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Global status of transgenic sugar beet and its advancement in Iran

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A B S T R A C T

Global status of sugar beet transformation for enhanced biotic stress tolerance is reviewed. Biosafety concerns related to deliberate environmental release and commercialization of genetically modified (GM) sugar beet are discussed. Status of production of GM sugar beet in Iran is also reviewed. A case study of enhanced insect tolerance in sugar beet is presented. A *cry1Ab* gene under the control of two different PEPC and CaMV35 promoters was transferred to sugar beet using biolistic transformation method. Insect bioassays for T_0, T_1 and F_1 generations against 3 different insect pests (Prodenia, Caradrina and Agrotis) were conducted. Results show significant enhanced tolerance among T_0, T_1 and F_1 progenies against the tested insect pests in comparison to their non-transgenic counterpart.

Key Words

Sugar Beet, *cry1Ab*, Prodenia, Caradrina, Agrotis, Genetic Engineering.

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