

SOIL WATER REPELLENCY IN AN URBAN LANDSCAPE – IMPLICATIONS FOR WATER USE EFFICIENCY AND LONG TERM AMELIORATION

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Water repellency of sandy soils is a problem for efficient water use by plants, because of the inefficiencies in uniformly wetting up the soil profile. There are extensive areas of sandy soils on the Swan coastal plain which are highly water repellent.

The largest urban areas occur on this coastal strip and include Perth, Bunbury and Geraldton.

Also the towns of Albany, Busselton, Mandurah and Esperance can be included as located on water repellent sandy soils. These towns would make up greater than 80% of the WA population and with that the majority of urban areas in the state.

Water repellent soils are highly inefficient in water retention and mobile nutrient retention, thus wasting water and causing off-site nutrient management problems. This has been recognized by the WA State Government in their rebate system for wetting agents used on urban gardens.

Wetting agents and mulch are not long term solutions to better water management – the wetting agents are short lived and may promote nutrient leaching and transport, the mulch may increase water repellency when allowed to dry out.

The use of wettable clays in agricultural and turf situations have proven to be long term solutions to ameliorating water repellency and should be further investigated in the urban environment especially sources of clay, application techniques and retail distribution.