Abstract

A computer vision system (CVS) was implemented to quantify standard color of fruit and vegetables in *sRGB*, *HSV* and $L^*a^*b^*$ color spaces, and image capture conditions affecting the results were evaluated. These three color spaces are compared in terms of their suitability for color quantification in curved surfaces. The results show that *sRGB* standard (linear signals) was efficient to define the mapping between $R'G'B'$ (no-linear signals) from the CCD camera and a device-independent system such as CIE *XYZ*. The CVS showed to be robust to changes in sample orientation, resolution, and zoom. However, the measured average color was shown to be significantly affected by the properties of the background and by the surface curvature and gloss. Thus all average color results should be interpreted with caution. $L^*a^*b^*$ system is suggested as the best color space for quantification in foods with curved surfaces.