

## **Soil enzymes and beneficial micro-organisms as influenced by weed management practices under rice-wheat cropping system**

**Raj Kumar<sup>1</sup>, Jaidev<sup>1</sup>, R.S. Singh<sup>1</sup> Ved Prakash<sup>2</sup> and S.K. Tripathi<sup>3</sup>**

Received December 11, 2013 and Accepted February 9, 2014

**ABSTRACT :** Soil enzymes and beneficial microbial organisms were assessed to understand the influence of weed management practices under rice-wheat cropping system at Agronomy Research Farm during rabi and Kharif season of 2012. Microbial parameters (free living nitrogen fixing bacteria, phosphate solubilizing bacteria. Soil biomass carbon, soil respiration, dehydrogenase activity, acid-P and alkaline-P decline from initial value significantly due to isoproturon and 2,4-D application at 50 DAS. However, at harvest stage non significant variation were observed. Maximum soil enzymes and beneficial micro organisms were found in hand weeding treatment at various growth stages (50 DAS and at harvest).

**Key Words:** Soil enzymes, microbial properties, herbicides.