

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

Dr. Krishna N. Reddy, Research Leader  
[Krishna.Reddy@usda.gov](mailto:Krishna.Reddy@usda.gov)

## 2022 Publications

1. Kharel, T.P., A.J. Ashworth, and P.R. Owens. 2022. Linking and sharing technology: Partnerships for data innovations for management of agricultural big data. *Data*. 7,12. 11pgs. [PDF](#)
2. Kharel, T.P., A.J. Ashworth, and P.R. Owens. 2022. Evaluating how operator experience level affects efficiency gains for precision agricultural tools. *Agricultural & Environmental Letter*. IN PRESS.
3. Ashworth, A.J., T. Kharel, T. Sauer, T.C. Adams, D. Philipp, A.L. Thomas, and P.R. Owens. 2022. Spatial monitoring technologies for coupling the soil plant water animal nexus. *Scientific Reports*. 12: 3508. 14pgs. [PDF](#)
4. Mubvumba P., P.B. DeLaune, and F.M. Hons. 2022. Enhancing long-term no-till wheat systems with cover crops and flash grazing. *Soil Security*. 9:100067. 10 pgs. [PDF](#)
5. Pinnamaneni, S.R., P. Mubvumba, S. S. Anapalli and K.N. Reddy . 2022. Cereal rye *Secale cereale* L. cover crop improves soil physico-chemical properties with no influence on soybean *Glycine max* L. root growth parameters. *Frontiers in Soil Science*. IN PRESS.
6. Anapalli, S.S., S.R. Pinnamaneni, K.N. Reddy, R. Sui, G. Singh. 2022. Investigating soybean (*Glycine max* L.) responses to irrigation on a large-scale farm in the humid climate of the Mississippi Delta region. *Agricultural Water Management*. 262:107432. [PDF](#)
7. Anapalli, S.S., S.R. Pinnamaneni, K.N. Reddy, and G. Singh. 2022. Eddy covariance quantification of corn water use and yield responses to irrigations on farm-scale fields. *Agronomy Journal*. 114: 2445-2457. [PDF](#)
8. Pinnamaneni, S.R., S.S. Anapalli, and K.N. Reddy. 2022. Photosynthetic response of soybean and cotton to different irrigation regimes and planting geometries. *Frontiers in Plant Science*. 13:894706. 12pgs. [PDF](#)
9. Dhakal, M., Y. Huang, M.A. Locke, K.N. Reddy, M.T. Moore, L.J. Krutz, D. Gholson, R. Bajgain. 2022. Assessment of cotton and sorghum stand establishment using UAV-based multispectral and DSLR-based RGB imagery. *Agrosystems, Geosciences & Environment*. 5:e20247, 18pgs. [PDF](#)
10. Huang, Y., X. Zhao, Z. Pan, K.N. Reddy, and J. Zhang. 2022. Hyperspectral plant sensing for differentiating glyphosate-resistant and glyphosate-susceptible johnsongrass through machine learning algorithms. *Pest Management Science*. 78:2370-2377. [PDF](#)
11. Pinnamaneni, S.R., S.S. Anapalli, W.T. Molin, and K.N. Reddy. 2022. Effect of rye cover crop on weed control, soybean (*Glycine max* L.) yield and profitability. *Frontiers in Agronomy*. 4:907507. 12pgs. [PDF](#)
12. Sharma, R.K., S. Kumar, K. Vatta, J. Dhillon, and K.N. Reddy. 2022. Impact of recent climate change on cotton and soybean yields in the southeastern United States. *Journal of Agriculture and Food Research*. 9:100348. 9pgs. [PDF](#)

13. Quintana-Ashwell, N., S.S. Anapalli, S.R. Pinnamaneni, G. Kaur, K.N. Reddy, D.K. Fisher. 2022. Profitability of twin-row planting and skip-row irrigation in a humid climate. *Agronomy Journal*. 114: 1209-1219. [PDF](#)
14. Parys, K.A., K.A. Davis, S.T. James, J.B. Davis, H.L. Tyler, and T. Griswold. 2022. First report of a gynandromorph *Florilegus condignus* (Cresson 1878) (Hymenoptera, Apidae), with notes on phenology and abundance. *Journal of Hymenoptera Research*. 89: 233–244 [PDF](#)
15. Zhao, X., J. Zhang, Y. Huang, Y. Tian, and L. Yuan. 2022. Detection and discrimination of disease and insect stress of tea plants using hyperspectral imaging combined with wavelet analysis. *Computers and Electronics in Agriculture*. 193: 1067171. 11pgs. [PDF](#)