

低温物流过程中果蔬贮藏期预测模型与预测器 Storage Time Prediction Model and the Predictor of Fruits and Vegetables in Cold Chain

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关键词: 果蔬 贮藏期 预测器 低温物流 信息无线发送技术

摘要: 基于能量守恒原理, 推导了基于0℃贮运条件下剩余贮藏期的计算式。结合现有的实验数据, 在0~20℃范围内, 得出了8种蔬菜贮藏期与贮藏温度之间的关系式和0℃贮运条件下的贮藏期预测方程。经过芹菜在0、2、4、6和8℃的储藏实验证明, 理论推导出的贮藏期与实验所得贮藏期相差时间不超过2d。并综合信息无线发送技术, 开发了具有库存管理功能的果蔬贮藏期预测器, 实际运用结果表明, 预测结果具有较高的精度。 The safety control is the key in the cold chain of fresh products, which includes the prediction of the store time and the management of the instant temperature. Based on the energy conservation theory, the equation of the rest store time of fresh vegetables and fruits was derived stored in 0℃. According to the present data about 8 kinds of fresh vegetables, we obtained the equation for the relationship between the store time and the storing temperature and the equation predicting the left store time at 0℃. The storing experiments for celery at 0℃, 2℃, 4℃, 6℃ and 8℃ proved that the store time calculated by the equation is about the same as the experiments with the difference of less than 2 days at each storing temperature. Combined with the wireless technology of sending messages, the predictor of fresh vegetables and fruits with a management function of stock was developed. The practical application shows that the predictor has a fine precision.

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