIRANG, M. CASADA, E. HAQUE**

Characterization and Modeling of a High-Pressure Water-Fogging System for Grain Dust Control  
TRANSACTIONS OF THE ASABE Vol. 48 (1)

**A. AMÉZQUITA, L. WANG, C.L. WELLER**

Finite Element Modeling and Experimental Validation of Cooling Rates of Large Ready-to Eat Meat Products in Small Meat-Processing Facilities  
TRANSACTIONS OF THE ASABE Vol. 48, No. 1

**L.D. JACOBSON, H. GUO, D.R. SCHMIDT, R.E. NICOLAI, J. ZHU, K.A. JANNI**

Development of the OFFSET Model for Determination of Odor-Annoyance-Free Setback Distances From Animal Production Sites: Part I. Review and Experiment  
TRANSACTIONS OF THE ASABE Vol. 48, No. 6

**J. WEI, F. ROVIRA-MAS, J.F. REID, S. HAN**

Obstacle Detection Using Stereo Vision to Enhance Safety of Autonomous Machines  
TRANSACTIONS OF THE ASABE Vol. 48, No. 6

**X.-L. SU, Y. LI**

Surface Plasmon Resonance and Quartz Crystal Microbalance Immunosensors For Detection of ESCHERICHIA COLI 0157:H7  
TRANSACTIONS OF THE ASABE Vol. 48, No. 1

**G.J. HANSON, K.R. COOK, S.L. HUNT**

Physical Modeling of Overtopping Erosion and Breach Formation of Cohesive Embankments  
TRANSACTIONS OF THE ASABE Vol. 48, No. 5

**W. YUAN, A.C. HANSEN, M.E. TAT, J.H. VAN GERPEN, Z. TAN**

Spray, Ignition, and Combustion Modeling of Biodiesel Fuels for Investigating NOX Emissions  
TRANSACTIONS OF THE ASABE Vol. 48, No. 3

**K.G. GEBREMEDHIN, B. WU, C. GOOCH, P. WRIGHT, S. INGLIS**

Heat Transfer Model for Plug-Flow Anaerobic Digesters  
TRANSACTIONS OF THE ASABE Vol. 48, No. 2

#### **2006 presented 2007**

**Y. DING, K.C. DAS, W.B. WHITMAN, J.R. KASTNER**

Enhanced Biofiltration of Hydrogen Sulfide in the Presence of Methanol and Resultant Bacterial Diversity  
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**D.-Y. CHEONG, C.L. HANSEN**

Feasibility of Hydrogen Production from Anaerobic Mixed Fermentation  
TRANSACTIONS OF THE ASABE Vol. 49, No. 2

**B.B. HE, A.P. SINGH, J.C. THOMPSON**

A Novel Continuous-Flow Reactor Using Reactive Distillation Technique for Biodiesel Production  
TRANSACTIONS OF THE ASABE Vol. 49, No. 1

**F. ROVIRA-MÁS, J.F. REID, Q. ZHANG**

Development of the OFFSET Model for Determination of Odor-Annoyance-Free Setback Distances



From Animal Production Sites: Part I. Review and Experiment  
TRANSACTIONS OF THE ASABE Vol. 49, No. 1

**D. DOWNEY, T.G. CROWE, D.K. GILES, D.C. SLAUGHTER**

Direct Nozzle Injection of Pesticide Concentrate Into Continuous Flow for Intermittent Spray Applications  
TRANSACTIONS OF THE ASABE Vol. 49, No. 4

**M.T. VENEM, J.M. SHUTSKE, W.J. GILBERT**

Testing and Creation of a Safety System to Disengage the PTO of a Tractor  
APPLIED ENGINEERING IN AGRICULTURE Vol. 22, No. 1

**R.D. HARMEL, R.J. COOPER, R.M. SLADE, R.L. HANEY, J.G. ARNOLD**

Cumulative Uncertainty in Measured Steamflow and Water Quality Data for Small Watersheds  
TRANSACTIONS OF THE ASABE Vol. 49, No. 3

