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Insitu moisture conservation practices on silty loam soil on growth and yield of cotton under rainfed conditions

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■ **ABSTRACT :** A study was conducted at Agricultural Engineering College and Research Institute, Kumulur, Tiruchirappalli district of Tamil Nadu between September 2012 to March 2013 to study the effect of different soil moisture conservation practices. The main plot treatments (4) comprised of summer ploughing + harrowing, chisel ploughing + harrowing, summer ploughing + chisel ploughing + harrowing and incorporating coir pith (5 tons/ha) by coir pith applicator. The subplot treatments (5) included were compartmental bunding, ridges and furrow, random tied ridging, basin listing and conventional method. Significantly higher and consistent availability of soil moisture (12.6-33.5 %) was recorded by incorporating coir pith using coir pith applicator as compared to other main plot treatments and among subplots, random tied ridging conserved higher soil moisture (33.5 %) followed by basin listing (31.4 %). Maximum plant height (175.3 cm) and dry matter production (11380 kg/ha) was observed in coir pith application with random tied ridging treatment. Random tied ridging increased the yield by 31.78 per cent (6529 kg/ha) over the control. Hence, coir pith application with random tied ridging was found to be the best practice for enhanced soil moisture availability as compared to other conservation practices for silty loam soils.

■ **KEY WORDS :** *Insitu* moisture conservation, Silty loam soils, Cotton, Random tied ridging, Coir pith application

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