OPEN ACCESS Freely available online

ISSN: 2168-9881
Agrotechnology

Opinion Article

Effect of Different Tillage Practices on Productivity of Wheat

Brijendra Kumar*

Department of Soil Science and Agricultural Chemistry, Acharya Narendra Deva University of Agriculture and Technology, Ayodhya, India

DESCRIPTION

Yield and quality of wheat kernels are determined by agro technical measures and habitat conditions. Wheat yields can be reduced due to soil quality (light and acidic soil) and lack of rainfall during intensive crop development. Wheat grain yield and quality are also affected by the sequence of crops in rotation. The best yield results were obtained with the legumes used as in the previous crop. More often than not, however, wheat is sown after cereal, which facilitates weed growth and the development of stampede disease. The result is significant reductions in grain yield and quality, including reduced grain density and uniformity, and increased grain ash content.

On the other hand, the practice of tillage changes the land structure by changing its physical properties such as soil moisture, soil bulk density and soil penetration Resistance. Annual disturbance and spraying caused by Conventional tillage creates a finer, looser soil structure compared to conservation tillage, tillage intact. The difference is expressed in number, form, continuity and the size distribution of the pore network, controlling the ability of the soil to store and transmit air and water, chemicals and plant growth. This in turn controls erosion, running water and crop performance. Physical changes of the soil properties affecting the appearance of seedlings, plant populations density, distribution of roots and crop yield.

Extensive studies have shown that compared to conventional tillage, conservation tillage (including zero tillage, minimum tillage, and straw incorporation) can be effective in reducing soil disturbances and soil aggregate structure destruction. Conservation tillage can also slow the turnover rate of macro aggregates, prevent the decomposition of organic carbon by microbes, and extend the storage period of organic carbon in aggregates. However, numerous studies hold the opposite view. For example, conservation tillage induces less carbon storage than conventional tillage throughout the soil profile. Thus, whether conservation tillage can increase organic carbon storage in the soil remains an important issue despite extensive studies that have investigated the influence of various tillage practices and field management measures on the content and storage of soil organic carbon. In addition, previous studies have mainly investigated a specific crop in arid soils or rice fields and limited research has been conducted in arid rice rotation conditions. The use of any tillage method affects the physicochemical properties of the soil and crop yield to varying degrees. In addition, long-term application of a single tillage method leads to unfavourable soil conditions for plant growth.

Many strategies have been attempted to improve crop agronomy and soil nutrients. The most useful method is adaptation to return NT residues to the soil and incorporate the residues into the soil or cover the residues on the soil surface. Straw back or a combination of crop by-products is an effective measure, straw is easy to obtain and brings significant value in agriculture due to its rich source of nutrients, so it should be considered as an alternative to chemical fertilizers and it is used as a form of organic fertilizer. Accordingly, the return or incorporation of straw seems to be able to maintain soil fertility and increase crop yields. To date, however, the results obtained from waste have remained a subject of discussion as experiments with different soils and climatic conditions have resulted in inconclusive results.

Crop residue incorporation or residue recovery techniques have beneficial effects on soil nitrogen dynamics. Conducted field experiments are showed that rice straw combined treatments significantly improved soil nitrogen nitrate levels and crop yields in wheat farming systems. However, that crop residue had no noticeable effect on agronomical allotropic factors and also showed that straw incorporation caused reduce crop yield.

Correspondence to: Brijendra Kumar, Department of Soil Science and Agricultural Chemistry, Acharya Narendra Deva University of Agriculture and Technology, Ayodhya, India, E-mail: Mahjoubwalid@163.com

Received: 08-Mar-2022, Manuscript No. AGT-22-16447; **Editor assigned:** 11-Mar-2022, PreQC No. AGT-22-15720 (PQ); **Reviewed:** 25-Mar-2022, QC No. AGT-22-16447; **Revised:** 01-Apr-2022, Manuscript No. AGT-22-16447 (R); **Published:** 08-Apr-2022, DOI: 10.35248/2168-9881.22.11.250

Citation: Kumar B (2022) Effect of Different Tillage Practices on Productivity of Wheat. Agrotechnology. 11:250