

{tag} International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

[Volume 179](#)

-
[Number 36](#)

Year of Publication: 2018

Authors:

Mamatha V., Sreekumar K.

10.5120/ijca2018916845

{bibtex}2018916845.bib{/bibtex}

Abstract

The green, or the chlorophyll- bearing, plants are the only living forms on this planet capable of fusion of organic matter out of inorganic elements and simple compounds. Automatic identification of plant leaf is a demanding problem in the area of computer vision. Plant chlorophyll estimation can support nitrogen fertilization decisions. Chlorophyll content is a key measure of plant growth and physiological status.

Chlorophyll (green colour) is the most notable tetrapyrrol, while the most important tetraterpenoids and carotenoids (yellow-orange-red colour). Chlorophyll was first identified and named by Joseph Bienaimé Caventou

and Pierre Joseph Pelletier in 1817 .The existence of magnesium in chlorophyll was discovered in 1906, and was the first time that magnesium had been detected in living tissue.

References

1. Peter P.J. Roosjena,, Benjamin Bred et al. Improved estimation of leaf area index and leaf chlorophyll content of a potato crop using multi-angle spectral data – potential of unmanned aerial vehicle imagery Int J Appl Earth Obs Geoinformation 66 (2018) 14–2
2. Daniel Gaviria Palacio et al. Fast estimation of chlorophyll content on plant leaves using the light sensor of a smartphone (2017)
3. Pudong Liu & Runhe Shi et al. Integrating multiple vegetation indices via an artificial neural network model for estimating the leaf chlorophyll content of *Spartina alterniflora* under interspecies competition (2017) Environ Monit Assess (2017) 189:596
4. S. Dutta Gupta¹ & A. K. Pattanayak et al. Intelligent image analysis (IIA) using artificial neural network (ANN) for non-invasive estimation of chlorophyll content in micropropagated plants of potato (2017) Springer publications
5. Jorg peter Baresel et al. Use of digital camera as alternative method for non-destructive detection of the leaf chlorophyll content and the nitrogen nutrition status in wheat (2017) Computers and Electronics in Agriculture
6. Chengyao Jiang et al. A correlation analysis on chlorophyll content and SPAD value in tomato leaves (2017) Hort Research No. 71

Index Terms

Computer Science

Image Processing

Keywords

chlorophyll estimation, plant leaf analysis, image analysis, plant vigor estimation.