**A.V. VAN WAGENBERG, C.M.C. VAN DER PEET-SCHWERING, G.P. BINNENDIJK, P.J.P.W. CLAESSEN**

Effect of Floor Cooling on Farrowing Sow and Litter Performance: Field Experiment Under Dutch Conditions  
TRANSACTIONS OF THE ASABE Vol. 49, No. 5

**J.A. SORENSEN, J.J. MAY, P.L. JENKINS, A.M. JONES, G.B. EARLE- RICHARDSON**

Risk Perceptions, Barriers, and Motivators to Tractor ROPS Retrofitting in the New York State Farm Community  
JOURNAL OF AGRICULTURAL SAFETY AND HEALTH Vol. 12, No. 3

**2007 presented 2008**

**R. S. COMER, P. D. AYERS, J. LIU**

Evaluation of Engineering Plastic for Rollover Protective Structure (ROPS) Mounting  
JOURNAL OF AGRICULTURAL SAFETY AND HEALTH Vol. 13, No. 2

**P. LIBERATI, P. ZAPPAVIGNA**

A Dynamic Computer Model for Optimization of the Internal Climate in Swine Housing Design  
TRANSACTIONS OF THE ASABE Vol. 50, No. 6

**A MIZRACH, Z. SCHMILOVITCH, R. KOROTIC, J. IRUDAYARA J, R. SHAPIRA**

Yeast Detection in Apple Juice using Raman Spectroscopy and Chemometric Methods  
TRANSACTIONS OF THE ASABE Vol. 50, No. 6

**A. A. SZÖGI, M.B. VANOTTI**

Abatement of Ammonia Emissions from Swine Lagoons Using Polymer-Enhanced Solid-Liquid Separation  
APPLIED ENGINEERING IN AGRICULTURE Vol. 23, No. 6

**B. PARK, S. C. YOON, K. C. LAWRENCE, W. R. WINDHAM**

Fisher Linear Discriminate Analysis for Improving Fecal Detection Accuracy with Hyperspectral Images  
TRANSACTIONS OF THE ASABE Vol. 50, No. 6

**J. ENCISO-MEDINA, P. D. COLAIZZI, W. L. MULTER, C. R. STICKLER**

Cotton Response to Phosphorus Fertigation Using Subsurface Drip Irrigation  
APPLIED ENGINEERING IN AGRICULTURE Vol. 23, No. 3

**K. J. SHINNERS, G. S. ADSIT, B. N. BINVERSIE, M. F. DIGMAN, R. E. MUCK,**

**P. J. WEIMER**

Single-Pass, Split-Stream Harvest of Corn Grain and Stover  
TRANSACTIONS OF THE ASABE Vol. 50, No. 2

**D. L. BJORNEBERG, C. J. PRESTWICH, R. G. EVANS**

Evaluating the Surface Irrigation Soil Loss (SISL) Model  
APPLIED ENGINEERING IN AGRICULTURE Vol. 23, No. 4

**M. E. TAT, J. H. VAN GERPEN, P.S. WANG**

Fuel Property Effects on Injection Timing, Ignition Timing, And Oxides of Nitrogen Emissions from Biodiesel-Fueled Engines  
TRANSACTIONS OF THE ASABE Vol. 50, No. 4

**2008 presented 2009**

**M. L. SARPOLA, R. K. PAASCH, E. N. MORTENSEN, T. G. DIETTERICH, D. A. LYTTLE, A. R. MOLDENKE, L. G. SHAPIRO**

An Aquatic Insect Imaging System to Automate Insect Classification  
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**P. ANDRADE-SANCHEZ, S. K. UPADHYAYA, C. PLOUFFE, B. POUTRE**

Development and Field Evaluation of a Field-Ready Soil Compaction Profile Sensor for Real-Time Applications  
APPLIED ENGINEERING IN AGRICULTURE Vol. 24, No. 6

**R. SUI, J.A. THOMASSON, Y. GE, C. MORGAN**

Multispectral Sensor For In-Situ Cotton Fiber Quality Measurement  
TRANSACTIONS OF THE ASABE Vol. 51, No. 6

