温室植物生长数字化模型构建技术 Digital Construction of Plant Growth Model in Greenhouse

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摘　要： 根据试验观测值提取植物生长特征信息，以累积生长度日为参数构造植物的形态发生模型，采用信息映射与归一化方法对信息进行重构，建立植物生长数字化模型。通过实例验证表明，该方法实现了植物生长受外部环境作用下的动态模拟，为实时掌握与合理决策植物适宜的生长条件提供依据。 The features of plant growth could be extracted from the experimental results, and the morphological model of plant could be constructed with the parameter of accumulative growing degree day. Additionally, the digital growth model of plant could be performed using information reconstruction method such as information normalization and mapping process. The experiment results showed that the proposed method was effective in dynamically simulating the plant growth under the interaction of environment. It could provide valuable evidences for real time obtaining and determining the proper conditions for plant development.

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