



Influence of tillage time and tilth on water conservation by soil mulch.

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Effects of four times of tillage and four tilths, viz., coarse, medium, fine and very fine in silty clay loam and sandy loam soils under low and high evaporativities were analysed. In case of evaporation reduction by tillage, compared with untilled soil, evaporation averaged across tilths was 28 per cent less with first three times of tillage and 12 per cent less with fourth time. The maximum water conservation with the first, second, third and fourth times of tillage averaged 6.9, 14.8, 2.6 and 0.8 mm in silty clay and 18.7, 10.5, 2.8 and 1.3mm in the sandy loam respectively. Coarse and medium tilths appeared more effective with the earliest and finer tilths with subsequent times of tillage under high evaporativity. It was concluded that: to attain maximum water conservation, very fine tilth with the early and coarse tilth with the delayed tillage was to be avoided; for tillage with pulverizing implements, a moderate delay in the time of tillage after wetting of the soil may be desirable from the aspect of water conservation in the silty clay loam soil; stirring of wet soil under high evaporativity was likely to partially reestablish the capillarity responsible for less water conservation by earliest tillage; incorporating a wind correction factor into Morton's CRAE model improved the estimation of regional evaporation. The modeling results compared well with the analytical results.