

# A Comprehensive Study on Extraction and Characterization of Bioactive Pesticidal and Insecticidal Compound from *Annona Squamosa* (Custard Apple Seeds)

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**Abstract:** The Insecticide and Pesticide is a substance which helps to kill the bugs and insects and helps to maintain the crop yield. There basically two types of pesticides are one is natural and second is synthetic. Due to industrialization and easily availability synthetic pesticides used more often. In this paper we will study about manufacturing of natural pesticide from custard apple seed. The manufacturing process based on distillation in which solvents are used acetone and hexane. *Annona squamosa* (custard apple or sugar apple), belonging to the Annonaceae family, is a small tree or shrub that grows natively in subtropical and tropical regions. Seeds of the custard apple have been employed in folk medicines because of the presence of bioactive chemicals/compounds such as alkaloids, flavonoids and phenolic compounds and acetogenins and cyclopeptides that are responsible for various biological activities. From investigations, it has been shown that the seeds of *A. squamosa* have considerable potential to be used as an antibacterial, hepatoprotective, antioxidant and antitumor/anticancer agent. Cyclosquamosin B, extracted from the custard apple seed, possesses vasorelaxant properties. Tocopherols and fatty acids, notably oleic acid and linoleic acid, are also found in the seed oil. *Annona Squamosa* seeds contain a high amount of annonaceous acetogenins compounds, which are potent mitochondrial complex I inhibitors and have high cytotoxicity. A survey primarily based on the nutritional, phytochemical and biological properties showed that *A. squamosa* seeds can be used for the discovery of novel products, including pharmaceutical drugs.

**Keywords:** *Annona squamosa*; Custard Apple Seed; Health Benefits; Bioactivities; Phytochemistry; Anticancer.

