KALIBRASI P PADA TANAMAN KACANG TANAH DI TANAH ULTISOL

The phosphate calibration test on groundnut at Ultisol soil

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ABSTRACT

Fertilization efficiency can be done if the information of nutrients status and dynamic of nutrient content in soil and nutrient requirement of crops is fairly considered to achieve optimum production. Using this approach, nutrient requirement of crop in various soil conditions (low, medium and high nutrient status) could be calculated. Objective of this research was to determine nutrient availability class and to estimate P-fertilizer recommendation for peanut on ultisol in Banjarnegara, Central Java. An experiment was carried out, set up in a complete randomized design with three replications, and consisted of two stages. First stage was to create a series of soil P status by adding P: 0x, 0.25x, 0.50x, 0.75x and 1.00x, where x was amount of P required to obtain level of 0.2 ppm P soil solution. Second stage was application five dosages of P-fertilizer in each P-soil status by adding P-fertilizer: 0, 18, 36, 54 and 72 kg P₂O₅ ha⁻¹. Result showed that low, medium and high level of soil P-availability extracted by Bray I were <9, 9–18 and >18 ppm P₂O₅, respectively. Whilst those levels extracted by Bray II were <20, 20–31 and >31 ppm P₂O₅. Recommended P-fertilizer for peanut on ultisol in Banjarnegara with high, medium and low P-soil status was 27.18, 46.97 and 65.42 kg SP₃6 ha⁻¹, respectively.

Key words: P calibration, groundnut, and ultisol