

Crop Production Systems Research Unit USDA-ARS, Stoneville, Mississippi, USA

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2018 Publications

1. Anapalli, S.S., K.N. Reddy and S. Jagadamma. 2018. Conservation tillage impacts and adaptations in irrigated corn production in a humid climate. *Agronomy Journal*. 110(6):2673-2686. [PDF](#)
2. Anapalli, S.S., D.K. Fisher, K.N. Reddy, P. Wagle, P.H. Gowda and R. Sui. 2018. Quantifying soybean evapotranspiration using an eddy covariance approach. *Agricultural Water Management*. 209:228-239. [PDF](#)
3. Anapalli, S.S., T.R. Green, K.N. Reddy, P.H. Gowda, R. Sui, D.K. Fisher, J. Moorhead, and G. Marek. 2018. Application of an energy balance method for estimating evapotranspiration in cropping systems. *Agricultural Water Management*. 204:107-117. [PDF](#)
4. Green, T.R., S.S. Anapalli. 2018. Irrigation variability and climate change affect derived distributions of simulated water recharge and nitrate leaching. *Water International*. 43(6):829-845. [PDF](#)
5. Zhang, H., R.W. Malone, L. Ma, L.R. Ahuja, S.S. Anapalli, G.W. Marek, P.H. Gowda, S.R. Evett, and T.A. Howell. 2018. Modeling evapotranspiration and crop growth of irrigated and non-irrigated corn in the Texas high plains using RZWQM. *Transactions of the American Society of Agricultural and Biological Engineers*. 61(5):1653-1666. [PDF](#)
6. Bruns, H.A.. 2018. Grain sorghum (*Sorghum bicolor* L. Moench) fails to consistently respond to N-fertilizer when grown in a Tunica clay soil in the lower Mississippi River Valley, USA. *Archives of Agriculture and Environmental Science*. 3(2):157-162. [PDF](#)
7. Bruns, H.A. , K.N. Reddy and W.T. Pettigrew. 2018. Effects of rotation of cotton (*Gossypium hirsutum* L.) and soybean (*Glycine max* L. Merr.) crops on soil fertility in Elizabeth, Mississippi, USA. *Archives of Agriculture and Environmental Science*. 3(1):86-88. [PDF](#)
8. Bruns, H.A., K.N. Reddy and W.T. Pettigrew. 2018. A lack of response of irrigated soybean (*Glycine max* L. Merr.) in rotation with cotton (*Gossypium hirsutum* L.) in the Mississippi Delta, USA. *Archives of Agriculture and Environmental Science*. 3(3):261-263. [PDF](#)
9. Fisher, D.K., R.S. Fletcher, S.S. Anapalli, and H.C. Pringle III. 2018. Development of an open-source cloud-connected sensor-monitoring platform. *Advances in Internet of Things*. 8: 1-11. [PDF](#)
10. Fisher, D.K., L.K. Woodruff, S.S. Anapalli, and S.R. Pinnamaneni. 2018. Open-source wireless cloud-connected agricultural sensor network. *Journal of Sensor and Actuator Networks*. 7, 47; doi:10.3390/jsan7040047 13pgs. [PDF](#)
11. Tang, Q., G. Feng, D.K. Fisher, H. Zhang, Y. Ouyang, A. Adeli, and J. Jenkins. 2018. Rain water deficit and irrigation demand of major row crops in the Mississippi Delta. *Transactions of the American Society of Agricultural and Biological Engineers*. 61(3):927-935. [PDF](#)
12. Fletcher, R.S. and D.K. Fisher. 2018. A miniature sensor for measuring reflectance, relative humidity, and temperature: A greenhouse example. *Agricultural Sciences*. 9(11): 1516-1527. [PDF](#)