**J. L. PURSWELL, B. K. FRITZ, S. L. BRANTON, S.A. LEIGH**

Effects of System Pressure and Nozzle Type on Spray Application of Avian Vaccines  
APPLIED ENGINEERING IN AGRICULTURE Vol. 24, No. 6

**S. BALASUBRAMANIAN, V. M. PURI**

Fouling Mitigation During Product Processing Using a Modified Plate Heat Exchange Surface  
TRANSACTIONS OF THE ASABE Vol. 51, No. 2

**C. S. RENSCHLER, D. C. FLANAGAN**

Site-Specific Decision-Making Based on RTK GPS Survey and Six Alternative Evaluation Data Sources: Soil Erosion Predictions  
TRANSACTIONS OF THE ASABE Vol. 51, No. 2

**C. SHIH, Z. PAN, T. McHUGH, D. WOOD, E. HIRSCHBERG**

Sequential Infrared Radiation and Freeze-Drying Method for Producing Crispy Strawberries  
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**E. A. PAPPAS, R. S. KANWAR, J. L. BAKER, J. C. LORIMOR, S. MICKELSON**

Fecal Indicator Bacteria in Subsurface Drain Water Following Swine Manure Application  
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**J. H. LUMKES JR., W. VAN DOORN IV**

Design and Testing of a Dual-Path Front Hydrostatic Drive-By-Wire Control System for an Off-Road Vehicle  
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### **J.E. WOLFE III, O.T. LIND, D.W. HOFFMAN**

A Constant-Volume Artificial Stream for Reducing Variation in Aquatic Process Measurements  
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### **X. WANG, P. AYERS, A.R. WOMAC**

Static Simulation and Analyses of Mower's ROPS Behavior In a Finite Element Model JOURNAL OF  
AGRICULTURAL SAFETY AND HEALTH Vol. 15, No. 4

### **K.S. LEE, D.H. LEE, K.A. SUDDUTH, S.O. CHUNG, N.R. KITCHEN, S.T. DRUMMOND**

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### **S.J. THOMSON, L.A. SMITH, J.E. HANKS**

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### **M.J. DE KAM, R.V. MOREY, D.G. TIFFANY**

Integrating Biomass to Produce Heat and Power at Ethanol Plants  
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### **K.C. LAWRENCE, S.C. YOON, D.R. JONES, G.W. HEITSCHMIDT, B. PARK, W.R. WINDHAM**

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### **M. CAMBRA-LÓPEZ, A. WINKEL, J. VAN HARN, N.W.M. OGINK, A.J.A. AARNINK**

Ionization for Reducing Particulate Matter Emissions From Poultry Houses  
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Lysimetric Evaluation of Simplified Surface Energy Balance Approach in the Texas High Plains  
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### **G. BORREANI, E. TABACCO**

Use of New Plastic Stretch Films with Enhanced Oxygen Impermeability to Wrap Baled Alfalfa Silage  
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### **D. B. FUNK, Z. GILLAY**

Dielectric Reference Materials for Mathematically Modeling and Standardizing Grain Moisture Meters  
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### **K. THEERARATTANANOON, X. WU, S. STAGGENBORG, J. PROPHESTER, R. MADL, D. WANG**

Evaluation and Characterization of Sorghum Biomass as Feedstock for Sugar Production  
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**M. J. LAWRENCE, J. W. GARTHE, D. R. BUCKMASTER**  
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CFD Prediction of Mixing Time in Anaerobic Digesters  
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**S. IRMAK, J. M. REES, G. L. ZOUBEK, B. S. VAN DEWALLE, W. R. RATHJE,  
R. DEBUHR, D. LEININGER, D. D. SIEKMAN, J. W. SCHNEIDER, A. P. CHRISTIANSEN**  
Nebraska Agricultural Water Management Demonstration Network (NAWMDN): Integrating Research  
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**R. D. HARMEL, P. K. SMITH, K. W. MIGLIACCIO**  
Modifying Goodness-of-Fit Indicators to Incorporate Both Measurement and Model Uncertainty in  
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**K. B. CANTRELL, P. G. HUNT, K. S. RO, K. C. STONE, M. B. VANOTTI, J. C. BURNS**  
Thermogravimetric Characterization of Irrigated Bermudagrass as a Combustion Feedstock  
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**J. A. SORENSEN, P. JENKINS, B. BAYES, S. CLARK, J. J. MAY**  
Cost-Effectiveness of a ROPS Social Marketing Campaign  
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### **2011 presented 2012**

