

Title (en)

EXPRESSION OF FRUCTOSE 1,6 BISPHTHOSPHATE ALDOLASE IN TRANSGENIC PLANTS

Title (de)

EXPRESSION VON FRUCTOSE-1,6-BIPHOSPHATALDOLASE IN TRANSGENEN PFLANZEN

Title (fr)

EXPRESSION DE LA FRUCTOSE 1,6 BISPHTHOSPHATE ALDOLASE DANS DES PLANTES TRANSGENIQUES

Publication

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Application

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Priority

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Abstract (en)

[origin: WO9858069A1] Fructose-1,6-bisphosphate aldolase (FDA) is an enzyme reversibly catalyzing the reaction converting triosephosphate into fructose-1,6-bisphosphate. In the leaf, this enzyme is located in the chloroplast (starch synthesis) and the cytosol (sucrose biosynthesis). Transgenic plants were generated that express the E. coli fda gene in the chloroplast to improve plant yield by increasing leaf starch biosynthetic ability in particular and sucrose production in general. Leaves from plants expressing the fda transgene showed a significantly higher starch accumulation, as compared to control plants expressing the null vector, particularly early in the photoperiod, but had lower leaf sucrose. Transgenic plants also had a significantly higher root mass. Furthermore, transgenic potatoes expressing fda exhibited improved uniformity of solids.

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