

不同种植密度番茄生长行为的结构功能模型模拟 Simulation of Tomato Growth Behavior in Response to Planting-density Based on Functional-structural Model

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摘要: 为研究不同密度下温室番茄的生长行为,对结构功能模型GreenLab进行改进,在提高拟合度的基础上,获得不同密度下番茄生长参数,通过参数分析将环境与番茄植株生长行为相联系。结果表明密度影响同化物产生与分配,通过外在形态,如出叶速率、叶厚、坐果率等表现,GreenLab模型可以重建这种生长行为变化。 In order to study the growth behavior of greenhouse tomato with different density, GreenLab, the functional-structural model, was improved. On the basis of improving the degree of fitting, the growth parameter of tomato with different density was obtained. Environment was connected with tomato plant growth behavior through the analysis of the parameter. The results show that the density influences production and distribution of assimilate, which was characterized by the exterior morpha such as leaf appearance rate, leaf thickness, fruit set rate and so on, and GreenLab model can reproduce this feedback relationship.

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