

#### Abstract:

Storage technology and rapid distribution networks have enabled extended season marketing of highbush blueberries. Fitting fruit availability to market demand, however, may require greater flexibility than is provided by storage alone. Often control of fruit maturity in the field must be linked with appropriate storage methods to meet a specific market opportunity. A 2 year study conducted in north eastern Canada investigated the effects of row coverings on fruit maturation in three highbush blueberry cultivars, and the impact of these field treatments on pre and post storage fruit quality. In the first year, 50% shade covering plants of 'Brigitta' and 'Bluegold' caused fruit to mature about 14 days later than controls. Neither fruit firmness, average weight or titratable acidity were affected by shading. Yield either declined (Brigitta) or was unaffected (Bluegold) by shading during the first season, but in the second season yield in shaded plants declined dramatically. Fruit quality after 6 weeks of controlled atmosphere (CA) storage (10% CO<sub>2</sub>, 16% O<sub>2</sub>, 0°C) was similar in both field shaded and control treatments. In a parallel study a removable tunnel covered with 6 mil polyethylene was installed in early May over 4 year old plants of 'Elliott'. Half of the plants were uncovered following petal drop; the tunnel remained in place on the others until the end of fruit harvest. Full season and partial season covering advanced fruit maturity by about 14, and 10 days, respectively, as compared with the controls. First year yields were increased by 25% by either covering treatment, but the yield increase and advancement of maturity were not evident in the second year. Covered fruit was initially softer and smaller than that of the control plants, but firmness increased to equal that of controls after 6 weeks in CA storage. Quality was high (90% marketability) in fruit from all treatments even after 6 weeks of CA storage.