

**TIGMORFOGENESIS TANAMAN KANGKUNG DARAT (*Ipomea reptans* Poir) AKIBAT IRIGASI KABUT DAN TETES  
ABSTRAK**

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Kebutuhan akan sayuran kangkung cenderung terus meningkat, karena kesadaran masyarakat tentang pentingnya konsumsi sayuran bergizi. Oleh karena itu, dibutuhkan upaya peningkatan produktivitas tanaman kangkung dengan cara yang efektif dan efisien. Tujuan dari penelitian ini adalah (1) untuk mengukur panjang tanaman, jumlah daun dan diameter tanamankang kangkung akibat tigmorfogenesis pada masing masing perlakuan, (2) menganalisa laju pertumbuhan tanaman kangkung akibat tigmorfogenesis, dan (3) menerapkan model matematis pertumbuhan tanaman dengan menggunakan analisis logistic pada masing masing perlakuan. Tanaman kangkung (*Ipomea reptans* Poir) dibudidayakan dalam screenhouse dengan dua perlakuan irigasi, yaitu irigasi kabut dan tetes. Parameter pertumbuhan akibat tigmorfogenesis yang diukur meliputi panjang tanaman, diameter batang dan jumlah daun. Persamaan logistik digunakan untuk menganalisis dan memprediksi pertumbuhan tanaman kangkung pada irigasi kabut dan tetes.

Tigmorfogenesis berpengaruh terhadap pertumbuhan tanaman kangkung darat dengan parameter pengukuran panjang tanaman, jumlah daun, diameter batang tanaman kangkung. Tigmorfogenesis terjadi pada tanaman kangkung dengan variasi irigasi kabut dikarenakan gaya potensial percikan air dan sentuhan rangsangan fisik air pada tanaman dan tidak dijumpai pada irigasi tetes. Laju pertumbuhan tanaman masing masing parameter pada irigasi kabut lebih besar daripada irigasi tetes. Model matematis pertumbuhan tanaman kangkung dengan menggunakan analisis logistik pada pengukuran panjang tanaman (irigasi kabut) dan jumlah daun (irigasi kabut dan tetes) kurang sesuai diterapkan ( $R = 0,365$ ;  $R = 0,708$ ; dan  $R = 0,718$ ). Model matematis pertumbuhan tanaman dengan analisis logistik yang sesuai dengan tanaman kangkung adalah panjang tanaman (irigasi tetes) dengan nilai  $R = 0,946$  dan diameter batang (irigasi kabut dan tetes) dengan nilai  $R = 0,875$  pada irigasi kabut serta  $R = 0,841$  pada irigasi tetes.

**Kata kunci: Kangkung Darat, Tigmorfogenesis, Pertumbuhan, Irigasi, Model Matematis Logistik**

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**TIGMOMORPHOGENESIS OF GROUND WATER SPINACH (*Ipomea reptans* Poir) AS A RESULT OF MIST AND DRIP IRRIGATION**

**ABSTRACT**

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Requirement for ground water spinach tends to continue to increase, due to public awareness about the importance of consuming nutritious vegetables consumption . Therefore, efforts are needed to increase the productivity of ground water spinach plants. The purposes of this study to (1) measure the length of the plant, the number of leaves and the diameter of the spinach plant due to tigmomorphogenesis in each treatment; (2) Analyze the growth rate of ground water spinach due to tigmomorphogenesis ; (3) apply a mathematical model of plant growth using logistic analysis in each treatment. Ground water spinach (*Ipomea reptans* Poir) was cultivated in a screenhouse with two irrigation treatments, namely mist and drip irrigation. Logistic equations were used to analyze and predict the growth of ground water spinach plants on mist and drip irrigation.

Tigmomorphogenesis affected on the growth of ground water spinach plants (plant length, number of leaves, stem diameter of water spinach plants). Tigmomorphogenesis occurred in ground water spinach plants with mist irrigation treatment due to the potential force of water splashed and the touched of physical stimulation of water on plants and not found in drip irrigation. The growth rate of each plant parameter in mist irrigation was greater than drip irrigation. Mathematical model of growth of ground water spinach plants using logistic analysis on the measurement of plant length (mist irrigation) and number of leaves (mist and drip irrigation) were not suitable to be applied ( $R = 0,365$ ;  $R = 0,708$ ; and  $R = 0,718$ ). Mathematical model of plant growth with logistical analysis that is suitable with ground water spinach plants was plant length (drip irrigation) with a value of  $R = 0.946$  and stem diameter (mist and drip irrigation) with a value of  $R = 0,875$  in mist irrigation and  $R = 0,841$  in drip irrigation.

**Keywords: Ground Water Spinach, Tigmomorphogenesis, Growth, Irrigation, Logistic Mathematical Model**

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