

## **ABSTRAK**

### **APLIKASI BERBAGAI KONSENTRASI ETHEPON UNTUK MENGHAMBAT PERTUMBUHAN DUA VARIETAS TANAMAN UBI KAYU (*Manihot esculenta* Crantz)**

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ZPT dapat diartikan sebagai senyawa yang mempengaruhi proses fisiologi tanaman, pengaruhnya dapat mendorong dan menghambat proses fisiologi tanaman. Salah satu ZPT yang dapat digunakan adalah ethrel dengan bahan aktif ethepon. Pengaplikasian ethepon mengakibatkan pertumbuhan tanaman terhambat. Pada penelitian ini digunakan stek ubi kayu varietas Thailand dan Kasetart berukuran 25 cm yang berumur 8-12 bulan. Tujuan penelitian ini adalah untuk: (1) mengevaluasi pengaruh konsentrasi ethepon yang berpengaruh terhadap penghambatan pertumbuhan dua varietas tanaman ubi kayu, (2) mengevaluasi pengaruh varietas terhadap produksi dan pertumbuhan tanaman ubi kayu, (3) menentukan konsentrasi ethepon pada dua varietas ubi kayu yang berpengaruh terhadap penghambatan pertumbuhan dan peningkatan produksi. Perlakuan disusun secara faktorial (8 x 2) dalam Rancangan Acak Kelompok (RAK) dengan 4 ulangan yang dijadikan sebagai kelompok, setiap kelompok terdiri dari 16 sub

sampel. Faktor pertama dalam penelitian ini adalah perlakuan berbagai konsentrasi ethepon, yaitu 0; 0,5; 1; 1,5; 2; 2,5; 3 dan 3,5 ml/l. Faktor kedua adalah jenis varietas, yaitu Thailand dan Kasetsart. Ethepon diberikan melalui daun saat tanaman telah berumur 60 hari sebanyak 50 ml per tanaman dengan variabel pengamatannya adalah tinggi tanaman, jumlah daun segar, jumlah buku, bobot basah daun, batang, dan ubi, dan bobot kering daun, batang, dan ubi. Pemberian 2,5 ml ethepon/l mampu menghambat tinggi tanaman 4 MSA, pemberian 3,5 ml ethepon/l mampu mengurangi jumlah daun segar 2 MSA pada varietas Thailand, pemberian 3,5 ml ethepon/l mampu meningkatkan jumlah daun segar 4 MSA pada konsentrasi 3,5 ml/l. Pemberian 3,5 ml ethepon/l mampu menghambat jumlah buku 4 MSA, dan pemberian 2,5 ml ethepon/l mampu menurunkan bobot basah dan kering ubi. Pada hasil penelitian, aplikasi ethepon tidak meningkatkan produksi, baik varietas Thailand maupun Kasetsart.

Kata kunci: Ethepon, penghambatan, tanaman ubi kayu, varietas

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### **APPLICATION OF DIFFERENT ETHEPON CONCENTRATIONS TO INHIBIT THE GROWTH OF TWO VARIETIES OF CASSAVA (*Manihot esculenta* Crantz)**

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Growth inhibition can be interpreted as a compound that affects the plant physiology process, its influence can stimulate and inhibit the physiology of plants. One of the growth inhibition that can be used to inhibit growth is ethrel with ethepon active ingredient. This research used the Thailand and Kasetsart varieties of cassava cuttings with 25 cm length and age of 8-12 months. The purposes of this study were to: (1) evaluate the effect of ethepon concentration which influenced the inhibition of growth of two varieties of cassava plant, (2) evaluate the effect of varieties on cassava production and growth, (3) determine ethepon concentrations in two varieties of cassava affecting growth inhibition and increased production. The treatments were arranged factorially (8 x 2) in a Randomized Block Design (RBD) with 4 replication used as a block, each block

consists of 16 sub samples. The first factor was the treatment of eight different ethepon concentrations as 0; 0,5; 1; 1,5; 2; 2,5; 3; and 3,5 ml/l. The second factor is two types of cassava varieties as is Thailand and Kasetsart. Ethepon was applied through leaves when the plants are 60 days after planting with the volume of 50 ml per plant. Variables observed in this research are plant height; number of fresh leaves; number of books; wet weight of leaves, stems, and roots; and dry weight of leaves, stems, and roots. The application of 2,5 ml ethepon/l was able to inhibit plant height at 4 Weeks After Application (WAA). More over, the application of 3,5 ml ethepon/l was able to reduce the amount of fresh leaf at 2 WAA of Thailand variety. However, the application of 3,5 ml ethepon/l could increase the number of fresh leaves at 4 WAA. The application of 3,5 ml ethepon/l could inhibit the number of books at 4 WAA. Then the application of 2,5 ml ethepon/l was able to reduce the weight of wet and dry roots. In this research, ethepon application could not increase the production of both varieties as Thailand and Kasetsart.

**Keywords:** cassava, ethepon, growth inhibition, varieties.