International Educational Applied Research Journal

A Multi-Disciplinary Research Journal

E-ISSN No: 2456-6713

REVIEW OF *Annona squamosa L.* & SEEDS

Rohit Bhargava

Himalaya Garhwal University, Uttarakhand

DOI: https://doi.org/10.5281/zenodo.10802330

1. Review of *Annona squamosa L.* & Seeds:

Aqueous extrats of A. squamosa seeds possessed significant antiumor activity in vivo against AD-5 tumor [1].

In the Taiwanese study [2], the antioxidant activity in mature fruits of 36 species and varieties produced in Taiwan was analyzed by the ferric reducing antioxidant power (FRAP) assay. In this study, sugar apple was categorized as having very high antioxidant activity i.e >70mmol/100g edible part .

Mariod et al., [3] have demonstrated the presence of leucine, isoleucine, glutamic acid, phenylalanine-tyrosine, aspartic acid, serine, alanine, methionine-cystine, histidine, arginine, glycine, valine, threonine and lysine in the amounts of 0.845, 0.464, 0.995, 0.671, 0.684, 0.299 proten.

These compounds proved to be cytotoxic against various cancer cell lines. For example, a volatile compound, namely bullatacin, isolated from the seed oil of A. squamosa is involved in antitumor activity [43]; the aqueous and organic seed extract of A. squamosa induced apoptosis of tumor cell death with the enhanced activity of caspase-3 and the down-regulation of antiapoptotic genes Bcl-2 and Bcl-xL when treated with organic seed extract and both seed extracts

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The results of these investigations indicate that the seed extracts of this plant could be used to treat enteric diseases. Similarly, combinational antimicrobial activity (for S. aureus, K. pneumoniae, E. coli, S. typhi, E. faecalis, P. aeruginosa and S. paratyphi) was also observed for the methanolic seed extracts of Annona squamosa and Prunus persia (1:2), using the agar disc diffusion method [4].

Parts of A. squamosa contain several phytochemicals involving alkaloids, such as aporphine, norcorydine, roemerine, corydine, glaucine, anonaine and norisocorydine, in different parts of the plant [5].

A. squamosa seeds have been employed in the traditional medical system since time immemorial for skin exfoliation and elimination of headlice [6].

Annona squamosa has been utilised as a natural medicine and in various other food applications, e.g., its pulp is utilised as a flavouring agent in ice cream, and 50–80% of custard apple fruit is edible and can be pulped as juice. It contains appreciable vitamin C in the range of 35–42 mg per 100 g, and dietary fibre, vitamin B1 (thiamine), and potassium contents are also notably high [7].

Annona squamosa is a lowland tropical shrub that possesses a high pharmaceutical potential for treating cardiac ailments, thyroid-related disorders, diabetes, and cancer. Phytochemical analysis of ASL extracts revealed the presence of numerous phytochemicals, such as proteins, carbohydrates, saponins, alkaloids, flavonoids, phenolics, and glycosides [8].

A higher protein content in ASL extracts can harness the nutritional value of the food for use by humans as well as animals [9].

Annona squamosa fruit and leaf are show. These activities are caused by the presence of glycosides, phytosterols, carbohydrates, oils, saponins, tannins, alkaloids, phenols, flavonoids, peptides, and various acetogenin compounds [10].

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Annona squamosa L. belongs to the Annonaceae family, a tropical fruit tree endemic to South and Central America, West Indies, Brazil, India, Egypt, Peru and Bermuda. In India, A. squamosa is widely cultivated in various states, including Assam, Uttar Pradesh, Bihar, Chhattisgarh, Maharashtra, Madhya Pradesh, Tamil Nadu, etc., for its edible fruit [11].

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