

基于修正logistic模型的番茄单个果实生长规律模拟

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摘要: 采集不同季节、不同密度的番茄种植试验的果实数据,结合环境(温度、湿度、光照强度)数据,建立了基于修正logistic模型的模拟番茄单个果实生长变化的动态模型。用Matlab软件拟合了模型输出与试验数据。结果表明,给定密度下不同位置的果实具有相同库容,同穗果实的直径存在线性关系,不同穗果实之间生长存在延迟。The tomato planting experiments in different planting densities and seasons were carried out to obtain the fruit growth data. Subsequently, the dynamic model of tomato fruit individual growth was established based on revised logistic model and the environment data (temperature, humidity, light). The experimental data were fit well with model output using Matlab software. The results indicate that tomato fruits grown in different phytomer positions and the same planting density have the same sink size. The linear relationship can be found between the diameters of different fruits with the same truss. Moreover, there is a delay of growth between different truss fruits.

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