**B. SHARMA, C. L. JONES, A. KHANCHI**  
Tensile Strength and Shear Strength of Switchgrass Before and After Frost  
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**R. KUBOTA, A. M. ALVAREZ, W. W. SU, D. M. JENKINS**  
FRET-Based Assimilating Probe for Sequence-Specific Real-Time Monitoring of Loop-Mediated  
Isothermal Amplification  
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**J. GUAN, H. HSIAO, J. V. ZWIENER, R. S. CURRENT, T. J. LUTZ, D. M. CANTIS,  
J. R. POWERS JR., B. H. NEWBRAUGH, J. S. SPAHR**  
Evaluating the Protective Capacity of Two-Post ROPS for a Seat-Belted Occupant During a Farm  
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Abating the Effects of Calcium on Struvite Precipitation in Liquid Dairy Manure  
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**R. G. HARDIN IV, S. W. SEARCY**

Autonomous Cotton Module Forming System  
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**F. MAZZETTO, A. CALCANTE, E. ORSI**

Design, Development, and Evaluation of A Device For The Monitoring Of Liquid Manure Distribution Using Big Gun Sprinkler Distribution Systems  
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An Environmental Trading Ratio for Water Quality Trading  
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**R. W. SKAGGS, B. D. PHILLIPS, G.M. CHESCHEIR, C. C. TRETTIN**

Effect of Minor Drainage on Hydrology of Forested Wetlands  
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**N. PAI, D. SARASWAT**

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Detection of Organic Residues on Poultry Processing Equipment Surfaces by LED- Induced Fluorescence Imaging  
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**H. HUANG, C. RUAN, J. LIN, M. LI, L. M. COONEY, W. F. OLIVER, Y. LI, A. WANG**

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**G .R. DEBOY, W.M. KNAPP, W.E. FIELD, G.W. KRUTZ, C.L. CORUM**

Establishing the Need for an Engineering Standard for Agricultural Hitch Pins  
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**Y. TONG, T. KOZAI, N. NISHIOKA, K. OHYAMA**

Reductions in Energy Consumption and CO<sub>2</sub> Emissions for Greenhouses Heated With Heat Pumps  
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Characterizing Physical Properties of Gas-Phase Biofilter Media  
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**D.H. LEE, K.A. SUDDUTH, S.T. DRUMMOND, S.O. CHUNG, D.B. MYERS**

Automated Yield Map Delay Identification Using Phase Correlation Methodology  
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**Y. CHEN, H. ZHU, H.E. OZKAN**

Development of a Variable-Rate Sprayer with Laser Scanning Sensor to Synchronize Spray Outputs to Tree Structures  
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A Computational Study of Sprays Produced by Rotary Cage Atomizers  
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**J.N. ACKERMAN, N. CICEK, J. OLESZKIEWICZ**

Anaerobic Fermentation of Pig Manure to Increase Phosphorus Removal by Struvite Precipitation  
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**J.A. GUZMAN, G.A. FOX**

Implementation of Biopore and Soil Fecal Bacteria Fate and Transport Routines in the Root Zone Water Quality Model (RZWQM)  
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**J.P. BORDOVSKY, J.T. MUSTIAN**

Cotton Response to Crop Row Offset and Orientation to Subsurface Drip Irrigation Laterals  
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**R.W. HEALY, H.I. ESSAID**

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**B.A. KING, D.L. BJORNEBERG**

Transient Soil Surface Sealing and Infiltration Model for Bare Soil Under Droplet Impact  
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**J. LAMBA, T.R. WAY, P. SRIVASTAVA, S. SEN, C.W. WOOD, K.H. YOO**

