

**CALCIUM CONTENT OF ELEMENTS IN SOIL IN teak stands
(*Tectona grandis*), MAHOGANY (*Swietenia macrophylla*), AND LEGARAN
(*Alstonia spectabilis* R.Br) IN FOREST EDUCATION Wanagama I
(Case Study in Educational Forest Wanagama I, Gunung Kidul,
Yogyakarta)**

**Oleh :
Angga Satria Nugraha**

ABSTRACT

Wanagama I built as a pilot pattern of land rehabilitation and is also used as an educational field even research for faculty and students of Faculty of Forestry and other institutions. Then in the Forest Education Wanagama I need to be made permanent sample plots (PUP) to determine the increment of plant growth. PUP is made on the site and on different stands in order to represent the condition of the Forest Education Wanagama I. One that can be studied in the PUP are ground calcium content. For plants, calcium is usually an element that is not considered as an element of fertilizer, so less attention than the N, P, and K. This study aims to determine the level of calcium in the soil stands Teak, Legaran, and Mahogany Forest Education Wanagama I.

This research was done by taking data in the field and in the laboratory. In the field of data collection conducted height, diameter, and soil samples were subsequently made composite sample for analysis in the laboratory. Data taken from a depth of 0-10 cm, 10-20 cm, 20-30 cm, 30-50 cm. The laboratory analysis of calcium content of the soil in the ground by means of Atomic Absorption Spectrophotometer (AAS) and data analysis was done descriptively.

Based on the survey results revealed that the levels of the elements calcium soil in Forest Education Wanagama I under stand Teak, Mahogany, and Legaran included in the criteria is very low at $<2 \text{ me} / 100 \text{ g}$. Nutrient elements calcium levels in each stand at each kedalamanya it on Teak plot 6 0-10 cm depth average of 3.15 implies $\text{me} / 100 \text{ g}$, 0-20 cm average of 2.52 implies $\text{me} / 100 \text{ g}$. Teak plot 7, 0-10 cm depth of the average abortion 1.82 $\text{me} / 100 \text{ g}$, 10-20 cm on average womb 2.75 $\text{me} / 100 \text{ g}$, the average 20-30 womb 2.87 $\text{me} / 100 \text{ g}$, 30 -50 1.19 $\text{me} / 100 \text{ g}$. Mahogany average depth of 0-10 cm abortion 4.11 $\text{me} / 100 \text{ g}$, a depth of 10-20 cm on average 2.96 womb $\text{me} / 100 \text{ g}$, a depth of 20-30 cm on average womb 2.99 $\text{me} / 100 \text{ g}$, and Legaran 0-10 cm depth average of 2.79 implies $\text{me} / 100 \text{ g}$, a depth of 10-20 cm abortion 1.66 $\text{me} / 100 \text{ g}$, a depth of 20-30 cm in the womb of 2.79 $\text{me} / 100 \text{ g}$, a depth of 30-50 cm abortion 2.84 $\text{me} / 100 \text{ g}$. This shows the land in the Forest Education Wanagama I to stand Teak, Mahogany, and Legaran very Calcium deficiency of nutrient elements in the soil then the Forest Education Wanagama I need to be treated for the provision of additional calcium element so that plants can grow well.

Keywords: Land, Calcium, Teak stands, stands Legaran, stands Mahogany

KANDUNGAN UNSUR KALSIUM DALAM TANAH PADA TEGAKAN JATI (*Tectona grandis*), MAHONI (*Swietenia macrophylla*), DAN LEGARAN (*Alstonia spectabilis* R.Br) DI HUTAN PENDIDIKAN WANAGAMA I

(Studi Kasus di Hutan Pendidikan Wanagama I, Gunungkidul, Yogyakarta)

Oleh :

Angga Satria Nugraha

INTISARI

Hutan Wanagama I dibangun sebagai percontohan pola rehabilitasi lahan kritis dan juga digunakan sebagai lahan pendidikan bahkan penelitian bagi dosen dan mahasiswa Fakultas Kehutanan UGM serta institusi lainnya. Maka di Hutan Pendidikan Wanagama I perlu dibuat petak ukur permanen (PUP) untuk mengetahui riap pertumbuhan tanaman. PUP ini dibuat pada tapak maupun pada tegakan yang berbeda agar dapat mewakili kondisi Hutan Pendidikan Wanagama I. Salah satu yang dapat diteliti dalam PUP yaitu kandungan kalsium tanah. Bagi tanaman, kalsium biasanya unsur yang tidak dianggap sebagai unsur pupuk, sehingga kurang mendapat perhatian dibanding N, P, dan K. Penelitian ini bertujuan untuk mengetahui kadar kalsium tanah pada tegakan Jati, Legaran, dan Mahoni di Hutan Pendidikan Wanagama I.

Penelitian ini dilakukan dengan cara mengambil data di lapangan dan di laboratorium. Di lapangan dilakukan pengambilan data tinggi, diameter, dan sampel tanah yang selanjutnya dibuat sampel komposit untuk dilakukan analisis di laboratorium. Data diambil dari kedalaman 0-10 cm, 10-20 cm, 20-30 cm, 30-50 cm. Di laboratorium dilakukan analisis kandungan kalsium tanah pada tanah dengan alat *Atomic Absorption Spectrophotometer* (AAS) dan analisis data dilakukan secara deskriptif.

Berdasarkan hasil penelitian diketahui bahwa kadar unsure kalsium tanah di Hutan Pendidikan Wanagama I dibawah tegakan Jati, Mahoni, dan Legaran termasuk dalam kriteria sangat rendah yaitu < 2 me/100 g. Kadar unsure hara kalsium pada masing-masing tegakan di setiap kedalamannya itu pada Jati petak 6 kedalaman 0-10 cm rata-rata kandungannya 3,15 me/100 g, 0-20 cm rata-rata kandungannya 2,52 me/100g. Jati petak 7, kedalaman 0-10 cm rata-rata kandungannya 1,82 me/100g, 10-20 cm rata-rata kandungannya 2,75 me/100g, 20-30 rata-rata kandungannya 2,87 me/100g, 30-50 1,19 me/100g. Mahoni kedalaman 0-10 cm rata rata kandungannya 4,11 me/100g, kedalaman 10-20 cm rata-rata kandungannya 2,96 me/100 g, kedalaman 20-30 cm rata-rata kandungannya 2,99 me/100g, dan Legaran kedalaman 0-10 cm rata-rata kandungannya 2,79 me/100 g, kedalaman 10-20 cm kandungannya 1,66 me/100g, kedalaman 20-30 cm kandungannya 2,79 me/100g, kedalaman 30-50 cm kandungannya 2,84 me/100g. Hal ini menunjukkan tanah di Hutan Pendidikan Wanagama I pada tegakan Jati, Mahoni, dan Legaran sangat kekurangan unsure hara Kalsium maka pada tanah Hutan Pendidikan Wanagama I perlu dilakukan perlakuan untuk pemberian unsure Kalsium tambahan agar tanaman dapat tumbuh baik.

Kata kunci : Tanah, Kalsium, tegakan Jati, tegakan Legaran, tegakan Mahoni