

International Journal of Agricultural and Biological Engineering (IJABE)

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

Table of Contents

Volume 18, Number 3, June, 2025

Overview Articles (OA)

Integration of machine learning technologies in food flavor research: Current applications, challenges, and future perspectives Jing Ling, Dennis R. Heldman (1)

Applied Science, Engineering and Technology (ASET)

Calibration of discrete element simulation parameters and threshing test for complete wheat plants
..... Shengsheng Wang, Weizhen Lyu, Xin Jin, Shuo Yu, Hao Guo, Zhonghan Chen (12)

Optimal design and test of the flexible clamping device for safflower
..... Shuangping Yang, Zhenguo Zhang, Gang Guo, Yi Zhang, Shilong Qiu, Yunxia Ye (19)

Vibration harvesting process of olive trees based on response surface methodology and rigid-flexible coupling simulation
..... Kehua Dang, Zijie Niu, Haotian Mu, Weihe Lan, Xu Zhang, Di Xin, et al. (25)

Fracture regularity of corn kernel and stalk based on fractal theory
..... Xingping Li, Junyi Wang, Yanan Li, Shendi Xu, Jiarui Hou (37)

Animal, Plant and Facility Systems (APFS)

Reused substrates in soilless culture greenhouse strawberry production
..... Qian Feng, Liu Wang, Qingyu Pei, Yilei Yin, Lu Lu, Shoujiang Pan, et al. (44)

Growth prediction of tomato seedlings based on causal LSTM and GAN
..... Hongduo Zhang, Yutaka Kaizu, Kenichi Furuhashi, Heming Hu, Kenji Imou (51)

Influences of dissolved oxygen sensor position on aeration efficiency of Venturi air injectors in aquaculture and wastewater treatment
..... Nantawat Demeekul, Kritsada Puangsuwan, Eknarin Rodcharoen, Kuaanan Techato, Anil Kumar (58)

Power and Machinery Systems (PMS)

Design and experiment of split-type tracked chassis applied in hilly and mountainous regions
..... Wei Wang, Lin Yuan, Guolong Li, Shiji Zhang, Tiejun Wang, Chuanyin Tang (63)

Inverse optimization design of sugarcane seeding mechanism based on approximate multi-position and posture
..... Qingli Chen, Jiaodi Liu, Hongzhen Xu, Yong Hua, Xiaoman Wu (73)

Development of a rotary push-cut-type negative-pressure-airflow end-effector for harvesting safflower filaments
..... Zhenguo Zhang, Zhenyu Xing, Minyi Zhao, Peng Xu, Quanfeng Guo, Chao Zeng, et al. (82)

Design of the filling device for citrus seedling pot based on turnover box
..... Qinchao Xu, Haoyi Chen, Chuanxin Liu, Jiating Zhu, Shanjun Li, Meiqi Ye (97)

Design and testing of slide vibrational compaction device
..... Chunling Lang, Haifeng Qian, Zirui Zhu, Yanpeng Wei, Han Wang, Jiale Zhao, et al. (105)

Design and experiment of the ditching device with combined rotary tillage and chisel shovel for lateral deep fertilization in tea garden Fang Liang, Yubing Wang, Yizhe Yu, Haonan Zheng, Youyi Huang (116)

Design and experiment of a vegetable plug seedling planting mechanism combining non-circular gear system and multi-link Lei Wang, Zhiwen Lin, Zhihan Zhou, Gaohong Yu, Zeyu Yang, Xuefu Yu, et al. (124)

Analysis of the operating mechanism and parameter optimization of the upright conveying device for reed harvesters	Jicheng Huang, Bin Zhang, Kunpeng Tian, Senlin Mu, Fanting Kong, Zhongqiu Mu, et al. (135)
Design and experiment of the negative pressure adsorption Cartesian robot system for apple harvesting	Xiaofei Zhang, Yi Xun, Qinghua Yang, Zhiheng Wang (145)
Multi-target trust region parameter-guided optimization algorithm and its application in design of film-covered sweet potato transplanting mechanism	Xingxiao Ma, Xiong Zhao, Jianneng Chen, Gaohong Yu, Bingliang Ye (154)

Information Technology, Sensors and Control Systems (ITSCS)

Automatic updating of a combine harvester knowledge-based system by webpages and user-uploaded files	Hongxin Liu, Yiming Zhang, Yongtao Xie, Yu Zhao (165)
Citrus fruit detection based on an improved YOLOv5 under natural orchard conditions	Yu Tang, Wenxuan Huang, Zhiping Tan, Weilin Chen, Sheng Wei, Jiajun Zhuang, et al. (176)
Design and experiment of an online monitoring system for peanut seeding parameters based on IoT	Yan Yu, Xiaozhi Tan, Guoying Li, Dazhi Yi, Xiaomin Wang, Weikang Dong, et al. (186)
Assessing the health degree of winter wheat under field conditions for precision plant protection by using UAV imagery	Mengmeng Du, Zidi Xie, Heng Wang, Jiangtao Ji, Xin Jin, Ali Roshanianfard (195)
Lightweight pineapple detection framework for agricultural robots via YOLO-v5sp	Jiehao Li, Chenglin Li, Xiwen Luo, C. L. Philip Chen, Chenguang Yang (204)
Detection method for the degree of damage to Korla fragrant pears based on electrical properties	Yang Liu, Yifan Xia, Jikai Che, Haipeng Lan, Hong Zhang (215)
Slope path tracking control of agricultural wheel-legged robot based on virtual sensing radar and two-level deep neural network	Yongchun Zhao, Qing Zhang, Yong You (223)
Apple flower phenotype detection method based on YOLO-FL and application of intelligent flower thinning robot	Ang Gao, Yonghui Du, Yuqiang Li, Yuepeng Song, Longlong Ren (236)
Key technologies of tomato-picking robots based on machine vision	Zirui Yin, Han Li, Zhijiang Zuo, Zhaoxin Guan (247)

Biosystems, Biological and Ecological Engineering (BBEE)

Novel technique for measuring the 3D geometric size of fruit cells	Hongli Qiang, Baolong Li, Zhiguo Li, Fideline Tchuenbou-Magaia, Boyuan Wei, Yande Liu (257)
Identification and mapping of yield limiting factors of potato (<i>Solanum tuberosum</i> L.) using proximal sensing and geostatistical techniques	Basit Shahzad, Muhammad Azam Khan, Shoaib Rashid Saleem, Umer Habib, Muhammad Naveed Tahir, Zainab Haroon (265)

Agro-product and Food Processing Systems (AFPS)

Characteristics and numerical simulation of maize ear threshing under mixed airflow	Xinping Li, Yanan Li, Bin Peng, Shendi Xu, Junyi Wang, Ruizhe Sun, et al. (278)
Effects of low temperature and washing on the vibration superfine grinding performance of wheat bran	Min Cheng, Shihao Zhou, Zhuo Chen, Yanling Sun, Baoguo Liu (289)

Cover Captions

Lightweight detection framework for pineapple harvest robots	(Cover)
Welcome to publish with SCI-indexed IJABE (JIF 2.2) in Q2	(Back Cover)

Information

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