

Plant steroid 5 alpha Reductase, DET 2

Inventors:

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Applications:

Plant Biology, Agriculture, Horticulture

Increased plant yield using a novel gene, DET2 involved in brassinolide synthesis.

The invention describes a novel steroid 5alpha-reductase, DET2, which is involved in the synthesis of the plant steroid hormone, brassinolide. Overexpression of DET2 reductase in transgenic plants causes such plants to become significantly larger and more robust than their wild-type counterparts, thus increasing plant growth, crop growth and/or increased biomass. The invention provides for methods to produce a genetically modified plant characterized as having increased yield as compared to a wild-type plants. The method can include transferring a copy of a DET2-encoding polynucleotide operably associated with a promoter to a plant cell to obtain a transformed plant cell and producing a plant from the transformed plant cell. Also provided is a method of contacting a plant with a native DET2 gene operably linked to its native promoter, with a promoter-inducing amount of an agent which induces DET2 gene expression.

References:

Science 272(5260):398-401 (April 1996)
PNAS 94(8):3554-9 (April 1997)
Plant Cell 9(11):1951-62 (November 1997)
Plant Physiol 120(3):833-40 (July 1999)

Patent Status:

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License Terms:

Non-exclusive and Exclusive by Field of Use Licenses Negotiable

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