

Estimating cabbage production in Cameron Highlands, Malaysia using IKONOS data.

ABSTRACT

The objective of the study is to map and count the individual cabbages at the early growth stage in Sg. Palas, Cameron Highland grown under a mix cropping system and estimate its production. With ground verification, an IKONOS 4 m multispectral imagery acquired on 25 February 2001 was digitally processed at an orthorectified level. A Digital Terrain Model (DTM) was developed and a scanned topographical map was overlaid with IKONOS data to precisely locate the attribute data and map the individual young growing cabbages. Using a supervised and unsupervised classification, less than and above 1.5 month-old cabbages were mapped and quantified. The algorithm and processing technique developed in this study can easily estimate a production of 25,000 cabbages/ha in Sg Palas area. Integrating the data with a Geographic Information System (GIS) may help Cameron Highland farmers to better market their cabbages in the future. The potential use of airborne hyperspectral imaging data such as UPM-TropAIR's AISA TropAIRMPTM to map and predict the supply of cabbages should be the next step in precision farming revolution using remote sensing.

Keyword: Cabbage; Production; Market intelligence; High resolution; Satellite remote sensing.