

ABSTRACT

Hydrological characteristics significant in dryland salting have been determined for soils developed on Ordovician sedimentary bedrock and the associated alluvium typical of a large part of central Victoria.

The parameters measured included bulk density, field capacity, total porosity and macroporosity, field permeability including hydraulic conductivity and infiltration, soil water including field capacity and wilting point, and electrical conductivity.

The results indicate that soil throughflow is insignificant and is therefore not the cause of dryland salting in the areas examined. Vertical water movement through the clay B horizons, although usually slow, is important, as the soils are thin and recharge occurs over the entire area. Under forest however, there is very much less chance of water percolating underground than there is in the cleared country.

The conclusions suggest possible approaches to salinity management in that control of infiltration undoubtedly is necessary over the whole area. However, a distinction is made between the rocky areas with skeletal soils and an abundance of preferred paths of water movement, and the more productive duplex soils. In the first situation, tree planting would be appropriate while in the second, establishment of vigorous perennial pasture is a possible means of using the available soil water.