

# THE PHYSICOCHEMICAL PROPERTIES OF DEPOSITED AND UNDEPOSITED ALLUVIAL SOILS AND NUTRITION SUPPLYING FOR HYBRID MAIZE PLANT IN AN PHU - AN GIANG

Le Phuoc Toan and Ngo Ngoc Hung

## Summary

Objectives of this study were to (1) evaluate soil properties of undeposited and deposited alluvial soils cultivated maize hybrid; (2) determine of NPKCaMg fertilizer use efficiency of hybrid maize on undeposited and deposited alluvial soils in An Phu – An Giang. The research has been conducted in winter-spring crop with six treatments: (i) NPKCaMg fertilizer; (ii) without N fertilizer; (iii) without P fertilizer; (iv) without K fertilizer; (v) without Ca fertilizer; (vi) without Mg fertilizer. The surveyed results of soil samples of farmers' fields showed that undeposited soil obtained higher pH, EC values than deposited soil while organic matter content obtained the opposite trend. The percentage of cation exchange ratios in soils was ranked as following order  $Ca^{2+} > Mg^{2+} > H^+ > Na^+ > K^+$ . The  $Mg^{2+}$  concentration under undeposited soil was higher than that of under deposited soil. N and P fertilizers are always required to increase the hybrid maize yield. Particularly, 30% yield from the surveyed fields increased with K, Ca and Mg fertilizers application. Soil N contributed to more than 40% the maize hybrid yield on both soils. However, the nutrient supplying capacities of P, K, Ca and Mg from soils contributed over 90% by yield.

**Key word:** *Maize hybrids, flood dike, alluvial soil, yield.*