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Engineering cottonseed for use in human nutrition by tissue-specific reduction of toxic gossypol.

Sunilkumar G, Campbell LM, Puckhaber L, Stipanovic RD, Rathore KS

Proc Natl Acad Sci U S A 2006 Nov 28 **103**(48): 18054-9 [[abstract on PubMed](#)][[citations on Google Scholar](#)] [[related articles](#)] [[full text](#)] [[order article](#)]

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Niklaus Ammann

Technical University of Delft,

Netherlands

PLANT BIOLOGY



New Finding



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With the elimination of the toxic chemical gossypol from the seeds of the cotton plant, it will be possible to design edible seeds, which have, until now been wasted - thus tapping a huge, and previously unavailable, potential to feed half a billion people. Classic breeding attempts to reduce cottonseed-gossypol have failed since the substance is also a basic insect repellent in the foliage, but now the researchers have successfully eliminated the toxic substance solely in the seeds. This was made possible by genetic ablation of the {delta}-cadinene synthase enzyme during seed development, securing in this way a stable, seed-specific reduction in gossypol content that can be inherited by offspring.

Competing interests: None declared

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