

### **Abstract**

Broccoli (*Brassica oleracea* L. Italica Group) heads cv. Green-King were precooled in cold water at 2, 4 or 8°C until core temperature reached 8°C and then stored at 8°C with 95% RH. Non-precooled heads were the control. Floret yellowing based on a value and chlorophyll content markedly decreased with hydrocooling. This appeared to be due partly to reduced chlorophyllase activity. Inhibition of yellowing increased in magnitude with decreasing temperature of the cooling medium. Thus, hydrocooling with 2°C water caused the greatest decrease in floret yellowing. It was also the most effective in reducing the rates of respiration and ethylene production. These effects have important implications concerning quality maintenance and shelf life extension of broccoli.