

Abstract

Achieving vivid purple color at harvest and maintaining color during storage are important quality factors for purple colored potatoes if growers wish to receive premium prices. To ensure the marketability of the 'Michigan Purple' potato cultivar, we investigated color stability and anthocyanin concentration of 'Michigan Purple' potato tubers during storage and compared it with other colored potato cultivars. In addition, we investigated color and anthocyanin concentrations during tuber development and tentatively identified and quantified the anthocyanins responsible for the purple color in this cultivar. We also investigated pre-and postharvest tools that could possibly enhance the tuber skin-color at harvest and in storage. Preharvest investigations include the evaluation of soil type, plant spacing, nitrogen fertilizer type and application rate, and 2,4-dichlorophenoxyacetic acid (2,4-D) application rate. Postharvest investigations include the evaluation of storage temperature and ethylene application.