

International Journal of Agricultural and Biological Engineering (IJABE)

Open Access at <https://www.ijabe.org>

Table of Contents

Volume 15, Number 1, January, 2022

(Beginning of Volume)

Overview Articles (OA)

- Simulation of rice paddy systems in SWAT: A review of previous applications and proposed SWAT+ rice paddy module
..... Philip W. Gassman, Jaehak Jeong, Julien Boulange, Balaji Narasimhan, Tasuku Kato, Hiroaki Somura, et al. (1)
- Research progress on indoor environment of mushroom factory
..... Long Chen, Lei Qian, Xiao Zhang, Jiazheng Li, Zhijun Zhang, Xiaoming Chen (25)
- Review of smart robots for fruit and vegetable picking in agriculture
..... Zhiheng Wang, Yi Xun, Yingkuan Wang, Qinghua Yang (33)
- Comparison and analysis of maize grain commodity quality and mechanical harvest quality between China and the United States
..... Keru Wang, Ruizhi Xie, Jun Xue, Lirong Sun, Shaokun Li (55)

Applied Science, Engineering and Technology (ASET)

- Novel technique of controlled laser air-force detection for rheological properties of polymers
..... Hubo Xu, Runzhi Hu, Yingzi Lin, Hincapie Juan, Xiuying Tang (62)
- Development of unilateral obstacle-avoiding mower for Y-trellis pear orchard
..... Xiaohui Lei, Yannan Qi, Jin Zeng, Quanchun Yuan, Youhong Chang, Xiaolan Lyu (71)
- Effects of droplet size and spray interval on root-to-shoot ratio, photosynthesis efficiency, and nutritional quality of aeroponically grown butterhead lettuce
..... Mazhar Hussain Tunio, Jianmin Gao, Waqar Ahmed Qureshi, Sher Ali Sheikh, Jiedong Chen, Farman Ali Chandio, et al. (79)
- Differences in breaking behavior of rice leaves under microwave and naturally drying processes
..... Meilin Wang, Zhong Tang, Ben Zhang, Yu Li (89)
- Model construction of soybean average diameter and hole parameters of seed-metering wheel based on DEM
..... Guoqiang Dun, Ning Mao, Zhiyong Gao, Xingpeng Wu, Wenhui Liu, Cheng Zhou (101)

Animal, Plant and Facility System (APFS)

- CFD simulation of sucrose flow field in the stem of greenhouse tomato seedling
..... Jiheng Ni, Jingtao Dong, Ikram Ullah, Hanping Mao (111)
- Effects of reducing and postponing controlled-release urea application on soil nitrogen regulation and maize grain yield
..... Pengtao Ji, Yujuan Peng, Yongwei Cui, Xiangling Li, Peijun Tao, Yuechen Zhang (116)
- Effects of hydrothermal carbonization temperature on carbon retention, stability, and properties of animal manure-derived hydrochar
..... Feiyue Li, Zelun Jiang, Wenchao Ji, Yihan Chen, Jiran Ma, Xiangyang Gui, et al. (124)

Power and Machinery Systems (PMS)

- Design and optimization of an automatic hydraulic steer-by-wire system for an agricultural chassis
..... Yinhao Jin, Yanwei Yuan, Licheng Zhu, Decheng Wang, Bo Zhao, Xianfa Fang (132)
- Optimization of mechanized soil covering path based on the agronomic mode of full-film double-ditch with double-width filming
..... Fei Dai, Wenjuan Guo, Xuefeng Song, Yang Zhang, Ruijie Shi, Feng Wang, et al. (139)

Optimizing the adhesion of soil-touching parts based on biomimetic concepts using the Taguchi method
..... Abouelnadar El. Salem, Guozhong Zhang, Mohamed Anwer Mahmoud Abdeen,
Hongchang Wang, Yuan Gao (147)

Design and experimental study of a planetary gearing mechanism based on twice unequal amplitude transmission ratio
..... Jiangang Liu, Gaohong Yu, Zhipeng Tong, Yao Hua (155)

Effects of crop residue managements and tillage practices on variations of soil penetration resistance in sloping farmland
of Mollisols..... Yijiao Wang, Jinyou Qiao, Wenyi Ji, Jian Sun, Dongxu Huo, Yupeng Liu, et al. (164)

Natural Resources and Environmental Systems (NRES)

Soil physical properties, nutrients, and crop yield with two-year tillage rotations under a winter wheat-summer maize
double cropping system Baozhong Yin, Pan Liu, Yongwei Cui, Zhaohui Hu, Xiangling Li, Zhihua Pan, et al. (172)

Carbon footprint of crop production in Heilongjiang land reclamation area, China
..... Tianshu Chu, Lu Yu, Derui Wang, Zengling Yang (182)

Effects of different soil amendments on physicochemical property of soda saline-alkali soil and crop yield in Northeast
China Fan Xiao, Beibei Zhou, Hongbin Wang, Manli Duan, Lei Feng (192)

Mechanism of water savings and pollution reduction in paddy fields of three typical areas in southern China
..... Menghua Xiao, Yuanyuan Li, Yi Jia, Jianwen Wang (199)

Information Technology, Sensors and Control Systems (ITSCS)

Analytical bi-level multi-local-world complex network model on fresh agricultural products supply chain
..... Yunqing Liu, Shiwei Xu, Jiajia Liu, Jiayu Zhuang (208)

Dynamic ensemble selection of convolutional neural networks and its application in flower classification
..... Zhibin Wang, Kaiyi Wang, Xiaofeng Wang, Shouhui Pan, Xiaojun Qiao (216)

Detection and recognition of veterinary drug residues in beef using hyperspectral discrete wavelet transform and deep
learning Rongchang Jiang, Jingxin Shen, Xinran Li, Rui Gao, Qinghe Zhao, Zhongbin Su (224)

Feed weight estimation model for health monitoring of meat rabbits based on deep learning
..... Enze Duan, Liangju Wang, Hongying Wang, Hongyun Hao, Rangling Li (233)

Fast extraction of winter wheat planting area in Huang-Huai-Hai Plain using high-resolution satellite imagery on a cloud
computing platform Dongyan Zhang, Mengru Zhang, Fenfang Lin, Zhenggao Pan, Fei Jiang, Liang He, et al. (241)

Novel green-fruit detection algorithm based on D2D framework
..... Jinmeng Wei, Yanhui Ding, Jie Liu, Muhammad Zakir Ullah, Xiang Yin, Weikuan Jia (251)

Agro-product and Food Processing Systems (AFPS)

Detection of apple firmness with a novel loudspeaker-based excitation device
..... Chengqiao Ding, Dachen Wang, Zhe Feng, Di Cui (260)

Effects of combined infrared and hot-air drying on ginsenosides and drying characteristics of *Panax notoginseng*
(Araliaceae) roots..... Dalong Jiang, Yue Liu, Zifan Lin, Wenjie Wang, Zhi'an Zheng (267)

Nondestructive determination of IMP content in chilled chicken based on hyperspectral data combined with
chemometrics Yangyang Wang, Hongju He, Shengqi Jiang, Hanjun Ma (277)

Cover Caption

Trailed Air-assisted Orchard Sprayer from the Innovation Team of Intelligent Orchard Mechanization, JAAS(Cover)

Looking back to 2021, and looking forward to 2022----From the Editor-in-Chief(Back Cover)

Information

Fourth-term IJABE International Editorial Board (Front Insert I)