

# Preface to Special Issue on Conservation Agriculture for Sustainable Intensification

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Soil erosion and nutrient losses, depleting soil organic matter and water resources, ever increasing cost of production and scarcity of agricultural labor are some of the key constraints of conventional intensive tillage based agricultural production system. Conservation agriculture (CA) as an alternative system to conventional agriculture consists of minimum soil disturbance, maintenance of soil cover and crop rotations. It has been reported that CA increases the systems productivity resulting in yield differences ranging from 20 to 120% for CA compared with conventional tillage systems [1-6]. Beneficial impacts in terms of resource efficiency include reduced need for fertilizer application over time, reduced labor demand, lower runoff and increase resilience to pest and disease. All these result in significant savings, which, combined with yield increases, may translate to significant financial benefits for farmers relative to conventional ploughing practice.

In addition, a number of positive externalities, with cost-saving or income-boosting effects, were also reported, including reduced soil erosion, increased resilience to climate-related shocks, increased soil carbon, improved water productivity, reduced debt, livelihood diversification and improved household-level food security. Therefore, in the longer run, CA aims at sustainable intensification (SI), since it is defined as a process or system where agricultural yields are increased without adverse environmental impact and without the conversion of additional non-agricultural land. Therefore, CA seems to be one of the important sub-systems of SI. Considering the above facts, the works done in the area of CA that contributes to SI, World Journal of Agricultural Research (WJAR) called for papers for its special issue "Conservation Agriculture for Sustainable Intensification". The papers are listed below:

1. Maize Production under No-Tillage System in Nepal,
2. Soil Organic Carbon Sequestration in Rice-Wheat System under Conservation and Conventional Agriculture in Western Chitwan, Nepal,
3. Productivity and Economic Assessment of Maize and Soybean Intercropping under Various Tillage and Residue Levels in Chitwan, Nepal,

4. Conservation Agriculture based Practices Affect the Weed Dynamics in Spring Maize and
5. Conservation Agriculture as an Alternative for Soil Erosion Control and Crop Production in Steep-Slopes Regions Cultivated by Small-Scale Farmers in Motozintla, Mexico

The paper deals with various issues of the CA covering its application in maize, maize and soybean intercropping system, rice-wheat system, sloppy land agriculture system. Preliminary results and the matured outcomes are also presented in the papers. Despite the fewer number of articles retrieved so far for the special issue, we hope it will improve the knowledge base of CA among the technicians, students and faculties, researchers and policy makers.

## References

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