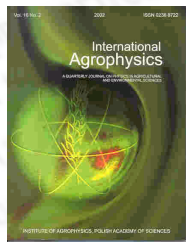




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Wind-caused air transport through greenhouse screens: a physical modelling approach

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abstract An understanding of the air exchange through screens is needed to optimise climate control strategies in greenhouses. An analysis of the airflow through porous screens due to wind pressure was performed, based on physical concepts and experiments. Firstly, a theoretical approach was presented describing the air exchange through porous screens. The mean and the root mean square wind velocity were proposed to model the wind pressure. Secondly, an experimental study was carried out in a screened greenhouse located in a windy field. The results of these measurements are in agreement with the predictions based on the given theoretical model.

keywords air exchange, porous screen, greenhouse, wind pressure, physical model

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