

**Title** Specific Gravity, Dry Matter Concentration, pH, and Crisp-making Potential of Ethiopian Potato (*Solanum tuberosum* L.) Cultivars as Influenced by Growing Environment and Length of Storage Under Ambient Conditions

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### Abstract

A study was conducted to investigate the influence of genotype, growing environment and storage period on postharvest quality of seven released potato cultivars grown at Adet (2240 masl), Chilga (2270 masl), and Dabat (2620 masl), northwest Ethiopia in 2006. Cured tubers of each cultivar from each location were stored at ambient conditions for 8 weeks in a locally constructed dark room in Adet, the location with the highest temperatures. The quality of the tubers and the crisps prepared from them was evaluated at weekly intervals. Tubers from cvs Jalenie, Guassa, and Zengena had a high specific gravity (1.088–1.094) and dry matter percentage (26.2–27.1%) when grown in Dabat and Chilga, and a lower specific gravity (1.064–1.072) and dry matter percentage (22.3–22.7%) when grown in Adet. These cultivars produced crisps with a taste value of 8 (like very much) when grown in Chilga and Dabat and of almost 7 (like moderately) when grown in Adet. There was a progressive reduction in specific gravity, dry matter percentage, and taste of crisps with increase in storage time. Cultivars with higher dry matter concentration maintained a better quality than cultivars with a lower dry matter concentration. Across growing locations and cultivars, 57% of the crisps samples were white to cream colored, 33.3% light tan and 9.5% dark tan after 1 week of storage, whereas after 6 weeks of storage none of the cultivars produced white cream colored crisps. It is reasonable to conclude that cvs Jalenie, Guassa, and Zengena can produce tubers with a high dry matter percentage under Chilga and Dabat conditions, from which acceptable crisps can be prepared from tubers stored up to 6 weeks under ambient conditions.

<http://www.springerlink.com/content/165642533xm8856j/fulltext.pdf>