

Stevia Rebaudiana

By: Bree Hatfield

+ Stevia Rebaudiana

Classification:

Domain: Eukaryota

Kingdom: Plantae

*Angiosperm (flowers)

Order: Asterales

Family: Asteraceae (sunflower)

Tribe: Eupatorieae

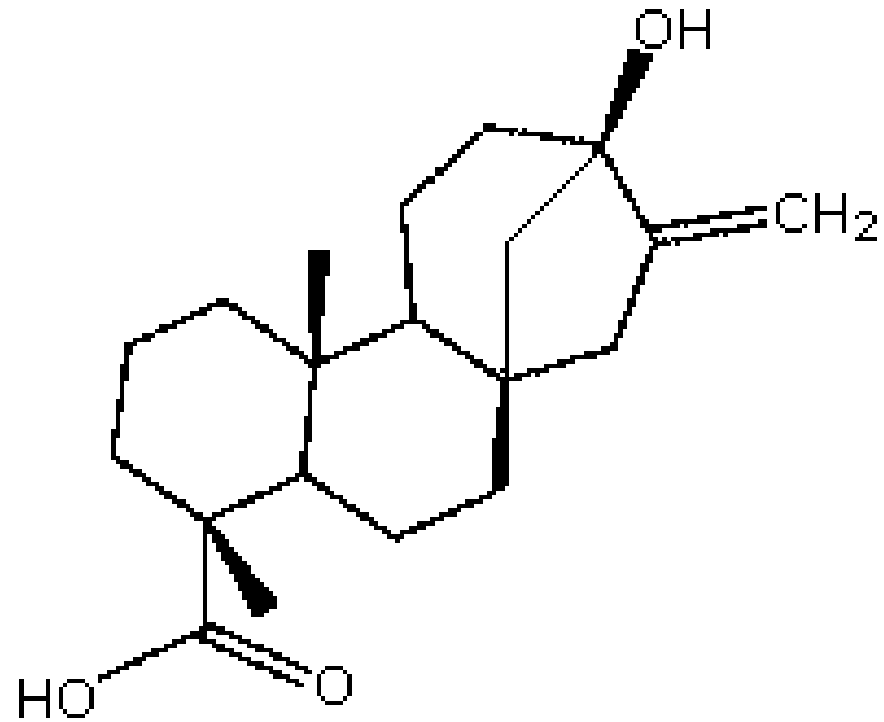
Genus: Stevia

Species: *S. Rebaudiana*



Common names: Candy leaf, sugar leaf, sweet leaf

+ *Stevia Rebaudiana* Chemistry



steviol

+ Origin of *Stevia Rebaudiana*



1.) 1500 years ago (500 A.D.) cultivation began in Brazil and Paraguay (Gaurani people). “Sweet Leaf”

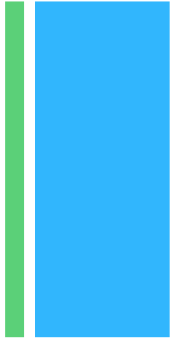
2.) 1899 Bertoni (Botonist) classified the plant for its sweet taste

3.) 1931 Bridal and Lavielle (Chemists) isolated the glycosides that give the plants their sweet taste

4.) Ontario Canada became experimental research to determine the feasibility of commercial cultivation

* Cultivated Today mainly in East Asia and South America

+ Cultivation of *Stevia Rebaudiana*



Problem: Poor seed production and low seed germination.

- Sandy loam or loam soil with high organic material content
- High temperatures (winter soil temp 32-35 F)
- Weak perennial (replaced every couple of years)
- Normally planted after the last frost (treated like an annual).
- High yield leaf in longer summer days and higher altitudes (Shock 1982)
- Consistent moisture supply, irrigation 1 or 2 times per week (trickle irrigation)
- Stems will break in high winds



+ Morphology of *Stevia Rebaudiana*

Leaves: green, grow in pairs, width ~3cm, length ~6cm

Flowers: normally white in color, ~10mm in diameter, inflorescence explants on height of developing sprout

Note hermaphrodite (pollinated through insects)

Sprouts: tender at first, become woody

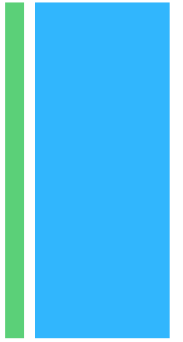
Roots: Superficial, few lateral roots

Seed: small, black and brown, black when matured, non-viable



+ Uses of *Stevia Rebaudiana*

Sugar



+ *Stevia Rebaudiana* Historical Facts

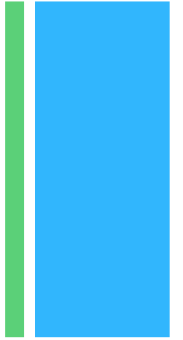
Gaurani people found the leaves to be usefully sweet, but the natives used it for many other things:

- Softening Skin
- Aiding Digestion
- Nourishing the pancreas
- Balancing Blood Sugar
- Smoothing wrinkles
- Healing blemishes, sores and wounds



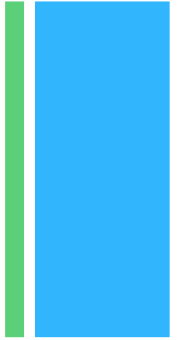
After research concluded that this sugar additive is non-hazardous to human health, and is now used widely around the world.

+ *Stevia Rebaudiana* in the U.S



- FDA banned Stevia imports when Monsanto created NutraSweet® and Equal® (contain aspartame)
- 2 ½ years later the banned was lifted and it was recognized as a dietary supplement.
- Because of health reasons there was move from artificial sweetener to stevia extract
- Now it is used widely in the US as a sweetener.

+ Works Cited



- https://en.wikipedia.org/wiki/Stevia_rebaudiana
- http://www.stevia.com/stevia_article/growing_your_own_stevia/8077
- <http://www.stevianet.gr/en/index.php/stevia/theplant/theplant>
- http://bodyecology.com/articles/brief_history_of_stevia.php
- <https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/Images3/steviol.gif>



Questions?