Abstract:

Blackberries (Rubus sp.) are a rich source of anthocyanins and other polyphenolic antioxidants. Because of their antioxidant properties, dietary polyphenolics have been associated with a reduced risk of various degenerative conditions including certain cancers and disease. A number of studies have been done to identify germplasm high in ORAC (oxygen radical absorbing capacity) in Rubus species. The present study was done to determine how the ORAC of blackberries was affected by fruit storage. Blackberries of five cultivars, originating from the University of Arkansas breeding program (all tetraploids), grown in Lane, Okla. and harvested in 1998 at the shiny black and dull black stages of ripeness, were held at 2 oC, 95% relative humidity for 7 days plus 2 days at 20 oC. Non-decayed berries were freeze-dried and powder of drupelet and receptacle tissue (no seeds) was extracted with acidified methanol. Samples were prepared for ORAC analysis using a COBAS-FARA II spectrofluorometric centrifugal analyzer. No significant differences were found between shiny and dull black fruit. ORAC values were highest in 'Kiowa' and lowest in 'Shawnee' fruit (4048 and 2690 μmol trolox/g freeze dried tissue, respectively). Values averaged for stored fruit were slightly lower than for fresh berries (3110 vs 3393 μmol trolox/g, respectively). These results indicate that the ORAC of these blackberry cultivars is not significantly increased at the latter stages of ripeness or by fruit storage at 2 oC.