

**Alert No. 78 (11 November 2022)**

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5. Cropping system diversity and tillage intensity affects wheat productivity in Texas Perejitei E. Bekewe et al. Agronomy Journal September 2022: 1-17.
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8. Improving Water Productivity in Conservation Agriculture. By Girija Prasad Patnaik et al. Advances in Agronomy 17: 1-21. 2022.

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- 18. Tillage exacerbates the vulnerability of cereal crops to drought. By John N. Quinton et al. Nature Food , 3: 472–479 (2022).**
- 19. Mechanical Intervention in Compacted No-Till Soil in Southern Brazil: Soil Physical Quality and Maize Yield. By Regiane Kazmierczak Becker et al. Agronomy, 12, 2281 (2022).**
- 20. Conservation Agriculture: Analysis and prioritization of socio-ecological factors operating at farm levels in Ohio, USA. By Riti Chatterjee et al. Environmental Science and Policy, 138: 1–10 (2022).**
- 21. Conservation Agriculture for Sustainable Intensification Global Options and Opportunities. By Amir Kassam et al. In: Conservation Agriculture: Global Scenario and Status in India. A.R.Sharma (ed). Chapter 1. Taylor & Francis.**

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*Conservation Agriculture (CA) is an ecological approach to regenerative sustainable agriculture and ecosystem management based on the practical application of context-specific and locally adapted three interlinked principles of: (i) Continuous no or minimum mechanical soil disturbance (no-till seeding/planting and weeding, and minimum soil disturbance with all other farm operations including harvesting); (ii) permanent maintenance of soil mulch cover (crop biomass, stubble and cover crops); and (iii) diversification of cropping system (economically, environmentally and socially adapted rotations and/or sequences and/or associations involving annuals and/or perennials, including legumes and cover crops). These practices are complemented with other complementary good agricultural production and land management practices to generate and sustain optimum performance.*

*CA systems are present in all continents, involving rainfed and irrigated systems including annual cropland systems, perennial systems, orchards and plantation systems, agroforestry systems, crop-livestock systems, pasture and rangeland systems, organic production systems and rice-based systems. CA systems operate regeneratively at multiple levels to optimally harness a range of productivity, economic, environmental, and social benefits as well as address local and global concerns related to food and water security, climate change, land degradation, biodiversity and smallholder agricultural development.*

*Conservation Tillage, Reduced Tillage, Low tillage and Minimum Tillage are not CA, and nor is No-Till on its own. For a practice or a method to be referred to as a CA practice or method, it must be part of a CA system. If not, then it is what it is, a practice or a method similar to any other with its own name e.g., no-till seeding, or mulching, or crop diversification, etc. There is no such thing as partial CA.*

The 2018/19 CA area information is available in the article: [Successful Experiences and Lessons from Conservation Agriculture Worldwide. By Amir Kassam, Theodor Friedrich and Rolf Derpsch. Agronomy 12, 769. 2022.](#)

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