

Combination Urea and KCl with Powder Coal Sub-Bituminous to Increase Nutrient Content of Ultisols in Limau Manis Padang West Sumatra

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Abstract : Coal as an alternative source of humic material that has the potential of 973.92 million tons (sub-bituminous amounted to 673.70 million tons) in West Sumatera. The purpose of this research was to study combination Urea and KCl with powder coal Sub-bituminous to increase nutrient content of Ultisols In Limau Manis Padang West Sumatera. The experiment was designed in Completely Randomized Design with 3 replications, those were T1) 0.5% (50g plot-1) of powder coal Sub-bituminous; T2) T1 and 125% (7.03g plot-1) of Urea recommendation; T3) T1 and 125% (5.85g plot-1) of KCl recommendation; T4) 1.0% (100g plot-1) of powder coal Sub-bituminous; T5) T4 and 125% (7.03g plot-1) of Urea recommendation; T6) T4 and 125% (5.85g plot-1) of KCl recommendation; T7) 1.5% (150g plot-1) of powder coal Sub-bituminous; T8) T7 and 125% (7.03g plot-1) of Urea recommendation; T9) T7 and 125% (5.85g plot-1) of KCl recommendation. The results showed that application 1.5% of powder coal Sub-bituminous and 125% of Urea recommendation could increase nutrient content of Ultisols such as pH by 0.33 unit, Organic - C by 2.03%, total - N by 0.31%, Available P by 14.16 ppm and CEC by 19.38 me 100g-1 after 2 weeks of incubation process.

Keywords : KCl, sub-bituminous, ultisols, urea

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