

Effect of finger millet residue management on the performance of succeeding crops

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ABSTRACT

A field experiment was conducted during the *rabi* season of 2024-25 at the Agricultural Research Station, Vizianagaram to evaluate the influence of finger millet residue management on the performance of succeeding legume crops sunhemp, horsegram, groundnut, blackgram, and greengram. The study involved three main residue management treatments: finger millet residue incorporation (M_1), M_1 + ANGRAU decomposer (M_2), and no residue incorporation (M_3) as main plots and sunhemp (S_1), horsegram (S_2), groundnut (S_3), blackgram (S_4) and greengram (S_5). Legume yields were converted to finger millet equivalent yield (FMEY) for comparison. The incorporation of finger millet residue along with the ANGRAU decomposer (M_2) significantly improved plant growth, drymatter accumulation, phenological duration, yield attributes, and nutrient uptake across all crops, particularly groundnut. The treatment of M_2 recorded the highest finger millet equivalent yield (2075 kg ha⁻¹), followed by finger millet residue incorporation (M_1) (1944 kg ha⁻¹) and no residue incorporation (M_3) (1647 kg ha⁻¹). Groundnut exhibited the highest finger millet equivalent yield (3333 kg ha⁻¹), highlighting its suitability in millet-based systems. The study concludes that integrating crop residue with microbial decomposers enhances soil health, nutrient cycling, and productivity in millet-based cropping systems.

Keywords: *Decomposer, Finger millet residue, Legume crops and Productivity*