Surface Transport of Nutrients from Surface-Broadcast and Subsurface-Banded Broiler Litter  
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**F.R. LAMM, K.R. HARMONEY, A.A. ABOUKHEIRA, S.K. JOHNSON**

Alfalfa Production with Subsurface Drip Irrigation in the Central Great Plains  
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**D.C. GOODRICH, I.S. BURNS, C.L. UNKRICH, D.J. SEMMENS, D.P. GUERTIN**

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Detection of Huanglongbing Disease in Citrus Using Fluorescence Spectroscopy  
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Advanced Oxidation of Toluene Using Ni-Olivine Catalysts: Part 1. Synthesis, Characterization, and Evaluation of Ni-Olivine Catalysts for Toluene Oxidation  
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Impact of Pelleting and Acid Pretreatment on Biomass Structure and Thermal Properties of Wheat Straw, Corn Stover, Big Bluestem, and Sorghum Stalk  
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**2013 presented 2014**

**P.-S. LIANG, J.-Y. YOON**

Optofluidic Lab-on-a-Chip Monitoring of Subsurface Bacterial Transport:  
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**E. TAMIMI, M. KACIRA, C.Y. CHOI, L. AN**

Analysis of Microclimate Uniformity in a Naturally Vented Greenhouse with a High- Pressure Fogging System  
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Three-Dimensional Transient Heat, Mass, Momentum, and Species Transfer in the Stored Grain Ecosystem: Part II. Model Validation  
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**X. WANG, S.R.S.DEV, A. DEMIRCI, R.E. GRAVES, V.M. PURI**

Electrolyzed Oxidizing Water for Cleaning-In-Place of On-Farm Milking Systems – Performance Evaluation and Assessment  
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Validation Testing of a Soil Macronutrient Sensing System  
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A Computational Study on Spray Dispersal in the Wake of an Aircraft

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**C.N. HOWARD, M.F. KOCHER, R.M. HOY, E.E. BLANKENSHIP**

Testing Fuel Efficiency of Tractors with Continuously Variable and Standard Geared Transmissions  
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A Conjugate Heat and Mass Transfer Model to Evaluate the Efficiency of Conductive Cooling for Dairy Cattle  
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**A.T. AL-MADHHACHI, G.J. HANSON, G.A. FOX, A.K. TYAGI, R. BULUT** Measuring Soil

Erodibility Using a Laboratory Mini JET  
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**S. ARNHOLD, M. RUIDISCH, S. BARTSCH, C.L. SHOPE, B. HUWE**

Simulation of Runoff Patterns and Soil Erosion on Mountainous Farmland With and Without Plastic-Covered Ridge-Furrow Cultivation in South Korea  
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**J. GAO, L.E. WAGNER, F. FOX, S.H. CHUNG, J.K. VAUGHAN, B.K. LAMB**

Spatial Application of WEPS for Estimating Wind Erosion in the Pacific Northwest  
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Risk Assessment of Erosion from Concentrated Flow on Rangelands Using Overland Flow Distribution and Shear Stress Partitioning  
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**V. SHARMA, D.R. RUDNICK, S. IRMAK**

Development and Evaluation of Ordinary Least Squares Regression Models for Predicting Irrigated and Rainfed Maize and Soybean Yields  
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**E.R. DALY, G.A. FOX, A.T. AL-MADHHACHI, R.B. MILLER**

A Scour Depth Approach for Deriving Erodibility Parameters from Jet Erosion Tests  
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**B. VELUSAMI, T.P. CURRAN, H.M. GROGAN**

Hydrogen Sulfide Gas Emissions in the Human-Occupied Zone during Disturbance and Removal of Stored Spent Mushroom Compost  
JOURNAL OF AGRICULTURAL SAFETY AND HEALTH Vol. 19, No. 4

**2014 presented 2015**



**N. NAHAR, R. RORICK, S.W. PRYOR**

Effects of Enzyme and Solids Loading on Sugar Beet Pulp Hydrolysis:  
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**B. PARK, W.R. WINDHAM, S.R. LADELY, P. GURRAM, H. KWON,  
S.C. YOON, K.C. LAWRENCE, N. NARANG, W.C. CRAY**

