Agrotechnology 2018, Volume 7
DOI: 10.4172/2168-9881-C2-034

Measurement of shape features for classification of cucumber fruits using digital image analysis

Won Bae Jeon[1], **Myoung Hee Jeon**[2] and **Myung Hwan Na**[3]
[1]Daegu Gyeongbuk Institute of Science and Technology, South Korea
[2]Gyeonggi-do Agricultural Research and Extension Services, South Korea
[3]Chonnam National University, South Korea

For agricultural products, size and shape of fruits are important quality criteria. Estimation of shape features of fruits and vegetables has been performed manually and visually. Manual measurement is time-consuming and prone to generating errors. Visual assessment is easily influenced by the interpretation of crop inspectors. Image processing technology is one of the most efficient method to quantify the size and shape of crops such as cucumber fruits in a consistent manner. The objective of our ongoing study is to establish a method to obtain measurement of size and shape of cylindrical fruits using image processing technique. In this study, the size and shape features such as length of the major and minor axes were measured by analyzing the images of cucumber fruits using an image processing software iSolution. The eccentricity of cucumbers was also extracted from the cucumber images using the same software. The relationship between curvature and eccentricity show that the precision of this new method is significantly high (r^2=91.37). Current results showed that current image processing method exploited in this study is suitable for the classification of curved cylindrical fruits nondestructively, quickly and precisely.

wbjeon@dgist.ac.kr