

# Detection of Nutrient Deficiencies in Plant Leaves using Image Processing

N. Minni<sup>1</sup>, N. Rehna<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Computer Science, Avvaiyar Govt. College for women Karaikal, Puducherry, India

<sup>2</sup>Department of Computer Science, SSS Shasun Jain College for women T.Nagar, Chennai, Tamil Nadu, India  
Email: minnimca@yahoo.co.in, rehnamca@yahoo.com

---

## Abstract

In this paper, we suggest a model for the automatic detection and classification of nutrient deficiencies in plant leaves. In an agricultural country like India, farmers are facing lot of problems in detecting the causes for the diseases in plants. Only when the causes are sorted out, the solution can be found to treat them. With naked-eye observation it is difficult to classify the deficiency present in leaves. So with the help of image processing algorithms, we have proposed a model to detect the type of deficiencies in the leaves. The color and texture features are used to recognize and classify the deficiencies. The combinations of features prove to be very effective in deficiency detection. This paper presents an effective method for detection of nutrient deficiencies in leaves using color-texture analysis and k-means clustering.

---