Detection of Non-0157 Shiga Toxin-Producing *Escherichia coli* (STEC) Serogroups with Hyperspectral  
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**D. WANG, W. YUAN, D. WANG, A. KUMAR**

A Char-Supported Nano-NiO Catalyst for Biomass Syngas Cleanup with Conditioning  
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Porosity Measurement of Granular Materials by Comparisons of Air Pressure Decay Rates  
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**J. QIN, K. CHAO, B.-K. CHO, Y. PENG, M.S. KIM**

High-Throughput Raman Chemical Imaging for Rapid Evaluation of Food Safety and Quality  
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**A. KOLLER, Y. WAN, E. MILLER, P. WECKLER, R. TAYLOR**

Test Method for Precision Seed Singulation Systems  
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**M.P. SAMA, T.S. STOMBAUGH**

Performance Evaluation of a Tracking Total Station as a Position Reference for Dynamic  
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**P. SAVOIE, P.L. HEBERT, F.-S. ROBERT**

Novel Willow Header Adapted to a Pull-Type Forage Harvester: Development and Field Experiments  
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Effect of Measurement Density on Characterizing Air Velocity Distribution in Commercial  
Broiler Houses  
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**J.P. STINN, H. XIN**

Heat and Moisture Production Rates of a Modern U.S. Swine Breeding, Gestation, and Farrowing  
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**D.M. ENDALE, D.D. BOSCH, T.L. POTTER, T.C. STRICKLAND**

Sediment Loss and Runoff from Cropland in a Southeast Atlantic Coastal Plain Landscape  
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**K.R. THORP, E.M. BARNES, D.J. HUNSAKER, B.A. KIMBALL, J.W. WHITE,  
V.J. NAZARETH, G. HOOGENBOOM**

Evaluation of CSM-CROPGRO-Cotton for Simulating Effects of Management and Climate Change on  
Cotton Growth and Evapotranspiration in an Arid Environment

**B.J. ALLRED, D.L. GAMBLE, W.B. CLEVINGER, G.A. LABARGE, G.L. PRILL,  
B.J. CZARTOSKI, N.R. FAUSEY, L.C. BROWN**

Crop Yield Summary for Three Wetland Reservoir Subirrigation Systems in Northwest Ohio  
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**G.A. MOSHER, N. KEREN, S.A. FREEMAN, C.R. HURBURGH, JR**

Development of a Safety Decision-Making Scenario to Measure Worker Safety in Agriculture  
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**2015 presented 2016**

A Fluorescent Aptasensor Coupled with Nanobead-Based Immunomagnetic Separation for Simultaneous Detection of Four Foodborne Pathogenic Bacteria

**L. Xu, Z. T. Callaway, R. Wang, H. Wang, M. F. Slavik, A. Wang, Y. Li**

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Simulation and Validation of Airflow Pressure Patterns in Hopper-Bottom Bins Filled with Wheat

**J. A. Moses, V. Chelladurai, D. S. Jayas, K. Alagusundaram**

Applied Engineering in Agriculture 31(2)

The Efficiency of Biofilters at Mitigating Airborne MRSA from a Swine Nursery

**D. D. Ferguson, T. C. Smith, K. J. Donham, S. J. Hoff**

Journal of Agricultural Safety and Health 21(4)

Ethanol Production from Sugarcane Bagasse Using SSF Process and Thermotolerant Yeast

**G. M. Silva, R. L. C. Giordano, A. J. G. Cruz, K. D. Ramachandriya, I. M. Banat, M. R. Wilkins**

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Vegetated Treatment Area Effectiveness at Reducing Nutrient Runoff from Small Swine Operations in Central Texas

**K. D. Higgs, R. D. Harmel, K. Wagner, P. K. Smith, R. L. Haney, D. R. Smith, R. Pampell**

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Soil Erosion from Winter Wheat Cropland under Climate Change in Central Oklahoma

