

ANALISIS KESALAHAN PERHITUNGAN LAJU ALIRAN UDARA PADA PENDINGINAN RUMAH TANAMAN DENGAN SISTEM PENGKABUTAN

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Abstract	<p>ABSTRACT—Greenhouse cooling with fogging system is important to be studied in improving design of greenhouses. The process is not about cooling the air only but also humidifying. This study aims at evaluating the variables that contribute on error in air flow rate calculation. Furthermore, effects of enthalpy reading from the psychrometric chart on air flow rate calculation has been studied also. Herewith, parameters optimization and error analysis of the air flow rate equation were carried out. Data was taken from a multispans greenhouse which had cover material of PE 150 μm, 105.6 m wide and 205 m length, and three channels consists of 82 nozzles. The result indicates that the enthalpy has more pronounce contribution to determine the air flow rate and it follows successively by temperature and sun radiation. Thus, precise reading of the enthalpy is highly necessary to minimize error of the calculation of the air flow rate. This method of analysis is applicable to find appropriate values of enthalpy and other variables to produce optimum air flow rate in greenhouses.</p> <p>—Diterima: 1 Juni 2006; Disetujui: 21 Maret 2007</p>
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