

# **Studies on Effect Of Incorporation of Korra Crop Residue on C And N Dynamics in Soil**

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## **ABSTRACT**

An incubation experiment was conducted to study the influence of Korra crop residue along with microbial consortium and nitrogen and phosphorus fertilizers on the decomposition dynamics and nutrient release pattern under greenhouse condition at Agricultural Research Station, Amaravati for 90 days in a completely randomized design. The soil total carbon, total nitrogen, C:N ratio and mineral nitrogen were estimated at 15 days interval and observed that total soil carbon content decreased and content of total soil nitrogen increased with incubation. The total soil carbon content decreased with incubation in all treatments. The decrease was more pronounced in the earlier stages of incubation than at later stages and the decrease in carbon content was more pronounced at all intervals of incubation (15 to 90 DAI ) in treatment T<sub>7</sub> which received crop residue @1.5 t ha<sup>-1</sup> + 3.0 kg MC + 3.0 kg urea +15 kg SSP. The total nitrogen content in the entire residue applied treatments increased progressively with days of incubation whereas decreased N content was observed in case of T<sub>8</sub> (RDF) and T<sub>1</sub> (absolute control). The soil C:N ratio was steadily maintained in absolute control throughout the incubation period where as in treatments which received crop residue from T<sub>2</sub> to T<sub>7</sub> had wider C:N ratio in soil up to 45 days of incubation and at later stages of decomposition the C:N ratio was narrowed with days of incubation. Mineral nitrogen content increased linearly with days of incubation from 15 to 60 days after incubation and then decreased in treatments which received crop residue along with microbial consortium and inorganic fertilizers.

**Key words:** *Crop residue, microbial consortium, total carbon, total nitrogen, mineral nitrogen, Days after incorporation and C:N ratio*