

**PENGARUH HORMON KINETIN DAN PAKLOBUTRAZOL
TERHADAP PERTUMBUHAN DAN PRODUKSI UMBI
KENTANG (*Solanum tuberosum* L. ‘TEDJO MZ’)**

**Purnawati Laksana
11/315992/BI/08694**

INTISARI

Kentang (*Solanum tuberosum* L.) merupakan tanaman hortikultura yang paling banyak diproduksi secara vegetatif sebagai sumber bahan pangan. Salah satu cara untuk meningkatkan produksi kentang dengan memberikan zat pengatur tumbuh. Kinetin merupakan zat pengatur tumbuh yang berperan dalam pertumbuhan dan pembelahan sel. Paklobutrazol merupakan retardan yang berperan menghambat pertumbuhan pada tanaman melalui pemblokiran jalur biosintesis giberelin. Penelitian ini bertujuan untuk mengevaluasi pengaruh hormon kinetin dan paklobutrazol terhadap pertumbuhan dan perkembangan umbi kentang cv. Tedjo MZ yang ditanam di dataran medium. Penelitian ini menggunakan rancangan acak kelompok faktorial 3X3. Faktor pertama yaitu aplikasi kinetin 0 ppm (kontrol), 30 ppm, dan 60 ppm (aplikasi dengan cara penyemprotan pada minggu ke 3 dan ke 5 setelah tanam). Faktor kedua yaitu aplikasi paklobutrazol 0 ppm (kontrol), 12,5 ppm, dan 60 ppm (aplikasi dengan penyemprotan pada minggu ke 7 setelah tanam). Parameter yang diamati meliputi tinggi tanaman, jumlah daun, jumlah rumpun, luas daun, aktivitas nitrat reduktase, kadar klorofil, kandungan gula reduksi, kandungan vitamin C, kerapatan stomata, panjang sel epidermis daun, berat umbi, dan jumlah umbi. Data dianalisis menggunakan *Two Way* ANOVA tingkat kepercayaan 95 % yang diikuti dengan Tukey untuk melihat interaksi masing – masing perlakuan menggunakan SPSS 16.0. Hasil yang diperoleh menunjukkan kombinasi kinetin 30 ppm dan paklobutrazol 12,5 ppm meningkatkan tinggi tanaman, panjang epidermis daun, jumlah daun, aktivitas nitrat reduktase, jumlah umbi, kandungan gula reduksi, kandungan vitamin C, dan berat umbi. Jumlah rumpun, luas daun, kadar klorofil dan kerapatan stomata mengalami penurunan pada kombinasi kinetin 30 ppm dan paklobutrazol 12,5 ppm.

Kata Kunci : Kentang cv. Tedjo MZ, kinetin, paklobutrazol, pertumbuhan, produksi umbi

THE EFFECT OF KINETIN AND PACLOBUTRAZOL ON GROWTH AND TUBER PRODUCTION OF POTATO

(*Solanum tuberosum* L. ‘TEDJO MZ’)

Purnawati Laksana
11/315992/BI/08694

ABSTRACT

Potato (*Solanum tuberosum* L.) is one of horticulture crop that were cultivated to produce tubers. Potato tubers were utilized as food source. One of methods to increase potato production is with application of Plant Growth Regulator (PGR). Kinetin is a plant growth regulator that has role in growth and cell differentiation, whereas paclobutrazol is a retardant that has function to inhibit plant growth by block gibberellin biosynthesis. This reasearch was aimed to know the effect of kinetin and paclobutrazol application on growth and tuber formation of potato cv. Tedjo MZ which was grown in medium area. This research was conducted with factorial 3X3 design. The first factor was kinetin application which consist of 3 different concentration namely 0 ppm (control), 30 ppm and 60 ppm (applied at 3 weeks and 5 weeks after planting by foliar spraying). The second factor was paclobutrazol which consist of 3 different concentration namely 0 ppm (control), 12,5 ppm and 25 ppm (applied at 7 weeks after planting by foliar spraying). For each combination treatment 5 replicates were used. Parameters observed were plant height, number of leaves, number of sprouts, leaf area, nitrate reductase activity, chlorophyll content, reducing sugar content, vitamin C content, stomatal density, epidermal cell length of leaf, tuber weight, and number of tuber. Data were evaluated using Two Way ANOVA with level trust 95 % was followed by Tukey for determaining interaction in treatment and it was calculated by SPSS 16.0. Results showed that combination of kinetin 30 ppm and paclobutrazol 12,5 ppm increased plant height, leaf epidermal length, number of leaves, nitrate reductase activity, number of weight, reducing sugar content and vitamin C content and tuber weight. Number of sprouts, leaf area, chlorophyll content and leaf stomatal density was decrease with combination of kinetin 30 ppm and paclobutrazol 12,5 ppm.

Keywords: Potato cv. Tedjo MZ, kinetin, paclobutrazol, growth, tuber production