

## **Effect of Drought under Different Tillage Practices on Productivity of Pearlmillet Crop Under Dryland Condition**

**Manish Singh<sup>1</sup> and D.M.Denis<sup>2</sup>**

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**ABSTRACT:** A Field experiment was conducted during 2012-13 and 2013-14 to study the effect of drought on Productivity of Pearlmillet crop at Dryland Research Centre(All India Co-ordinated Research Project on Dryland Agriculture), Agra (U.P.). Pearl millet yield varied significantly due to occurrence of drought under different Tillage operation on productivity during both the year. The highest average grain yield ( $2543 \text{ kg ha}^{-1}$ ) was obtained with M.B.Plough, followed by Disc plough ( $2383 \text{ kg ha}^{-1}$ ) and lowest ( $2165 \text{ kg ha}^{-1}$ ) with tillage operation by Cultivator. Net return/rupee was highest ( $17621.5 \text{ Rs ha}^{-1}$ ) with Mould board plough followed ( $17799 \text{ Rs ha}^{-1}$ ) by Disc plough. The effective tillers/plant was found significantly higher(1.52) with M.B.Plough as compared to rest of the treatments. The values of grain weight/plant and plant height were significantly superior with treatment, M.B.Plough and 1000 grain weight also found significantly higher with treatment of M.B.plough over to other implements. The increase in higher yield under M.B.plough is due to higher moisture conservation than other implements. In individual higher yield was obtained in year 2012 ( $2340 \text{ kg/ha}$ ) compare to yield recorded in the year 2013, while rainfall during crop growth period was more than the rainfall recorded in 2012 respectively. Lower yield in 2013 may be due to continuous rains recorded during crop growth period by which inter cultural operations could not be performed along with 25 days long dry spell was registered during 2013, at grain formation and grain setting stage, resulted comparatively lower yield

**Key Words:** Drought, Tillage, Pearl millet, yield.