SOIL FERTILITY OF MAJOR MAIZE (Zea mays L.) GROWING AREAS IN ANURADHAPURA DISTRICT

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This study was undertaken to find out the present status of soil fertility in Reddish Brown Earth (RBE) in the Dry Zone where maize (*Zea mays L.*) is grown extensively. Three upland farmer fields each from eight divisional secretariats (DS) from Anuradhapura district were randomly selected after the *Maha* season 2012/2013. The DS were Galenbindunuwewa, Horowpothana, Kahatagasdigiliya, Mihintale, Nachchaduwa, Thalawa, Thirappane and Nuwaragampalatha (central). Soil samples were collected randomly from the top soil layer (0-25 cm). Soil samples were analyzed for chemical and physical parameters using three replicates. The chemical parameters were soil reaction (pH), Electrical Conductivity (EC), available Phosphorus (P), total Nitrogen (N), Cation Exchange Capacity (CEC), Organic Matter Content, exchangeable K, Na, Ca and Mg contents in the soil and physical parameter soil texture was studied. The pH and EC were varied from 5 to 6.5 and 0.02 to 0.06 ds/m

respectively. Available P varied from 1.6 to 20 mgkg, total Nitrogen varied from 0.07 to 0.10%, CEC fluctuated from 14.1 to 21.5 cmol/kg and Organic Matter Content varied from 0.5-3.35%. The soil exchangeable K and Na contents varied 103.17-

241.51 and 10.9-53.7 mgkg respectively. The soil exchangeable Ca and Mg contents varied from 2.09-10.38 and 1.53-6.68 cmol/kg respectively throughout the study area. The soil textural classes varied from sandy loam to loamy sand. Galenbindunuwewa and Thalawa DS divisions depicted optimum soil fertility status while Nuwaragampalatha (central) and Mihintale DS divisions showed low level of soil fertility for maize cultivation. The soil fertility status of Kahatagasdigiliya, Horowpothana, Thirappane and Nachchaduwa DS divisions depicted moderate level of soil fertility.

Key words: Maize (Zea mays L.), Reddish Brown Earth, Soil fertility parameters