

Cotton Crops Vegetative Indices Based Assessment Using Multispectral Images

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Abstract : Many applications of remote sensing to vegetation and crop response depend on spectral properties of individual leaves and plants. Vegetation indices are usually determined to estimate crop biophysical parameters like crop canopies and crop leaf area indices with the help of remote sensing. Cotton crops assessment is performed with the help of vegetative indices. Remotely sensed images from an optical multispectral radiometer MSR5 are used in this study. The interpretation is based on the fact that different materials reflect and absorb light differently at different wavelengths. Non-normalized and normalized forms of these datasets are analyzed using two complementary data mining algorithms; K-means and K-nearest neighbor (KNN). Our analysis shows that the use of normalized reflectance data and vegetative indices are suitable for an automated assessment and decision making.

Keywords : cotton, condition assessment, KNN algorithm, clustering, MSR5, vegetation indices

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