

Sub-Pixel Level Classification Using Remote Sensing For Arecanut Crop

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Abstract : In agriculture, remote sensing is applied for monitoring of plant development, evaluating of physiological processes and growth conditions. Especially valuable are the spatio-temporal aspects of the remotely sensed data in detecting crop state differences and stress situations. In this study, hyperion imagery is used for classifying arecanut crops based on their age so that these maps can be used in yield estimation of crops, irrigation purposes, applying fertilizers etc. Traditional hard classifiers assigns the mixed pixels to the dominant classes. The proposed method uses a sub pixel level classifier called linear spectral unmixing available in ENVI software. It provides the relative abundance of surface materials and the context within a pixel that may be a potential solution to effectively identifying the land-cover distribution. Validation is done referring to field spectra collected using spectroradiometer and the ground control points obtained from GPS.

Keywords : FLAASH, Hyperspectral remote sensing, Linear Spectral Unmixing, Spectral Angle Mapper Classifier.

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