

**Auburn University Biosystems Engineering**  
**Emerging Systems Research Focus Area 2023 Publications**

- Zhen, X., W. Huo, D. Tian, Q. Zhang, A. Sanz-Saez, C. Y. Chen and W.D. Batchelor. 2023. County-level calibration strategy to evaluate peanut irrigation water use under different climate change scenarios. *European Journal of Agronomy* 143, February 2023, 126693.
- Zhang, D. D. Li, H. Wang, H. Li, R. Li, W.D. Batchelor, H. Ju and Y. Li. 2023. Tillage practices offset wheat yield reductions under limited irrigation regime in the North China Plain. *Soil & Tillage Research* 230 (2023)105687.
- Huo, W., Y. Peng, S. Zhang, B. Maimaitiali, W.D. Batchelor and G. Feng. 2023. Phosphorus fertilizer recommendations based on minimum soil surplus for cotton growing in salt affected soil. *Field Crops Research* 291 (2023) 108799.
- Zhang, D., J. Liu, W.D. Batchelor, D. Li, X. Zhen and H. Ju. 2023. Future climate change impacts on wheat grain yield and protein in the North China Region. *Science of the Total Environment* 902 (2023) 166147.
- Liang, H., K. Hu, Z. Qi, J. Xu and W.D. Batchelor. 2023. A distributed agroecosystem model (RegWHCNS) for water and N management at the regional scale: A case study in the North China Plain. *Computers and Electronics in Agriculture* 213 (2023): 108216.
- Trenz, J., E. Memic, W.D. Batchelor and S. Graeff-Honninger. 2023. Generic optimization approach of soil hydraulic parameters for site specific model application. *Precision Agriculture*. Published online 11 November 2023.
- Ren, J., P. Feng, W.D. Batchelor, K. Ju, H. Liu, and S. Lv. 2023. Ground cover rice production system affects soil water and nitrogen dynamics and crop growth differentially with or without climate stress. *Plants* 12(22). [10.3390/plants12223866](https://doi.org/10.3390/plants12223866).
- You, Y., H. Tian, S. Pan, H. Shi, C. Lu, W.D. Batchelor, B. Cheng, D. Hui, D. Kicklighter, X. Liang, X. Li, J. Melillo, N. Pan, S. Prior and J. Reilly. 2023. Net greenhouse gas balance in US Croplands: How can soils be a part of the climate change solution? *Global Change Biology*. <https://doi.org/10.1111/gcb.17109>.