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The Insulin Plant: Nature's Green Hope for Diabetes Management

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Costus igneus, commonly known as the insulin plant in India, belongs to the family Costaceae. Often referred to as the **"natural insulin,"** this vibrant green plant has attracted attention for its potential to support blood sugar control—especially among people living with Type 2 diabetes. It is a recently introduced plant in India, originating from South and Central America. The plant is perennial, upright, and spreading, reaching approximately two feet in height, with spirally arranged leaves and attractive flowers. In southern India, it is typically cultivated as an ornamental plant, and its leaves are utilised as a dietary supplement in the management of diabetes mellitus. The consumption of these leaves is believed to reduce blood glucose levels in diabetics. Furthermore, it has been demonstrated to possess various pharmacological activities, such as hypolipidemic, diuretic, antioxidant, and antimicrobial effects anti-cancerous.

Why Is It Associated with Diabetes

Costus igneus is recognised for its antidiabetic properties, which are primarily attributed to the presence of flavonoids, saponins, and glycosides. These compounds facilitate the reduction of blood glucose levels and enhance insulin sensitivity. The herb promotes increased insulin secretion by pancreatic β-cells, augments glucose uptake- particularly in glucose-intensive peripheral tissues- and diminishes insulin resistance. Additionally, it inhibits the activity of α-amylase and α-glucosidase enzymes responsible for carbohydrate digestion, thereby slowing glucose absorption in the gastrointestinal tract. In studies involving Alloxan-induced diabetic rats, the ethanolic extract of Costus igneus significantly decreased blood glucose levels, indicating a hypoglycaemic effect. The alkaloids and saponins present in the plant also enhance insulin receptor sensitivity, contributing to glucose homeostasis (Manjula *et al.*,2012)

How Is It Consumed?

The leaves are utilised to assist in the regulation of blood sugar levels. Comprising flavonoids, alkaloids, terpenoids, and glycosides, the plant's leaves are believed to enhance insulin sensitivity and protect pancreatic beta cells from oxidative damage. Traditionally, the leaves are either chewed fresh or boiled in water to prepare herbal tea—methods that are among the most ancient in Ayurvedic practices for utilising this plant (Nath *et al.*, 2026).

References

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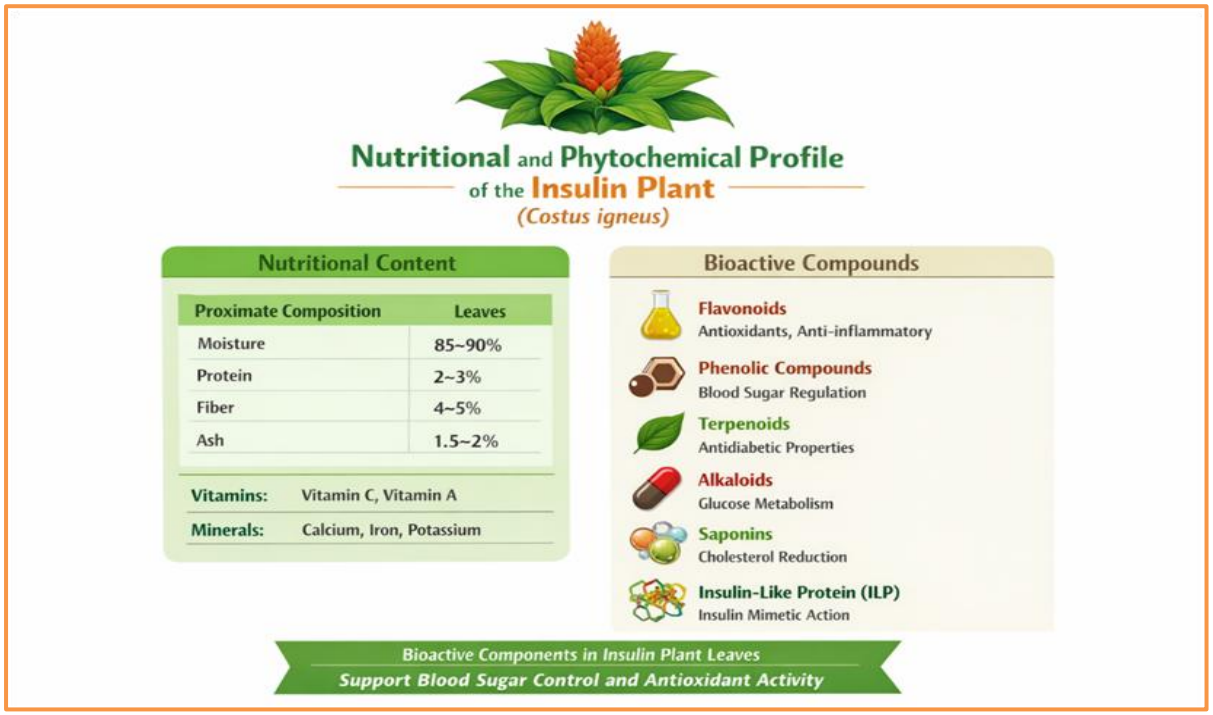
Key Nutrient Information



Mechanism of action of various pharmacological activities of Costus igneus