

**RESPON PERTUMBUHAN DAN HASIL TANAMAN MELON
(*Cucumis melo* L.) PADA BERBAGAI KONSENTRASI
GIBERELIN DAN THIAMIN SECARA HIDROPONIK
*NUTRIENT FILM TECHNIQUE***

**Oleh: Taskia Rahmawati
Dibimbing oleh: Ellen Rosyelina Sasmita**

ABSTRAK

Tanaman memerlukan hormon pertumbuhan dan vitamin untuk memacu aktivitas metabolisme. Penelitian bertujuan untuk mengetahui respon pertumbuhan dan hasil tanaman melon pada berbagai konsentrasi giberelin dan thiamin. Metode penelitian menggunakan percobaan lapangan dengan *Split Plot* Rancangan Acak Kelompok Lengkap (RAKL) diulang 3 kali. Petak utama (*main plot*) yaitu konsentrasi giberelin 60, 80, dan 100 ppm. Anak petak (*sub plot*) yaitu konsentrasi thiamin 10, 45, dan 70 ppm. Perlakuan kontrol yaitu tanpa pemberian giberelin dan thiamin. Hasil analisis data menggunakan sidik ragam pada taraf 5% dan dilanjutkan uji DMRT pada taraf 5%, untuk mengetahui beda nyata antara kontrol dan kombinasi perlakuan dengan uji kontras orthogonal. Hasil penelitian menunjukkan kombinasi perlakuan nyata paling baik daripada kontrol terhadap parameter tinggi tanaman 10, 17, dan 24 HST, diameter batang 17 HST, luas daun, waktu muncul bunga betina, bobot kering tajuk, bobot kering akar, rasio bobot kering tajuk/bpbpt kering akar, dan ketebalan buah. Terjadi interaksi antara giberelin dan thiamin terhadap tinggi tanaman 10 HST, waktu muncul bunga betina, luas daun, dan bobot kering tajuk. Perlakuan giberelin 100 ppm menunjukkan hasil paling baik terhadap diameter batang 17 HST dan ketebalan buah. Perlakuan thiamin 70 ppm menunjukkan hasil paling baik terhadap tinggi tanaman 17 dan 14 HST, dan ketebalan buah.

Kata kunci: *Giberelin, Hidroponik NFT, Melon, Thiamin*

Growth and Yield Response of Melon (*Cucumis melo* L.) to Different Concentrations of Gibberellin and Thiamine Using Nutrient Film Technique Hydroponics

By: Taskia Rahmawati
Supervised by: Ellen Rosyelina Sasmita

ABSTRACT

Plants require growth hormones and vitamins to stimulate metabolic activity. This study aims to determine the growth and yield response of melon plants to various concentrations of gibberellin and thiamine. The field experiment used a Split Plot Randomized Complete Block Design (RCBD) with three replications. The main plots were gibberellin concentrations (60, 80, and 100 ppm), and the subplots were thiamine concentrations (10, 45, and 70 ppm). A control treatment without both substances was included. Data were analyzed using ANOVA at a 5% significance level, followed by DMRT at the 5% level, and orthogonal contrast to compare the control with treatment combinations. Results showed that treatment combinations were significantly better than the control for plant height (10, 17, 24 DAP), stem diameter (17 DAP), leaf area, female flower emergence time, shoot and root dry weights, shoot/root dry weight ratio, and fruit thickness. Significant interactions between gibberellin and thiamine occurred in plant height at 10 DAP, female flower emergence time, leaf area, and shoot dry weight. Gibberellin at 100 ppm performed best for stem diameter at 17 DAP and fruit thickness. Meanwhile, 70 ppm thiamine showed the best results for plant height at 17 and 24 DAP, and fruit thickness.

Keywords: *Gibberellin, NFT Hydroponics, Melon, Thiamin.*