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Assessment of the Fertility Status of the Fadama Soils Found along Five Major River Catchments in Kano

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Abstract : This research was carried out in the catchments of five major rivers in Kano State. The catchments have considerable Fadama lands; these include: River Gari which is located in the northwestern part of Kano state, Rivers Challawa and Watari from southernparts of Kano and Katsina states. River Tomas from the northern parts of Kano state, River Jakara which has its source from the Old Kano city, part of Central Business Districts and Industrial Estates. The study was carried out with aim of assessing the fertility status of the Fadama soils found in these major river catchments. A transect was designed to collect samples along farming villages in the five river channels for the study. The findings indicate that the soils are predominantly sandy. The bulk density values vary significantly and range from 0.98mg/m to 1.36mg/m. The pH values for all the sites studied ranges from slightly acidic to slightly alkaline. The OC ranged from low to very low in the sites. The EC ranges from 66.3µs/cm to 198µs/cm for all the sites. The mean CEC ranges from 3.864 cm/kg to 10.114 Cmol/kg. The range of values for the SAR was 0.0106 to 0.069. Nitrogen ranges from0.03 to 0.1230ppm. The range of P value fell between 9.9 to 41.1mg/kg.Ca values ranges from 1.0170 to 14.9850 and K values ranges from 4.6550 – 64.40.Mg values range from 0.1380 to 1.8580 and Zn values range from 1.0170 to 14.9850. The Fe values ranged from 15.6500mg/kg to 69.8000mg/kg. The B values range from0.2060 to13.5450. Generally, the values obtained shows a low to medium fertility levels for all the parameters tested and the areas will require the in cooperation of organic manure and chemical fertilizers to improve soil structure and supplements other macro nutrients.

Keywords : assessment, Fadama soils, fertility status, river catchment
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