

Scratching the surface: The diversity and roles of triterpenoids in plant cuticular waxes

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Methods

For the present review, an extensive literature search was conducted by all authors. The literature search was conducted between July 2023 and February 2025. Various databases including PubMed, Web of Science, ScienceDirect, Scopus and Google Scholar were used to search peer reviewed research and review articles, book chapters and books. Keywords including triterpenoids, plant cuticular wax, intracuticular wax, epicuticular wax, wax morphology, leaf cuticular wax, fruit cuticular wax, fruit development, leaf maturation, abiotic stress, transpiration, permeability, defence, protection, resistance, temperature, light, drought, water stress, fungal pathogen, insect, antifeedant, anti-insecticidal, antifungal, antibacterial, cuticle integrity/stability, cuticular wax extraction, triterpenoid analysis, triterpenoid biosynthesis, triterpenoid transportation, wax transportation, wax transporters, postharvest, fruit self-life, etc. and their different combinations we used. In addition, snowballing was also used to find if those articles cite any other relevant articles, retrieve those articles, and continue that process. Citation tracking (reverse snowballing) was also done where papers citing a particular prominent article on the topic were checked and studied further. The articles were screened and selected for the review based on their relevance to the plant cuticular wax triterpenoid research and each chapter topics, and finally 250 articles were cited in this review.