

Genetically enhancing the nutrients in corn using synthetic methionine

[Methionine](#), found in meat, is one of the nine essential amino acids that humans get from food, according to the National Center for Biotechnology Information. It is needed for growth and tissue repair, improves the tone and flexibility of skin and hair, and strengthens nails. The sulfur in methionine protects cells from pollutants, slows cell aging and is essential for absorbing selenium and zinc.

Every year, synthetic methionine worth several billion dollars is added to field corn seed, which lacks the substance in nature, said study senior author [Joachim Messing](#), a professor who directs the Waksman Institute of Microbiology.

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Rutgers scientists inserted an E. coli bacterial gene into the corn plant's genome and grew several generations of corn [read the full study [here](#) (behind paywall)]. The E. coli enzyme – 3'-phosphoadenosine-5'-phosphosulfate reductase (EcPAPR) – spurred methionine production in just the plant's leaves instead of the entire plant to avoid the accumulation of toxic byproducts.... As a result, methionine in corn kernels increased by 57 percent, the study says.

Then the scientists conducted a chicken feeding trial at Rutgers and showed that the genetically engineered corn was nutritious for them, Messing said.

"To our surprise, one important outcome was that corn plant growth was not affected," he said.

The GLP aggregated and excerpted this article to reflect the diversity of news, opinion and analysis. Read full, original post: [Genetically Boosting the Nutritional Value of Corn Could Benefit Millions](#)