ABSTRAK

PENGARUH PERENDAMAN SETEK *BUD CHIP* DALAM LARUTAN BENZILADENIN DAN THIDIAZURON TERHADAP PERTUMBUHAN TANAMAN TEBU (*Saccharum officinarum* L.) VARIETAS PS 864

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Salah satu upaya meningkatkan kualitas bibit tebu adalah melalui teknik perbanyakan vegetatif menggunakan metode *bud chip*. Namun, teknik ini sering menghadapi kendala berupa lambatnya pertumbuhan tunas dan pembentukan akar. Penggunaan zat pengatur tumbuh (ZPT) seperti benziladenin (BA) dan thidiazuron (TDZ) dapat meningkatkan pertumbuhan setek *bud chip* tebu. Penelitian ini bertujuan untuk mengetahui pengaruh BA dan kombinasi BA + TDZ terhadap pertumbuhan tanaman dari setek *bud chip* tebu varietas PS 864. Penelitian dilaksanakan pada Mei–September 2025 di Laboratorium Ilmu Tanaman dan Laboratorium Lapang Terpadu Fakultas Pertanian Universitas Lampung. Percobaan menggunakan rancangan acak kelompok lengkap (RAKL) dan faktorial dengan dua faktor, yaitu konsentrasi BA (0, 20, 40, 60, dan 80 mg/l) dan konsentrasi TDZ (0 dan 15 mg/l). Hasil penelitian menunjukkan bahwa perendaman setek *bud chip* tebu varietas PS 864 dalam larutan benziladenin (BA) mampu meningkatkan pertumbuhan tanaman, yang ditunjukkan oleh peningkatan panjang akar pada konsentrasi 20 – 80 mg/l, peningkatan jumlah anakan tunas, jumlah akar primer, serta bobot basah dan bobot kering brangkasan pada konsentrasi 40 – 80 mg/l, serta peningkatan bobot basah dan bobot kering akar pada konsentrasi 80 mg/l. Selain itu, penambahan thidiazuron (TDZ) juga berpengaruh dalam meningkatkan jumlah akar primer

Kata kunci: Benziladenin, *bud chip*, zat pengatur tumbuh, thidiazuron, varietas PS 864

ABSTRACT

EFFECTS OF BENZYLADENINE AND THIDIAZURON SOLUTION SOAKED IN BUD CHIP CUTTINGS ON THE GROWTH OF SUGARCANE (*Saccharum officinarum* L.) PS 864

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One way to improve the quality of sugarcane seedlings is by vegetative propagation using the bud chip of a cutting. However, this often faces the problem of slow shoot growth and root formation. The use of plant growth regulators (PGRs) such as benzyladenine (BA) and thidiazuron (TDZ) could enhance the growth of shoots and the formation of roots. This study aimeds to determine the effect of BA and the BA + TDZ on the growth of shoots and the formation of roots derived from cutting bud chips of the PS 864 sugarcane. The study was conducted from May to September 2025 at the Plant Science Laboratory and the Integrated Field Laboratory of the Faculty of Agriculture, The University of Lampung. The experiment used a completely randomized block design with a factorial treatment consinting of two factors, i.e. BA concentrations (0, 20, 40, 60, and 80 mg/L) and TDZ concentrations (0 and 15 mg/L). The results showed that application of benzyladenine (BA) increased plant growth, as indicated by increased root length at 20 – 80 mg/l, increased number of shoot tillers, number of primary roots, as well as wet and dry biomass of shoots at concentrations of 40 – 80 mg/l, and increased wet and dry root biomass at a concentration of 80 mg/l. In addition, the application of thidiazuron (TDZ) resulted in an increased number of primary roots.

Keywords: Benzyladenine, bud chip, plant growth regulators, thidiazuron, PS 864 variety