

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh metode SRI terhadap pertumbuhan padi pada skala pot tunggal. Selain itu, penelitian juga bertujuan untuk memprediksi tinggi, jumlah anakan dan jumlah daun padi dengan model pertumbuhan tertentu. Penelitian dilakukan di *greenhouse* Fakultas Teknologi Pertanian UGM. Tanah bertekstur *silty loam* digunakan untuk media tanaman dan varietas IR-64 ditanam pada pot percobaan berdiameter 30 cm dan tinggi 40 cm. Eksperimen dilakukan dengan dua cara metode irigasi: 1) irigasi konvensional dan 2) *System of Rice Intensification* (SRI) dan tiga cara pemupukan: 1) 100% pupuk organik, 2) pupuk kombinasi (50% organik + 50% anorganik) dan 3) 100% pupuk anorganik. Dua model pertumbuhan yakni logistik dan eksponensial polinomial digunakan dalam penelitian ini untuk prediksi pertumbuhan dengan indikator tinggi tanaman, jumlah anakan dan jumlah daun. Hasil penelitian menunjukkan bahwa dalam skala pot tunggal, metode irigasi konvensional dapat memberikan pertumbuhan yang lebih baik daripada metode SRI, baik hasil observasi maupun prediksinya. Prediksi dengan model logistik memberikan kesesuaian paling baik dibandingkan model lainnya, yang ditunjukkan oleh koefisien determinasinya sebesar 0,9.

Kata kunci : model pertumbuhan, padi, *system of rice intensification* (SRI), irigasi

ABSTRACT

This research aimed to measure the effect of System of Rice Intensification (SRI) toward rice growth in single potscale. The second objective is to predict plant height, number of tiller and leaf as the growth indicators by using certain growth model. The research was conducted in greenhouse of Faculty of Agricultural Technology, UGM. Silty loam texture soil was used as planting media for IR-64 variety, planted in pot with 30 cm in diameter and 40 cm high. Conventional and SRI irrigation methods were applied together with three fertilization methods: 1) 100% organic, 2) combined fertilizer (50% organic + 50% anorganic) and 3) 100% anorganic. Two growth models of logistic model and exponential polynomial were used for growth prediction using plant height, number of rice tiller and amount of leaf as the growth indicators. Results showed that in single pot scale, higher rice growth was obtained with conventional irrigation as compared to SRI. Better compatibility was obtained with logistic model compare to other models, indicated from its determination coefficient of 0.9.

Keywords: growth model, irrigation, rice plant, system of rice intensification (SRI).