Computer Vision Techniques for Quality Assessment of Dates

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***Abstract*— Computer vision (CV) is a technique in which the image of an object is obtained through any imaging system and the image is analyzed to characterize the quality of the object objectively. The advancement in electronics has made this technique utilized in various fields. In North America, food industry is one of the top ten industries utilizing CV technique for quality monitoring. However, CV technique is not much utilized in the food industries in Asia. Dates is an important fruit crop in Oman and many other Arab countries. The quality assessment of dates during handling and processing are mainly carried out through manual inspection method. But this method has many challenges such as the efficiency of a worker, subjectivity, and so on. There are lots of opportunities to utilize CV technique for measuring and monitoring various quality aspects of dates. Through an Open Research Grant program funded by The Research Council (TRC), Oman, potential of CV technique for various internal and external qualities of dates was determined. This paper describes the efficiency of CV systems for variety identification, surface crack detection, texture and hardness determination.**

***Index Terms:* Computer vision, dates, variety, surface crack, hardness**

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