



RESEARCH ARTICLE :

Effect of tillage and integrated nutrient management on potassium fractions in Vertisol under rainfed cotton

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SUMMARY : The experiment was carried out at Research Farm of Department of Soil Science and Agriculture Chemistry, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola during *Kharif* 2015 to study the effect of tillage and integrated nutrient management on potassium fractions in Vertisol under rainfed cotton. The experiment was laid out in randomized block design with sixteen treatment combinations with three replications. The treatments consisted of tillage (conservation and conventional), integrated nutrient management comprised of eight treatments involving FYM, crop residues, *in situ* green manuring of sunhemp, glyricidia leaf manuring in combination with inorganic fertilizers and 100 per cent RDF (60:30:30 kg N, P₂O₅ and K₂O ha⁻¹). The results revealed that, the various treatments significantly increased the various forms of potassium. Significantly highest water soluble, exchangeable, lattice and total K content of soil and highest potassium use efficiency was recorded with application of 50% N through FYM + remaining RD through chemical fertilizers. Significantly highest percentage contribution to total potassium uptake by cotton was observed in the treatment with application of 100% RDF (60:30:30 NPK kg ha⁻¹).

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