

**Title** Effects of blanching and storage conditions on soluble sugar contents in vegetable soybean  
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### **Abstract**

Vegetable soybean is becoming increasingly popular in the U.S. because of its rich source of isoflavones, folic acid, and other nutrients. The objective of this study was to investigate various blanching and storage conditions in order to identify the proper post-harvest management strategy in preserving sugar composition of vegetable soybean during storage. Fresh soybean pods of two vegetable soybean genotypes were stored at 4 °C for 30 days or 25 °C for 8-12 days in fresh air or nitrogen atmosphere. Shelled seeds and intact pods were blanched in boiling water or steamed at 100 °C for 10 min. All blanched soybean was stored at -20 °C and sampled monthly for 6 months for sugar analysis. Glucose, fructose and sucrose decreased gradually in fresh soybean when stored at 4 °C in air or nitrogen atmosphere for 28 days. Soybean stored at 25 °C in open air showed a rapid decrease of sucrose in the first 24 h, and then followed by a gradual increase; whereas oligosaccharides accumulated significantly during storage. Significant degradation in all sugars was found in soybean stored in nitrogen atmosphere at 25 °C. Soluble sugars decreased from leaching during the water blanching and cooling treatment of vegetable soybean seeds. Steam blanching and the presence of pod effectively retained soluble sugars in vegetable soybean during thermal treatment.