

**SURVEY OF PLANT PIGMENTS: MOLECULAR AND ENVIRONMENTAL  
DETERMINANTS OF PLANT COLORS**

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It is difficult to estimate the importance of plant pigments in plant biology. Chlorophylls are the most important pigments, as they are required for photosynthesis. Carotenoids are also necessary for their functions in photosynthesis. Other plant pigments such as flavonoids play a crucial role in the interaction between plants and animals as visual signals for pollination and seed scattering. Studies related to plant pigmentation are one of the oldest areas of work in plant science. The first publication about carotenoids appeared in the early nineteenth century, and the term "chlorophyll" was first used in 1818 (Davies, 2004). Since then, the biochemical structure of plant pigments has been revealed, as have the biosynthetic pathways for the major pigments that provide a useful variety of colors to blossoms and other plant organs. There is widespread interest in the application of molecular methods to improve our knowledge of gene regulation mechanisms and changes in plant pigment content. Genetic modification has been used to alter pigment production in transgenic plants. This review focuses on flower pigmentation, its biochemistry and biology. It presents a general overview of the major plant pigment groups as well as rarer plant dyes and their diversity and function in generating the range of colors observed in plants.

Key words: Flower and fruit colors, co-pigmentation, plant dyes, pigment groups.