

عنوان مقاله:

Plant Epigenetics: Mechanisms and Applications

محل انتشار:

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خلاصه مقاله:

Plant epigenetic has become one of the key research topics not only as the subject of basic research, but also as a new source of useful traits for plant breeding. Epigenetic regulation is necessary for the production of differentiated cells throughout plant development, as well as maintaining the stability and integrity of the gene expression profiles. Although epigenetic processes are essential for natural growth, they can become misdirected led to abnormal phenotypes and diseases. Epigenetics is the study of heritable phenotype changes that do not involve alterations in the DNA sequence. The microstructure (not code) of DNA itself or the associated chromatin proteins may be modified, causing activation or silencing. This mechanism enables differentiated cells in a multicellular organism to express only the genes which are necessary for their own activity. In this review, our goal is to introduce epigenetics and its different applications in plants, especially in production of transgenic plants, plants tolerate to biotic and abiotic stresses and understanding the mechanisms of gene silencing. Also, in this review, we have referred to the role of transposons in epigenetic, epigenetic engineering methods, epigenetic fingerprinting and ultimately methods for .epigenetic data analysis and related databases

کلمات کلیدی:

Epigenetic, Plants, Application, Epi-engineering, Epi-fingerprinting

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