

Miscellaneous ecological notes

VARIOUS AUTHORS

GRASS ROOT PATTERN IN AN ORANGE FREE STATE FLOODPLAIN

The floodplain downstream of the confluence of the Vet and Sand Rivers, Orange Free State, was visited from the 27th to the 29th June 1979 to determine possible correlations between root activity and soil moisture conditions. Although no correlation between root activity and the soil moisture régime could be found at the time of the investigation, the results proved interesting as few data concerning grass root activity are available. According to Acocks (1975), the area consists of Pan Turf Veld (Veld Type 51) where the principal species are *Themeda triandra*, *Panicum coloratum*, *Eragrostis* spp., *Setaria woodii*, *Sporobolus fimbriatus* and *Digitaria argyrograpta* with *Echinochloa holubii*, *Sporobolus tenellus*, *Platycarpha parvifolia*, *Diplachne fusca*, *Panicum laevifolium* and *Eragrostis bicolor* in the wetter low-lying parts.

Twenty-four newly-drilled boreholes, each approximately two metres deep and one metre in diameter, distributed over an area extending from the confluence of the Vet and Sand Rivers to 50 km downstream on the floodplain, were investigated. A random vertical transect, in which a 50 mm wide strip of soil was removed, from soil surface to borehole floor, to expose the grass roots, was analysed in each borehole. The total number of observable grass roots, in each 100 mm segment of the transect, was counted to determine root distribution patterns. The dominant plant species in the vicinity of each borehole were noted where the vegetation condition made identification possible. Photographs illustrating vegetation cover were also taken at the borehole sites.

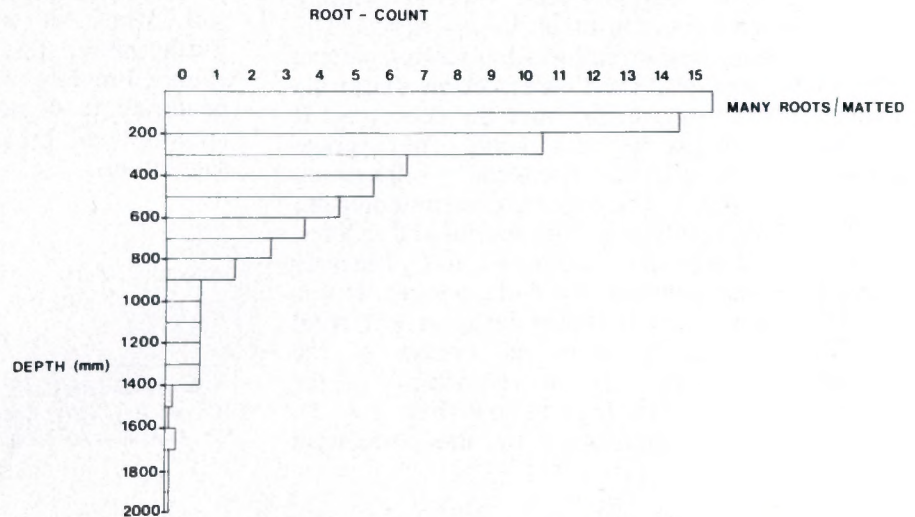


FIG. 1.—The average number of grass roots counted in each 100 mm of the borehole transects.



FIG. 2.—Vegetation with a high canopy cover, taken next to a borehole.