Title	Anthocyanins from black sorghum and their antioxidant properties
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Abstract

A black, high anthocyanin sorghum variety (Tx430) grown in several environments was analyzed for anthocyanins by spectrophotometric and HPLC methods. The samples were also analyzed for antioxidant activity using the 2,2′-azinobis (3-ethyl-benzothiaziline-6-sulfonic acid) method. Two extracting solvents, 1% HCl in methanol and 70% aqueous acetone, were compared. Sorghum brans had three to four times higher anthocyanin contents than the whole grains. The brans were a good source of anthocyanin (4.0–9.8 mg luteolinidin equivalents/g) compared to pigmented fruits and vegetables (0.2–10 mg/g), fresh weight basis. Acidified methanol extracted the anthocyanins better than aqueous acetone. Luteolinidin and apigeninidin accounted for about 50% of the anthocyanins in the black sorghums. The sorghum grains and their brans had high antioxidant activity (52–400 μmol TE/g) compared to other cereals (<0.1–34 mg TE/g). Black sorghum should be useful in food and other applications, because it is a valuable source of anthocyanins with good antioxidant activity.