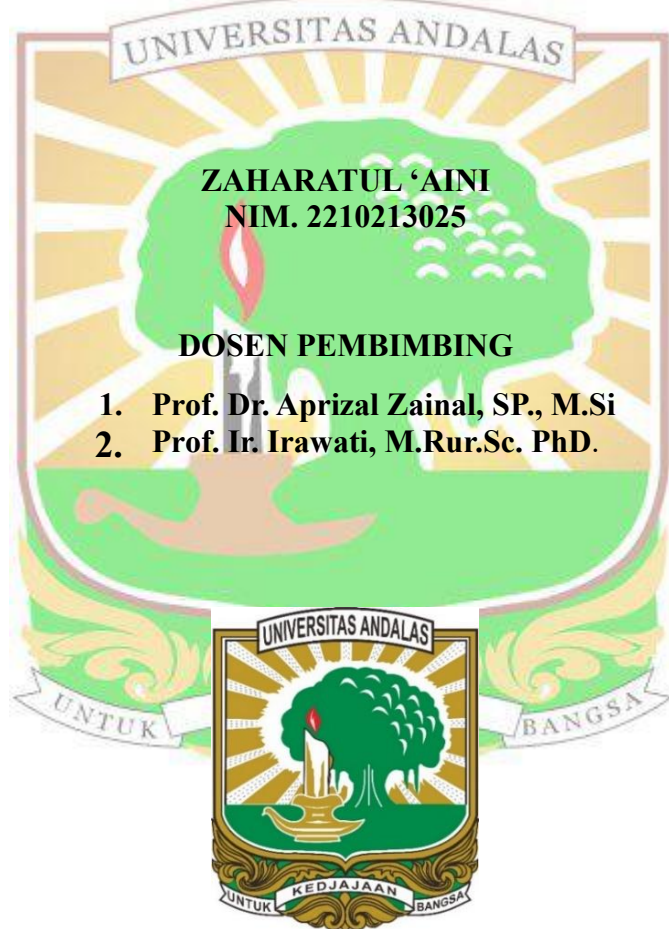


**PENGARUH CEKAMAN SALINITAS NaCl TERHADAP
PERTUMBUHAN BIBIT GAMBIR
(*Uncaria gambir* (Hunter) Roxb.) PADA ULTISOL**

SKRIPSI

OLEH:



**FAKULTAS PERTANIAN
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Abstrak

Gambir (*Uncaria gambir* (Hunter) Roxb.) merupakan komoditas perkebunan unggulan penghasil katekin dan tanin, dengan Sumatra Barat sebagai sentra produksi utama gambir nasional. Meningkatnya kebutuhan pasar mendorong pengembangan budidaya gambir ke lahan salin, padahal kandungan NaCl yang tinggi pada lahan tersebut dapat menghambat pertumbuhan tanaman, sedangkan informasi mengenai respons dan toleransi bibit gambir terhadap kondisi tersebut masih sangat terbatas. Penelitian ini bertujuan untuk mengetahui pengaruh cekaman salinitas NaCl terhadap pertumbuhan dan tingkat toleransi bibit gambir. Penelitian dilaksanakan di Rumah Kawat dan Laboratorium Fisiologi Tumbuhan, Fakultas Pertanian, Universitas Andalas pada bulan Februari–Mei 2026, menggunakan Rancangan Acak Lengkap (RAL) dengan 5 taraf cekaman salinitas NaCl (0, 1, 3, 5, dan 7 dS/m) serta 4 ulangan. Data dianalisis ragam dan uji lanjut DMRT pada taraf nyata 5%. Hasil penelitian menunjukkan bahwa pemberian NaCl berpengaruh nyata terhadap total luas daun, panjang akar, volume akar, bobot kering akar dan tajuk, serta rasio tajuk-akar, sedangkan tinggi bibit, jumlah daun, diameter batang, bobot segar akar dan tajuk, laju asimilasi bersih, laju tumbuh relatif, panjang-lebar stomata, dan kerapatan stomata tidak menunjukkan perbedaan yang nyata, meskipun secara umum cenderung menurun seiring meningkatnya konsentrasi NaCl. Akar merupakan organ yang paling responsif terhadap cekaman salinitas karena berhubungan langsung dengan larutan garam pada media tanam. Secara keseluruhan, cekaman salinitas NaCl pada taraf 1–7 dS/m menyebabkan penurunan pertumbuhan bibit gambir varietas Cubadak

Kata kunci: cekaman, gambir, NaCl, pertumbuhan, toleransi

EFFECT OF NaCl SALINITY STRESS ON THE GROWTH OF GAMBIR (*Uncaria gambir* (Hunter) Roxb.) SEEDLINGS ON ULTISOL

Abstract

Gambir (*Uncaria gambir* (Hunter) Roxb.) is of a major plantation commodity that produces catechin and tannin. West Sumatra serves as Indonesia's main gambir production center. The growing market demand has driven the expansion of gambir cultivation into saline land, even though the high NaCl content in such land can inhibit plant growth. Whilst information on the response and tolerance of gambir seedlings to these conditions remains limited. This study aimed to determine the effect of NaCl salinity stress on the growth and tolerance level of gambir seedlings. The experiment was conducted at the Screen House and the Plant Physiology Laboratory, Faculty of Agriculture, Universitas Andalas, from February to May 2026, using a completely randomized design (CRD) with five levels of NaCl salinity stress (0, 1, 3, 5, and 7 dS/m) and four replications. Data were analysed with analysis of variance and mean comparison of DMRT at 5% level. Results showed that NaCl significantly affected total leaf area, root length, root volume, root and shoot dry weight, and shoot-root ratio. In contrast, seedling height, leaf number, stem diameter, root and shoot fresh weight, net assimilation rate, relative growth rate, stomatal length-width, and stomatal density were not significantly affected. The roots were identified as the organ most responsive to salinity stress owing to their direct contact with the saline solution in the growing medium. Overall, NaCl salinity stress at 1–7 dS/m reduced the growth of gambir seedlings var. Cubadak.

Keywords: gambir, growth, NaCl, stress, tolerance