

Vertisol Research in Namibia

1. Size and distribution, use of vertisols, production restraints:

Vertisols occur widespread in the Tsumeb, Grootfontein and Outjo districts. The FAO world soil map classifies these soils as Vertic Cambisols (Tsumeb and Outjo districts; south-western Grootfontein district) and Pellic Vertisols (central and northern Grootfontein district). These soils are often associated with calcrete, and are also often waterlogged in the areas.

Not much cropping is done on these soils. Many fall in relatively low rainfall areas (below 500 mm, to as low as 350 mm p.a.). In the higher rainfall areas around Tsumeb and Grootfontein the deeper vertisols are planted with mainly maize, cotton or sunflowers. These soils tend to be highly productive, except in very wet years. In such years the soils are waterlogged¹.

The rest of the area with vertisols is used for natural grazing, with about a third of the area falling within the National Etosha Game Park. The vegetation on these soils fall within the "Karstveld" (around Tsumeb and Grootfontein) and the "Mopane savanna" (to the west around Outjo) as defined by Giess (1971)². These areas are relatively densely encroached, with up to 12 000 woody plants per ha nearby Tsumeb. Grazing is generally poor, as the grasses growing on the heavier soils tend to be annuals. Perennial grasses include *Fingerhutia africana* and *Stipagrostis uniplumis*, which are highly palatable and thus generally overgrazed.

2. Research done on vertisols

At present no research is done on vertisols *per se*. An effort will be made to map the soil types of the northern farming areas in the following years in more detail, in order to delineate Agro-ecological zones within Namibia. In this process the exact locality and extend of Vertisols will be described. Only after this exercise is completed, can research needs on vertisols be identified.

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² Giess, W. 1971. Preliminary vegetation map of South West Africa. Dinteria 4.



Bv14-2/3b Vertic Cambisols,
 medium to fine textured,
 associated with Chromic Vertisols
 Eutric Gleysol inclusions,
 8-30% slope, rolling to hilly

Vp55-3bc Pellic Vertisols,
 medium to fine textured,
 associated with Calcic Cambisols and Chromic Luvisols,
 Lithosol inclusions,
 8->30% slope, rolling to mountainous