

Title: Evaluation of Frozen Fruit of Rabbiteye Blueberries and Interspecific Rabbiteye Hybrids for Consumer Acceptance.

Progress Report

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Research Proposal

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Objectives:

1. Evaluate and characterize fruit from rabbiteye blueberry cultivars and rabbiteye hybrids for consumer acceptance following extended frozen storage.

Justification:

Rabbiteye blueberry fruit is later ripening than highbush blueberry fruit and the ripening season for rabbiteye in the southeastern US overlaps with highbush fruit from more northern production regions. Therefore there is significant competition from these other areas which results in lower prices and generally at least half the crop from rabbiteye is generally utilized for processed products, primarily frozen fruit. Rabbiteye fruit has a tougher skin than highbush fruit, which is a major contributor to the superior firmness of rabbiteye fruit, however this also leads to one of the major problems often encountered with frozen rabbiteye fruit, unacceptably tough skins. Therefore it is important to determine if there are differences in consumer acceptance among rabbiteye cultivars and rabbiteye interspecific hybrids following extended storage as frozen fruit. The experiment will be repeated in 2008.

Methodologies:

The freeze over Easter weekend limited the availability of fruit for this study during the 2007 season. However fruit from four rabbiteye cultivars (Premier, Ira, Tifblue, and Powderblue) and one complex pentaploid rabbiteye hybrid (NC 3465) were harvested at the Horticultural Crops Research Station at Castle Hayne, NC, along with Beaufort as a southern highbush standard. The four rabbiteye were harvested on two separate dates and NC 3465 and Beaufort once for a total of 10 entries. The fruit was frozen immediately after harvest at Solo Foods, Burgaw, NC, and held at -12<sup>0</sup>F. After all entries had been harvested and frozen, the frozen fruit was transported to the Food Science Department at N. C. State University and again held at -12<sup>0</sup>F. Consumer acceptance is being evaluated after 3, 6, 9 and 12 months frozen storage, and compared with histological examination to determine if there are cellular structures that are associated with increased epidermal toughness. The consumer panels will consist of 75 untrained panelists on each date.

**Results to Date:**

Up to this time only the three month frozen storage evaluations have been completed (mid October). The six month evaluations will take place in mid January. Therefore at this time it is too early to report any meaningful results or conclusions.