**Abstract**

Raspberry growers in the state of Maine have expressed an interest in the selection of red raspberries that are suitable for preservation by freezing and that best maintain physical, chemical and sensory quality during frozen storage. The major portion of Maine's raspberry crop is used for jam and the berries must be preserved until they can be processed.

The assessment of quality of four cultivars (Boyne, Festival, Killarny, Prestige) were evaluated at harvest and after three, six and nine months of frozen storage at -20°C. The following characteristics of the fruit were determined during three years of study: total soluble solids; pH; titratable acidity; pectin; color (L value, hue angle, chroma); sugars (fructose, glucose, sucrose); organic acids (oxalic acid, citric acid, malic acid, and succinic acid). For sensory evaluation, jam was made from these cultivars when they were fresh and after three, six and nine months of frozen storage. Color, flavor and texture was evaluated by a sensory panel on a 7-point scale.

Physically and chemically all these cultivars maintained their quality during nine months of frozen storage. Some physical and chemical characteristics were significantly ($p < 0.05$) influenced by the cultivars as well as by year. Sensory evaluation of jam from these cultivars showed that Prestige and Killarny were best cultivars for jam making as regard of color, flavor and texture. Festival was also close to both of them. Boyne was not preferred for color and flavor but was good for texture.