

ABSTRACT

Dryland is land that is not inundated or flooded for most of the year and plays an important role in supporting agricultural development. Evaluating soil fertility status in dryland areas is a crucial initial step in planning sustainable land management. Through the evaluation of soil fertility status, the availability and condition of soil nutrients can be determined. This study aimed to determine the soil fertility status of dryland areas in Peudada District, Bireuen Regency. This study was conducted in Peudada District, Bireuen Regency. Soil fertility parameters were analyzed at the Soil Science Laboratory, Faculty of Agriculture, University of Bengkulu. The study was conducted from November to December 2025. This research uses a descriptive survey method. Soil sampling was conducted based on the Land Map Unit (SPL). Eleven soil samples were taken from the topsoil layer at a depth of 0–30 cm using a soil auger. The parameters for evaluating soil fertility status that will be analyzed in the laboratory are cation exchange capacity (CEC), base saturation (BS), P_2O_5 , K_2O , and organic-C. Data obtained from the soil chemical analysis were compared with the criteria for soil chemical properties and fertilizers established by the Indonesian Soil Research Institute (BPSI) (2023) and the criteria for assessing and assessing soil fertility status of the Bogor Soil Research Center (1995). The soil chemical criteria, such as CEC, ranged from 6.39-20 me/100 g, which falls into the low category, Base saturation ranged from 17.69-31.35% (very low - moderate), P_2O_5 ranged from 51.02-72.82 mg/100 g (high - very high), K_2O ranged from 37.43-60.38 mg/100 g (moderate - very high), Organic carbon ranged from 2.60-4.64% (moderate - high). Based on the soil fertility status, the dryland in Peudada District, Bireuen Regency is classified as low.

Keywords: organic matter, soil phosphorus, soil potassium, cation exchange capacity, base saturation