Sweet potato leaves a good source of vitamins

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Sweetpotato is known to be a good source of ascorbic acid (vitamin C) and certain B vitamins that are considered essential to human health. Besides the commonly consumed root of the plant, certain tissues in sweetpotato are also edible and high in nutritional value. Although studies have confirmed that water-soluble vitamins exist in sweetpotato roots and leaves, there has been limited information about how these vitamins are actually distributed in the plants. Wilmer Barrera and David Picha from Louisiana State University Agricultural Center published a research study in *HortScience* that shows that mature and young leaves of sweetpotato can provide significant amounts of vitamin B_6 and other essential vitamins.

"The objective of the study was to determine the ascorbic acid, thiamin, riboflavin, and vitamin B_6 content in a wide range of edible tissues of 'Beauregard' and 'LA 07-146' sweetpotatoes, two important commercial cultivars in Louisiana," Barrera and Picha said. The scientists analyzed a variety of sweetpotato tissue types (mature leaves, young leaves, young petioles, buds, vine sections, and root tissue) from a sweetpotato plot at Louisiana State University in late October and again the following September. They conducted a third experiment to study water-soluble vitamin content among different sweetpotato root tissues.

Analyses revealed differences in total ascorbic acid (AA) content among tissue types. Young leaves contained the highest AA content, followed by mature leaves and buds. Buds also contained significantly higher AA content than sweetpotato roots, vines, and petiole tissues. "These results confirm previous studies that sweetpotato foliar tissues are a good source

of ascorbic acid, and that young leaves have the highest foliar AA content," the scientists noted. The experiments showed no presence of thiamin in foliar tissues, a finding the authors say differs from previous studies. "The lack of thiamin in our results might be explained by cultivar differences," they explained.

Results also showed that riboflavin content differed with sweetpotato tissue type, but was consistently higher in the leaves; mature leaves contained higher amounts of riboflavin than young leaves and other plant tissues, including roots. "Leaf tissue also contained higher total vitamin B_6 content compared with other tissues. Mature leaves contained 3.4 times higher vitamin B_6 than roots, whereas mature petioles contained 2.3 times more than roots," the authors said. "Bud tissue and young leaves also contained higher B_6 levels than roots, whereas the vine and young petiole tissue contents were lower than roots."

Barrera and Picha concluded that ascorbic acid, riboflavin, and vitamin B_6 contents were higher in leaf tissue than in other tissue types. "Our results indicate that mature and young leaves of sweetpotato could provide significant amounts of vitamin B_6 to the human diet," they said. They noted that the vitamin B_6 content in sweetpotato leaves compares well with fruits and vegetables such as broccoli, avocados, carrots, bananas, and cauliflower.

More information: The complete study and abstract are available on the ASHS *HortScience* electronic journal web site: hortsci.ashspublications.org/c … /49/11/1470.abstract

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