

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

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## 2020 Publications

1. Hoagland, R.E., C.D. Boyette, R.H. Jordan, and K.C. Stetina. 2020. Effects of *Myrothecium verrucaria* on two glyphosate-resistant *Amaranthus palmeri* biotypes differing in betacyanin content. *American Journal of Plant Sciences*. 11(2): 214-225. [PDF](#)
2. Boyette, C.D., R.E. Hoagland, C.T. Bryson, M.A. Weaver, and K.C. Stetina. 2020. Interaction of a *Myrothecium verrucaria* mycelial preparation and a glyphosate product for controlling redivine (*Brunnichia ovata*) and trumpet creeper (*Campsis radicans*). *American Journal of Plant Sciences*. 11(2):201-213. [PDF](#)
3. Fletcher, R.S. 2020. Assessing hyperspectral vegetation indices responses of six pigweed species. *American Journal of Plant Sciences*. 11:1934-1948. [PDF](#)
4. Fisher, D.K., R.S. Fletcher, and S.S. Anapalli. 2020. Evolving open-source technologies offer options for remote sensing and monitoring in agriculture. *Advances in Internet of Things*. 10(1):1-10. [PDF](#)
5. Huang, Y. 2020. Developing nature-inspired Algorithms for agri-food production. *International Journal of Agricultural and Biological Engineering*. 13(4):1-9. [PDF](#)
6. Huang, Y., S.J. Thomson. 2020. Field evaluation of spray nozzles for potential aerial application of biological control agents. *International Journal of Precision Agricultural Aviation*. 3(2): 40-47. [PDF](#)
7. Yang, G., Y. Huang, C. Zhao. 2020. Agri-BIGDATA: A smart pathway for crop nitrogen inputs. *Artificial Intelligence in Agriculture*. 4:150-152. [PDF](#)
8. Parajuli, P., Y. Huang, T. Tabler, J.L. Purswell, J.L. Dubien, Y. Zhao. 2020. Comparative evaluation of poultry-human and poultry-robot avoidance distances. *Transactions of the ASABE*. 63(2):477-484. [PDF](#)
9. Zhou, X., J. Zhang, D. Chen, Y. Huang, W. Kong, L. Yuan, H. Ye, W. Huang. 2020. Assessment of leaf chlorophyll content models for winter wheat using Landsat-8 multispectral remote sensing data. *Remote Sensing*. 12 (2574): 1-18. [PDF](#)
10. Li, G., Y. Xu, Y. Zhao, Q. Du, Y. Huang. 2020. Evaluating convolutional neural networks for cage-free floor egg detection. *Sensors*. 20:332. [PDF](#)
11. Zhang, D., Z. Wang, N. Jin, C. Gu, Y. Chen, Y. Huang. 2020. Evaluation of efficacy of fungicides for control of wheat fusarium head blight based on digital imaging. *IEEE Access*. 8: 109876-109890. [PDF](#)
12. Molin, W.T., C.A. Saski, and E.L. Patterson. 2020. Homogeneity among glyphosate-resistant *Amaranthus palmeri* in geographically distant locations. *PLoS ONE*. 15(9):e0233813 [PDF](#)
13. Molin, W.T., K. Parys, and C.L. Beck. 2020. Early growth and development of horseweed (*Conyza canadensis* (L.) Cronq.). *American Journal of Plant Sciences*. 11:40-50. [PDF](#)
14. Molin, W.T., A. Yaguci, M. Blenner, and C.A. Saski. 2020. The EccDNA replicon: A heritable, extranuclear vehicle that enables gene amplification and glyphosate resistance in *Amaranthus palmeri*. *The Plant Cell*. 32:2132-2140. [PDF](#)
15. Molin, W.T., A.J. Bowling, and K.C. Vaughn. 2020. Comparison of WeatherMax® and Engame™ formulations of glyphosate on cotyledon surface structure, chlorophyll A

- fluorescence and shikimate levels in isogenic cotton cultivars differing in roundup resistance. *American Journal of Plant Sciences*. 11:1193-1205. [PDF](#)
16. Molin, W.T., A. Yaguchi, M. Blenner, C.A. Saski. 2020. Autonomous replication sequences from the *Amaranthus palmeri* eccDNA replicon enable replication in yeast. *BMC Research Notes*. 13:330-335. [PDF](#)
  17. Nandula, V.K., D.A. Giacomini, J.D. Ray. 2020. Resistance to acetolactate synthase inhibitors is due to a W 574 to L amino acid substitution in the ALS gene of redroot pigweed and tall waterhemp. *PLoS ONE*. 15(6): e0235394 (13pgs). [PDF](#)
  18. Nandula, V.K., D.A. Giacomini, B. Lawrence, W.T. Molin, and J.A. Bond. 2020. Resistance to clethodim in Italian ryegrass (*Lolium perenne* ssp. *multiflorum*) from Mississippi and North Carolina. *Pest Management Science*. 76(4):1378-1385. [PDF](#)
  19. Nandula, V.K., D.A. Giacomini, and W.T. Molin. 2020. Target site-based resistance to ALS inhibitors, glyphosate, and PPO inhibitors in an *Amaranthus palmeri* accession from Mississippi. *American Journal of Plant Sciences*. 11(8):1206-12160. [PDF](#)
  20. Pinnamaneni, S.R., S.S. Anapalli, K.N. Reddy, D.K. Fisher, and N.E. Quintanta-Ashwell. 2020. Assessing irrigation water use efficiency and economy of twin-row soybean in the Mississippi Delta. *Agronomy Journal*. 112:4219-4231. [PDF](#)
  21. Anapalli, S.S., D.K. Fisher, S. R. Pinnamaneni, and K.N Reddy. 2020. Quantifying evapotranspiration and crop coefficients for cotton (*Gossypium hirsutum* L.) using an eddy covariance approach. *Agricultural Water Management*. 233:106091 (12pg). [PDF](#)
  22. Pinnamaneni, S.R., S.S. Anapalli, D.K. Fisher, and K.N. Reddy. 2020. Irrigation and planting geometry effects on cotton (*Gossypium hirsutum* L.) yield and water use. *Journal of Cotton Science*. 24:87-96. [PDF](#)
  23. Kepler, R.M., D.J. Epp Schmidt, S.A. Yarwood, M.A. Cavigelli, K.N. Reddy, S.O. Duke, C.A. Bradley, M.M. Williams Jr., J.S. Buyer, and J.E. Maul. 2020. Soil microbial communities in diverse agroecosystems exposed to the herbicide glyphosate. *Applied and Environmental Microbiology*. 86(5):e1744-19. [PDF](#)
  24. Tyler, H.T. 2020. Winter cover crops and no till management enhance enzyme activities in soybean field soils. *Pedobiologia*. 81-82 (2020) 150666 10pgs. [PDF](#)
  25. Tyler, H.T. 2020. Foliar dicamba application has no lasting effects on microbial activities in the soybean rhizosphere. *American Journal of Plant Sciences*. 11(11):1706-1713. [PDF](#)