13. Fletcher, R.S. and K.N. Reddy. 2018. Geographic information system for pigweed distribution in the US Southeast. *Weed Technology*. 32(1):20-26. [PDF](#)
14. Fletcher, R.S. and R.B. Turley. 2018. Comparing canopy hyperspectral reflectance properties of Palmer amaranth to okra and super-okra leaf cotton. *American Journal of Plant Sciences*. 9:2708-2718. [PDF](#)
15. Hoagland, R.E., C.D. Boyette, R.H. Jordan and K.C. Stetina. 2018. Interaction of glufosinate and *Colletotrichum truncatum* on ammonia levels and glutamine synthetase activity in hemp sesbania. *American Journal of Plant Sciences*. 9(11):2320-2377. [PDF](#)
16. Hoagland, R.E., C.D. Boyette, R.H. Jordan and K.C. Stetina. 2018. Interaction of the bioherbicide *Myrothecium verrucaria* with technical-grade glyphosate on glyphosate-susceptible and -resistant palmer amaranth. *American Journal of Plant Sciences*. 9(11):2306-2319. [PDF](#)
17. Boyette, C.D., R.E. Hoagland, and K.C. Stetina. 2018. Hot water treatment enhances the bioherbicidal efficacy of a fungus. *American Journal of Plant Sciences*. 9(10):2063-2076. [PDF](#)
18. Boyette, C.D., R.E. Hoagland, and K.C. Stetina. 2018. Bioherbicidal enhancement and host range expansion of a mycoherbicidal fungus via formulation approaches. *Biocontrol Science and Technology*. 28(3):307-315. [PDF](#)
19. Huang, Y., K.N. Reddy, R.S. Fletcher and D. Pennington. 2018. UAV low-altitude remote sensing for precision weed management. *Weed Technology*. 32(1):2-6. [PDF](#)
20. Huang, Y., M.A. Lee, V.K. Nandula and K.N. Reddy. 2018. Hyperspectral imaging for differentiating glyphosate-resistant and glyphosate-susceptible Italian ryegrass. *American Journal of Plant Sciences*. 9:1467-1477. [PDF](#)
21. Huang, Y., Z. Chen, T. Yu, X. Huang, and X. Gu. 2018. Agricultural remote sensing big data: Management and applications. *Journal of Integrative Agriculture*. 17(9):1915-1931. [PDF](#)
22. Yang, Y., Y. Huang, Y. Zhang, and X. Tong. 2018. Optimal irrigation mode and spatio-temporal variability characteristics of soil moisture content in different growth stages of winter wheat. *Water*. 10(9): doi.10.3390/w10091180 17pgs [PDF](#)
23. Zhao, F., R. Li, W. Verhoef, S. Cogliati, X. Liu, , Y. Huang, Y. Guo, and J. Huang. 2018. Reconstruction of the full spectrum of solar-induced chlorophyll fluorescence: Intercomparison study for a novel method. *Remote Sensing of Environment*. 291:233-246. [PDF](#)
24. Molin, W.T., A.A. Wright, M.J. VanGessel, W.B. McCloskey, M. Jugulam and R.E. Hoagland. 2018. Survey of the genomic landscape surrounding the 5-enolpyruvylshikimate-3-phosphate synthase (EPSPS) gene in glyphosate-resistant *Amaranthus palmeri* from geographically distant populations in the USA. *Pest Management Science*. 74: 1109–1117. [PDF](#)
25. Koo, D.H., W.T. Molin, C.A. Sasaki, J. Jiang, K. Putta, M. Jugulam, B. Friebe, and B.S. Gill. 2018. Extrachromosomal circular DNA-based amplification and transmission of herbicide resistance in crop weed *Amaranthus palmeri*. *Proceedings of the National Academy of Sciences*. 115(13): 3332-3337. [PDF](#)
26. Nandula, V.K., W.T. Molin, and J.A. Bond. 2018. Influence of water quality, formulation, adjuvant, rainfastness, and nozzle type on efficacy of formosafen on palmer amaranth *Amaranthus palmeri* control. *American Journal of Plant Sciences*. 9:1660-1676. [PDF](#)

