ABSTRACT: Transgenic Plants with Increased Cellulose Expression

Tech ID: 29680 / UC Case 2008-420-0

BACKGROUND

Cellulose is a major building block of plant cell walls and provides mechanical strength and rigidity. Wood contains 30 to 50% cellulose, 20 to 30% lignin and 20 to 30% hemicellulose (Higuchi, 1997). Since many of society's fiber, chemical and energy demands are met through the industrial-scale production of cellulose from wood, genetic engineering of the cellulose biosynthesis machinery in plants could produce, for example, higher pulp and cellulose yields.

ABSTRACT

Researchers at the University of California, Riverside have developed recombinant plant cells that overexpress certain members of the Strubbelig Receptor Family (SRF). Specifically plant cells that overexpress SRF-6, SRF-7 or its homologs have increased cellulose production when compared to a wild-type cells. Juvenile plants with increased cellulose production would allow greater returns on investment by pulp and paper industries and provide increased cellulosic materials for biofuel production and fermentation processes.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,648,231	02/11/2014	2008-420
United States Of America	Issued Patent	8,168,861	05/01/2012	2008-420

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OTHER INFORMATION

KEYWORDS

paper, pulp, SRF-6, SRF-7, cellulose

CATEGORIZED AS

- Energy
  - Bioenergy

RELATED CASES

2008-420-0

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