



A NOVEL METHOD FOR MEASUREMENT OF PROTEIN OF CASTOR LEAVES USING OPTOELECTRONIC SENSOR SYSTEM

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ABSTRACT

Castor leaves enriched with protein are the primary feed of eri silkworms. This protein resource forms the basis of secretion of superior quality silk. Proteins are normally analyzed by the classical Spectrophotometric method. In this paper, an alternative to Spectrophotometer is proposed by using optical sensing systems based on cheaper and faster sources and detectors for estimation of protein content in castor leaves. Castor leaves of four different stages collected from a flowering plant were used for estimation. The highest protein content was reported for the second leaf from the tip of the plant whereas, the least amount of protein was recorded for the youngest leaf which has the highest water content. The optical sensor system using both the coherent and non-coherent sources gave similar results as that of the Spectrophotometric method whereas, the system with the coherent source was more sensitive to variations compared to the non-coherent optical sensor system.

Key words: Castor, optical sensor system, protein estimation, Spectrophotometric method.