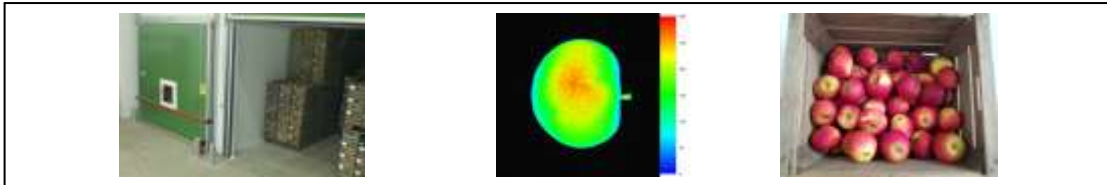


Project: Fluorescence imaging for apple storage



Contents and Objectives:

In Germany, the apple is the most important type of fruit. Modern storage methods make it possible to offer apples all year round. A relatively new long-term storage method is DCA-CF storage (Dynamic Controlled Atmosphere - Chlorophyll Fluorescence). The oxygen level is $< 1\%$ by volume, which means that the fruits are stored very close to the natural fermentation limit. The fluorescence parameter F_0 (minimal fluorescence) is used as a sensitive indicator for oxygen stress to avoid damage caused by fermentation. At present day, only fluorescence single-point measurements are used in storage practice. In contrast, fluorescence imaging has been established in research for several decades. The aim of this project is to be able to measure fluorescence using imaging techniques (low-cost) during storage. The advantage of the fluorescence imaging technique compared to single-point measurements is the massive profit in fluorescence information. The spatial heterogeneity of the sample, as well as local fluorescence disturbances, can be measured.

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Cooperation:

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