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# **JOURNAL OF GLOBAL RESOURCES**



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## “STEVIA” THE SUGAR PLANT

.Vaishwani Disle ,P.D.Gaikwad

Department of Physics Dr.Babasaheb Ambedkar Marathwada University Aurangabad (M.S.)

Department of Physics R.B.Attal Arts, Science &Commerce Georai Dist. Beed, (M.S.) India,

Email: [pdgaikwad11@gmail.com](mailto:pdgaikwad11@gmail.com)

### Abstract

*Stevia* is a nutrient rich natural alternative to artificial sweetener, belongs to Asteraceae family and contains over hundred phytochemicals. The most important components of steviol glycosides is high potency sweetening which sweeter than saccharose but besides this has no calorific value stevia has numerous therapeutic values in the treatment of patients with diabetes-related obesity, hypertension or cardiac disease, antioxidant, antimicrobial and antifungal activity, for which sweetening properties have been identified. The aim of this paper is to present nutritional value and application of stevia leaves and its beneficial value to health.

**Keywords:** *Stevia rebaudiana*, Asteraceae, sweetener, nutritional.

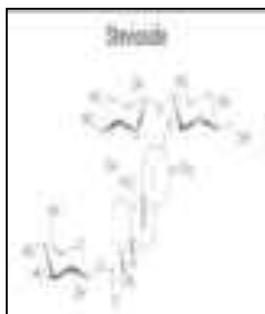
### Introduction

*Stevia* is green leafed herb (*stevia rebaudiana* Bertoni) commonly known as sweet leaf or in Marathi Madhuparni).



Fig.1. *Stevia rebaudiana*

(Fig. 1) was botanically classified in 1899 by Moises Santiago Bertoni, who described it in more detail. Initially called *Eupatorium rebaudianum*, its name changed to *S. rebaudiana* Bertoni in 1905. The sweet principle was first isolated in 1909 and only in 1931 was the extract purified to produce stevioside, the chemical structure of which was established in 1952 as a diterpene glycoside[1-2].



## Fig.2. Stevioside

Stevioside is described as a glycoside comprising three glucose molecules attached to an aglycone, the steviol moiety.

*S. rebaudiana* has attracted economic and scientific interests due to the sweetness and the supposed therapeutic properties of its leaf. Stevia The leaves of stevia has functional and sensory properties superior to those of many other high-potency sweeteners, and is likely to become a major source of high-potency sweetener for the growing natural food market in the future. The purpose of this paper is to selection of essential information on stevia, a naturally bio-sweetener. Importance was placed on the amazing potential of stevia as an intense high sweetener with its nutritional, therapeutic, functional properties and health-promoting properties. [3-5]

### **Biochemical and nutritional aspects of stevia**

The dry extract from the leaves of stevia contains flavonoids, alkaloids, water-soluble chlorophylls and xanthophylls, hydroxycinnamic acids (caffeine, chlorogenic, etc.), neutral water-soluble oligosaccharides, free sugars, amino acids, lipids, essential oils and trace elements .Stevia leaf powder, which appears to be advantageous and may be due to high protein content. Proteins would increase water holding capacity, thus enhancing the swelling ability, an important function of protein in the preparation of viscous foods such as soups, gravies, dough and baked products. The ability of the protein to aid the formation and stabilization of emulsion is also critical in many foods applications, such as cake, batters, coffee whiteners, milk, frozen desserts and others. Stevia leaf powder seems to possess an adequate fat absorption capacity, allowing it to play an important role in food processing since fat acts on flavor retainers and increases mouth feel of foods. The benefits associated with stevia leaf are principally due to their biochemical and nutritional composition, which is a good source of carbohydrates, protein and crude fiber that promotes wellness and minimize the risk of certain diseases. The leaves can be used in their natural state It has enormous sweetening power only small quantities need to be used The leaves as well as the pure stevioside extract can be cooked Clinically tested and frequently used by humans without negative effect.[6]

### **Health benefits**

It is used as a sweetener. Stevia and stevioside have been applied as substitutes for sucrose, for treatment of diabetes mellitus, obesity, hypertension, and for the prevention of caries. Stevioside also exhibits bactericidal activity and inhibits the growth of *Escherichia coli*.

### **Uses of stevia**

Stevia is safe for diabetics, as it does not affect blood sugar levels, not have the neurological or renal side effects as other artificial sweeteners and also, Stevia possess anti-fungal and anti-bacterial properties in addition to It can be safely used in herbal medicines, tonics for diabetic patients and in daily usage products such as mouthwashes and toothpastes, moreover mild stevia leaf tea offers excellent relief for an upset stomach. [7-10]

### **Conclusion**

Stevia represents a new opportunity for farmers and disease control is required to optimize interest to chemists, biochemists and geneticists may prove for the production in the future.

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