Abstract

In this study, a new approach is used to automatically detect the infected pomegranates. In the development of automatic grading and sorting system for pomegranate, critical part is detection of infection. Color texture feature analysis is used for detection of surface defects on pomegranates. Acquired image is initially cropped and then transformed into HSI color space, which is further used for generating SGDM matrix. Total 18 texture features were computed for hue (H), saturation (S) and intensity (I) images from each cropped samples. Best features were used as an input to Support Vector Machine (SVM) classifier and tests were performed to identify best classification model. Out of selected texture features, features showing optimal results were cluster shade (99.8835%), product moment (99.8835%) and mean intensity (99.8059%).

References

- Dae Gwan Kim, Thomas F. Burks, Jianwei Qin, Duke M. Bulanon 2009 Classification of grapefruit peels diseases using color texture feature analysis. Int. Journal of agriculture and
Identification of Infected Pomegranates using Color Texture Feature Analysis

biological engineering, vol. 2, University of Florida, Gainesville, FL 32611-0570, USA.

- Hetal N. Patel, Dr. R. K. Jain, Dr. M. V. Joshi 2011 Fruit Detection using Improved Multiple Features based Algorithm. IJCA vol. 13, A. D. Patel Institute of Technology, New V. V. Nagar, Gujarat, India.
- Lanlan Wu and Youxian Wen 2009 Weed/corn seedling recognition by support vector machine using texture features. African Journal of Agricultural Research vol. 4 no. 9, Huazhong Agricultural University, Wuhan, 430070, P. R. China.

Index Terms

Computer Science
Keywords
Pomegranate  Disease Detection  Machine Vision  Color Co-occurrence Method  Texture Features  Svm