

Dynamic Model of Harvest Index in Wetland Taro [*Colocasia esculenta* (L.) Schott]¹

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Summary

The objective of this study was to develop a dynamic model of harvest index (HI) in wetland taro. Based on this model, we investigated the seasonal variation of the estimates of growth parameters under different transplanting months, and examined its effect on final HI. The responses of HI with time under different transplanting months were all fitted well using a continuous three-phase piecewise linear function. This model explained more than 95% of total harvest index variation. The rate and duration of linear HI increase for each linear phase (lag, increase, maturity) were then predicted. Climatic factors affected the onset and cessation of linear HI increase. This resulted in the seasonal variation of final HI under different transplanting months. The duration of HI linear increase appeared to be more important for final HI. The rate and duration during lag phase and maturity stage had no significant effect on final HI.

Key words: Wetland taro, Harvest index, Dynamic model, Three-phase piecewise linear function, Seasonal variation.

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