Project Outline

Identifying Rippen fruits using Hyperspectral Imager

In the last decade, global population has increased, and governments has started to research and develop new solution to manage high demand on resources including producing plans to increase and sustain a demand of food supply. According to the Future of food and farming report by the UK government, the key goals to balancing and sustain a high food demand includes sustaining production using science and technology and reducing food wastage [1]. The Project is Identifying ripen and rotten fruits using the Hyperspectral Imager (Specim fx10e), which will help us to understand spectral information in fruits across the electromagnetic spectrum. The certain processes will be able to notify lifespan of fruits in their early stages, help us to decide whether the fruit is unripe, ripe or rotten. This will reduce food wastage. The demand for this project is very high as the research and development sector in spectral imaging has been well supported by governments to make positive changes in the agricultural and food processing industries. The use of hyperspectral imagery on mapping grape varieties in South Australia conducted by Adelaide university is an example which helped the comprehensive study of health issues in grape crop varieties in vineyards and the early recognition to such health factors, which will help to sustain a grater yields [2]. The hyperspectral imager will act as a tool to steadily identify the consequences affecting lifespan of fruits without pigmentation by providing spectral information. Avocados and kiwi are the main sources of fruits that will be studied in this project. The further key element explored will be the evaluation on the environment which affect the hyperspectral imager, which may affect the spectral data. Thus, a conclusion can be drawn on the set of best environmental factors such as ambience and temperature for the imager.

References

[1] Foresight. The Future of Food and Farming (2011) Final Project Report. The Government Office for Science, London. Available at https://assets.publishing.service.gov.uk/media/5a7bf9f840f0b645ba3c5efe/11-546-future-of-food-and-farming-report.pdf

[2] F.M. Lacar, M.M. Lewis and I.T. Grierson Department of Soil and Water, Adelaide University “Use of Hyperspectral Imagery for Mapping Grape Varieties in the Barossa Valley, South Australia” July 2001.