

Effect of temperature and processing time on physico-chemical characteristics in hot water blanching of sweet corn kernels

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Abstract

Sweet corn is popular due to its distinct taste. It remains extremely perishable due to high moisture content. For inactivation of enzymes, hot water blanching method was used to inactivate the enzyme at temperature differences of 60–100 °C for 30–150 s for sweet corn kernels and effect on various properties of sweet corn was studied. The increase in temperature and duration of treatment reduced residual peroxidase activity in samples. The increase in blanching temperature and increase in time increases length, width, thickness, true density, porosity, colour a^* , colour b^* , chroma, browning index, total colour difference, pH, moisture content in sweet corn kernels. The bulk density, colour L^* , ascorbic acid and total sugar of samples also decreased with increase in blanching temperature and increase in processing time. The minimum time for achieving 95% reduction in peroxidase activity was 90 s at 90 °C, and was therefore recommended for hot water blanching of sweet corn kernels.