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Title: SOIL BIOLOGICAL ENVIRONMENT AS AFFECTED BY RESIDUE INCORPORATION

Publisher: Birsa Agricultural University, Kanke, Ranchi, Jharkhand

Language: en_US

Type: Thesis

Pages: 61

Agrotags: null

Keywords: SOIL BIOLOGICAL ENVIRONMENT AS AFFECTED BY RESIDUE INCORPORATION

Abstract: Continuous cropping without application of adequate quantity of nutrients in balanced doses or without addition of organics leads to loss of soil productivity. For restoration of soil productivity there is an urgent need to look forward to other options of plant nutrient supply besides the use of chemical fertilizers. Continuous recycling of crop residues with chemical fertilizers restores the organic matter content. Precise information on the long term effect of recycling of crop residues along with chemical fertilizers on an acid loam soil under climatic condition of Ranchi is needed for enhancing the nutrient availability of soil. Field experiment conducted during 2012-2013 revealed that in situ incorporation of crop residues significantly increased the grain and straw yield of groundnut and wheat grown in sequence. The highest crop yield and nutrient uptake were recorded in the plot receiving 100% NPK + crop residue. Incorporation of crop residue enhance the available nutrients status of soil microbial biomass and enzymatic activity and thus helped to sustain soil health with increased crop productivity. Continuous incorporation of crop residue @ 5 ton/ha along with recommended dose of fertilizer recorded higher grain yield of both the crop as well as favourable condition for soil properties. It is conducted that (i) It significant increased organic carbon content, microbial, microbial population. (ii) In situ incorporation of crop residues significantly increased the crop yield and nutrient uptake as well as improved the soil physical, chemical and biological environment.

Description: SOIL BIOLOGICAL ENVIRONMENT AS AFFECTED BY RESIDUE INCORPORATION

Subject: Soil Science and Agriculture Chemistry

Theme: SOIL BIOLOGICAL ENVIRONMENT AS AFFECTED BY RESIDUE INCORPORATION

These Type: M.Sc

Issue Date: 2013

Appears in Thesis (/handle/1/93550)

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