**J. D. Garbrecht, X. C. Zhang**

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Heterogeneity of Infiltration Rates in Alluvial Floodplains as Measured with a Berm Infiltration Technique

**D. M. Heeren, G. A. Fox, D. E. Storm**

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A New Model for Phosphorus Loss in Runoff from Outdoor Cattle Lots

**P. A. Vadas, L. W. Good, J. C. Panuska, D. L. Busch, R. A. Larson**

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Development of a Selective Automated Blossom Thinning System for Peaches

**D. J. Lyons, P. H. Heinemann, J. R. Schupp, T. A. Baugher, J. Liu**

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Process-Based Modeling of Ammonia and Nitrous Oxide Emissions from Open-Lot Beef and Dairy Facilities

**H. F. Bonifacio, C. A. Rotz, A. B. Leytem, H. M. Waldrip, R.W. Todd**

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Odor and Odorous Chemical Emissions from Animal Buildings: Part 3. Chemical Emissions  
**L. Cai, J. A. Koziel, S. Zhang, A. J. Heber, E. L. Cortus, D. B. Parker, S. J. Hoff, G. Sun, K. Y. Heathcote, L. D. Jacobson, N. Akdeniz, B. P. Hetchler, S. D. Bereznicki, E. A. Caraway, T. T. Lim**  
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An Optical Sprayer Nozzle Flow Rate Sensor  
**J. S. Dvorak, L. E. Bryant**  
Transactions of the ASABE 58(2)

Flow, Spray Pattern, and Droplet Spectra Characteristics of an Electronically Actuated Variable-Orifice Nozzle  
**J. D. Luck, S. K. Pitla, M. P. Sama, S. A. Shearer**  
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Feasibility of Using PFC<sup>3D</sup> to Simulate Soil Flow Resulting from a Simple Soil-Engaging Tool  
**M. A. Sadek, Y. Chen**  
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Analyzing Correlations between Stream Benthic Macroinvertebrate Community Structure, Water Quality, and Watershed Land Use in the Continental United States  
**H. N. Sandefur, E. Cummings, R. Z. Johnston, M. D. Matlock, D. I. Gustafson**  
Biological Engineering Transactions 7(4)

### **2016 presented 2017**

Engineering Economics of Cotton Stalk Supply Logistics Systems for Bioenergy Applications  
**K. Sahoo, S. Mani**  
*Transactions of the ASABE* 59(3)

Development and Evaluation of a Computer-Based ROPS Design Program  
**P. D. Ayers, F. Khorsandi, Y. John, G. Whitaker**  
Journal of Agricultural Safety and Health 22(4)

Canopy Light Interception Conversion in Upright Fruiting Offshoot (UFO) Sweet Cherry Orchard  
**J. Zhang, Q. Zhang, M. D. Whiting**  
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An Evaluation of Simplifying Assumptions in Dairy Cow Computational Fluid Dynamics Models  
**M. Mondaca, C. Y. Choi**  
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Evaluation of a Laser Scanning Sensor in Detection of Complex-Shaped Targets for Variable-Rate Sprayer Development  
**H. Liu, H. Zhu**  
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Fusion of Spectral and Electrochemical Sensor Data for Estimating Soil Macronutrients  
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A Runoff and Sediment Routing Model for Open Lot Beef Feeding Facilities

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Analysis of Pear Dynamic Characteristics Based on Harmonic Response

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Correlating Bulk Density (with Dockage) and Test Weight (without Dockage) for Wheat Samples

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Mortality Rate of Weaned and Feeder Pigs as Affected by Ground Transport Conditions

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Identification and Counting of Soybean Aphids from Digital Images Using Shape Classification

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**M. Zhang, C. Li, F. Takeda, F. Yang**

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Profile Soil Property Estimation Using a VIS-NIR-EC-Force Probe

**Y. Cho, K. A. Sudduth, S. T. Drummond**

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Spray Tip Configurations with Pulse-Width Modulation for Glufosinate-Ammonium Deposits in Palmer Amaranth (*Amaranthus palmeri*)

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