ABSTRACT

The study focused on the analysis of the physical and chemical characteristics of soil samples from selected farms in Naic, Cavite to provide farmers an overview of the existing soil quality and relate these with current soil conservation and management practices and farm productivity. The soil quality parameters included soil texture, pH, organic matter content, concentrations of macronutrients (N-P-K), water holding capacity, and moisture content, which were analyzed in the testing laboratory of the College of Agricultural Science at the University of the Philippines- Los Baños using standard methodologies. Soil quality was correlated with the farm productivity using Pearson r correlation at 5 percent level of significance. Results of the study revealed that farm productivities varied and the correlation with soil quality revealed weak to moderate effects on productivity (r = 0.069 to r = 0.305). Moreover, the production, postharvest, soil conservation and nutrient management practices of the farmers may influence farm productivity. The assessment of land suitability revealed that soils were highly suitable for rice farming based on soil textural grade and other physical properties and marginally to highly suitable based on soil fertility. Lastly, farm productivity can be predicted using the equation Productivity = 8.585-(6.862*pH) – (16.098*OM) + (372.827*N) – (0.132*P) + (7.030*K) + (1.160*WHC) – (0.707*MC) with correlation coefficient of $R^2 = 0.272$ based on multiple regression analysis.

Keywords: soil quality, farm productivity, soil conservation,
nutrient management, land suitability