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PENGARUH KONSENTRASI DAN FREKUENSI PEMBERIAN EKSTRAK DAUN PINUS SEBAGAI PENGENDALIAN PERTUMBUHAN SEMAI TANAMAN *Acacia nilotica* (L.) Willd. TAMAN NASIONAL BALURAN
(Effect of Concentration and Frequency of Administration of Pine Leaf Extract as Control of Invasive Plant Seedling Growth *Acacia nilotica* (L.) Willd. Baitan National Park)

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Abstract

Acacia nilotica is a plant that can grow well in certain habitat conditions and does not require complex growing conditions. This condition causes *A. nilotica* (L.) Willd. will grow uncontrollably and can damage the existing ecosystem so that action is needed, one of which is by using allelopathic compounds. Some plants contain allelopathic compounds that can inhibit and interfere with the growth of other plants. Allelopathy is composed of phenolic compounds, flavonoids, and terpenoids. All three are included in the flavonoid group which is a group of phenolic compounds. The allelopathic compounds contained are expected to be a solution in overcoming the spread of *A. nilotica* (L.) Willd. The pine leaves used are expected to contain allelopathic compounds to inhibit the growth of *A. nilotica* (L.) Willd. This research was conducted using a factorial randomized block design (FRBD) with two factors, first the concentration of pine leaf extract and the second the frequency of administration. The analysis used is by using analysis of variance, if there is a real effect, it is followed by the Duncan test to determine the differences between the treatments given. The results of this study showed that pine leaf extract showed a very real interaction and influence of the application of solution concentration and frequency of pine leaf extract on the growth of invasive plant seedlings *A. nilotica* (L.) Willd. The concentration of the solution and the frequency of administration that was the most effective in killing *A. nilotica* (L.) Willd was a concentration of 750 ppm with a frequency of giving every 2 days. Based on the results of this study, it can be suggested to use a higher concentration of the solution and a higher or more frequent application of the extract to have a faster impact.

Keywords: *Acacia nilotica* (L.) Willd, Pine Leaves, Invasive, Statistics

Abstrak

Acacia nilotica termasuk kedalam tanaman yang dapat tumbuh dengan baik pada kondisi habitat tertentu dan tidak memerlukan syarat tumbuh yang kompleks. Kondisi tersebut menyebabkan *A. nilotica* (L.) Willd. akan tumbuh tak terkendali dan dapat merusak ekosistem yang ada sehingga diperlukannya suatu tindakan, salah satunya dengan menggunakan senyawa alelopati. Beberapa tanaman yang mengandung senyawa alelopati yang dapat menghambat dan mengganggu pertumbuhan tumbuhan lain. Alelopati terasun atas senyawa fenolik, terpenoid dan Cglicossylflavonoid. Ketiganya termasuk dalam kelompok flavonoid yang merupakan golongan senyawa fenol. Senyawa alelopati yang terkandung tersebut diharapkan dapat menjadi salah satu solusi dalam mengawasi penyebaran *A. nilotica* (L.) Willd. Daun pinus yang digunakan diharapkan memiliki kandungan senyawa alelopati, untuk menghambat pertumbuhan dari *A. nilotica* (L.) Willd. Penelitian ini dilakukan dengan menggunakan rancangan acak kelompok (RAK) faktorial dengan dua faktor, pertama konsentrasi ekstrak daun pinus dan kedua frekuensi pemberian. Analisa yang digunakan yaitu dengan menggunakan analisa ragam, apabila terdapat pengaruh yang nyata maka dilanjutkan dengan uji Duncan untuk mengetahui perbedaan antar perlakuan yang diberikan. Hasil penelitian ekstrak daun pinus menunjukkan adanya interaksi serta pengaruh sangat nyata terhadap pertumbuhan semai tanaman invasif *A. nilotica* (L.) Willd. Konsentrasi larutan dan frekuensi pemberian yang paling Dampakif mematikan *A.*