

A new sweetpotato cultivar, “quick sweet” has an altered starch structure and low gelatinization temperature

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Abstract. “Quick Sweet” is a new cultivar released for fresh market use in Japan. It was derived from a cross between “Beniazuma” and “Kyushu 30.” The gelatinization temperature of “Quick Sweet” starch is about 20 °C lower than those of ordinary cultivars including its parents. Its starch granules show an abnormal morphology characterized by cracking into granules. Analyses of the chainlength distribution of amylopectin determined by high-performance anion-exchange chromatography (HPAEC) showed that “Quick Sweet” starch had a higher proportion of short chains (DP 6 - 11) compared to those in normal sweetpotato starch. The change in chain length distribution of amylopectin is thought to be the reason for the unique starch properties of “Quick Sweet”. Because of these starch properties, the storage roots can be cooked more quickly than ordinary cultivars. Eating quality of “Quick Sweet” after microwaving is also good. Ordinary cultivars do not taste nice after micro-waving. It is thus expected to be a convenient cultivar for the busy Japanese.