27. Nandula, V.K., G.B. Montgomery, A.R. Vennapusa, M. Jugulam, D.A. Giacomini, J.D. Ray,, J.A. Bond, L.E. Steckel, and P.J. Tranel. 2018. Glyphosate-resistant junglerice (*Echinochloa colona*) from Mississippi and Tennessee: Magnitude and resistance mechanisms. *Weed Science*. 66:603-610. [PDF](#)
28. Maroli, A.S., V.K. Nandula, S.O. Duke, P. Gerard, and N. Tharayil. 2018. Comparative metabolomic analyses of *Ipomoea lacunosa* biotypes with contrasting glyphosate tolerance captures herbicide-induced differential perturbations in cellular physiology. *Journal of Agricultural and Food Chemistry*. 66(8):2027-2039. [PDF](#)
29. Tehranchian, P., V. Nandula, M. Jugulam, K. Putta, and M. Jasieniuk. 2018. Multiple resistance to glyphosate, paraquat and ACCase-inhibiting herbicides in Italian ryegrass populations from California: Confirmation and mechanisms of resistance. *Pest Management Science*. 74(4):868-877. [PDF](#)
30. Wright, A.A., R. Sasidharan, L. Koski, M. Rodriguez-Carres, D.G. Peterson, V.K. Nandula, J.D. Ray, J.A. Bond, and D.R. Shaw. 2018. Transcriptomic changes in *Echinochloa colona* in response to treatment with the herbicide imazamox. *Planta*. 247:369-379. [PDF](#)
31. Wright, A.A., M. Rodriguez-Carres, R. Sasidharan, L. Koski, D.G. Peterson, V.K. Nandula, J.D. Ray, J.A. Bond, and D.R. Shaw. 2018. Multiple herbicide-resistant junglerice (*Echinochloa colona*): Identification of genes potentially involved in resistance through differential gene expression analysis. *Weed Science*. 66:347-354. [PDF](#)
32. Reddy, K.N. and R. James. 2018. Introduction to the Symposium on Precision Agriculture and Weed Science. *Weed Technology*. 32:1. doi: 10.1017/wet.2018.2 [PDF](#)
33. Reddy, K.N., J.V. Cizdziel, M.M. Williams II, J.E. Maul, A.M. Rimando, and S.O. Duke. 2018. Glyphosate resistance technology has minimal or no effect on maize mineral content and yield. *Journal of Agricultural and Food Chemistry*. 66(39):10139-10146. [PDF](#)
34. Duke, S.O. and K.N. Reddy. 2018. Is mineral nutrition of glyphosate-resistant crops altered by glyphosate treatment? *Outlooks on Pest Management*. 29(5):206-208. [PDF](#)
35. Jha, P., and K.N. Reddy. 2018. The role of herbicide-resistant crops in integrated weed management. In Zimdahl, R.L. (ed.) *Integrated Weed Management for Sustainable Agriculture*, Burleigh Dodds Science Publishing, Cambridge, UK., e-Chapter, pp. 1-10 [PDF](#)
36. Duke, S.O., A.M. Rimando, K.N. Reddy, J.V. Cizdziel, N. Bellaloui, D.R. Shaw, M.M. Williams II, and J.E. Maul. 2018. Lack of transgene and glyphosate effects on yield, and mineral and amino acid content of glyphosate-resistant soybean. *Pest Management Science*. 74:1166-1173. [PDF](#)
37. Sui, R. 2018. Irrigation scheduling using soil moisture sensors. *Journal of Agricultural Science*. 10(1):1-11. [PDF](#)
38. Sui, R. and J. Baggard. 2018. Center-Pivot-Mounted sensing system for monitoring plant height and canopy temperature. *Transactions of the American Society of Agricultural and Biological Engineers*. 61(3):831-837. [PDF](#)