

**Title** Quality management of fresh fruit and vegetables at a supermarket chain in Japan  
**Author** T. Akinaga, S. Kawasaki and H. Shima  
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### **Abstract**

Without the cooperation of supermarkets, it is very difficult to continuously measure temperature during supply distribution and within retail display cases for fresh fruit and vegetables. We conducted this research in cooperation with a major supermarket in the Okinawa Islands. Temperature and humidity were measured during transportation from the central depot to retail stores, and in refrigerated display cases for fruit and vegetables, to investigate the quality management of fresh fruit and vegetables during daily delivery and sales operations in 54 stores in the Okinawa prefecture. Temperature and humidity were measured by recording thermometers every 10 seconds during delivery and in the refrigerated display cases. Surface temperature of fruit was measured indirectly using an infrared thermometer. Delivery from the distribution center to the store was mainly done using a van-type truck without temperature control. Insulated roll box pallets and gel ices were used for the delivery of the fresh fruit and vegetables, so that they could be transported in conjunction with foods that required no refrigeration, hence reducing transportation costs. The cold storage temperature at the supermarket was 9°C on average, so fruit and vegetables could be kept in the store for a few days and not in refrigerated display cases or cold storage. However, if kept at this temperature for an extended period, chilling injury symptoms will occur on tropical and subtropical fruits in the display cases or during removal from storage.