

ABSTRACT

THE INFLUENCE OF HARZBURGIT (ULTRABASALT ROCK), KIESERITE, AND DOLOMITE, ON SOME OF SOILCHEMICAL CHARACTERISTICS; Mg, Ca, AND P UPTAKE; AND CORN YIELD ON TYPIC KANDIUDULTS

A pot experiment was conducted in the green house and laboratory of West Sumatra Assessment Institute for Agricultural Technology from July to December 2002. The objective was to study the effect of harzburgit, kieserite, and dolomite on changement of soil chemistry characteristics (pH, Al-exchangeable), nutrient availability (Mg, Ca, and P), and response of corn yield on dosages of harzburgit, kieserite, and dolomite. Three resources of Mg (harzburgit, kieserite, and dolomite), and four levels of dosages (54, 108, 216, and 432 kg MgO.ha⁻¹) with one control (0 kg MgO.ha⁻¹) were tested. The experiment was arranged in Completely Randomized Block Design with three replications. The result of this experiment showed that application of harzburgit and dolomite increased to soil pH, Ca-exchangeable and decreased to aluminum-exchangeable. Application of kieserite decreased to soil pH, and not affected to aluminum-exchangeable significantly, and high application decreased to Ca-exchangeable. The availability of Mg from kieserite were high spontaneously, but decreased on incubation time. The availability of Mg from harzburgit and dolomite increased on incubation time. The availability of P from harzburgit and dolomite was higher than which kieserite. The application effect of harzburgit (317,62 kg.ha⁻¹) was not significantly different to yield of corn with the applications of 1,661.16 kg kieserite.ha⁻¹ and 2.400 kg dolomite.ha⁻¹ respectively.

Key word : *harzburgit, kieserite, dolomite, magnesium, calsium, phosphorous, ultisol, corn.*

INTISARI

PENGARUH HARZBURGIT(BATUAN ULTRABASIS), KISERIT, DAN DOLOMIT TERHADAP BEBERAPA SIFAT KIMIA TANAH, SERAPAN Mg, Ca, DAN P, SERTA HASIL JAGUNG PADA TYPIC KANDIUDULTS

Satu unit penelitian pot di rumah kaca dan Laboratorium Balai Pengkajian Teknologi Pertanian Sumatera Barat, telah dilaksanakan dari bulan Juli sampai Desember 2002. Penelitian bertujuan untuk mengetahui pengaruh pemberian harzburgit, kiserit, dan dolomit terhadap perubahan pH tanah; Al-dd; ketersediaan Mg, Ca, dan P; dan tanggapan jagung terhadap beberapa aras pemberian harzburgit, kiserit, dan dolomit pada Typic Kandiudults. Percobaan menguji tiga sumber Mg (harzburgit, kiserit, dan dolomit) dan empat aras takaran (54, 108, 216, dan 432 kg MgO/ha) dan satu kontrol (tanpa Mg) yang disusun dalam Rancangan Acak Kelompok dengan tiga ulangan. Hasil penelitian menunjukkan bahwa Peningkatan takaran harzburgit dan dolomit meningkatkan pH tanah dan menurunkan Al-dd. Peningkatan takaran kiserit menurunkan pH tanah dan tidak mempengaruhi Al-dd. Ketersediaan Mg pada kiserit lebih cepat dan lebih tinggi dari harzburgit dan dolomit, tetapi dengan bertambahnya waktu Mg-tersedia kiserit semakin berkurang dan sebaliknya Mg-tersedia harzburgit dan dolomit semakin meningkat. Peningkatan takaran harzburgit dan dolomit meningkatkan ketersediaan Ca. Pada takaran yang tinggi kiserit menurunkan ketersediaan Ca. Pemberian harzburgit meningkatkan ketersediaan P lebih tinggi dari dolomit dan kiserit. Pemberian harzburgit dengan takaran 317,62 kg/ha pengaruhnya terhadap hasil biji pipilan kering tidak berbeda nyata dengan pemberian 1.661,16 kg kiserit/ha dan 2.400 kg dolomit/ha.

Kata kunci : *Harzburgit, kiserit, dolomit, magnesium, kalsium, fosfor, ultisol, jagung.*

