

Los Angeles Times  
**latimes.com**

ADVERTISEMENT



<http://www.latimes.com/news/science/la-sci-corn28may28,1,6544463.story?coll=la-news-science&ctrack=1&cset=true>

## SCIENCE FILE

# Studying DNA Reaps New Insight Into Corn

By Rosie Mestel  
Times Staff Writer

May 28, 2005

Ears of corn, with their plump, juicy kernels, bear scant resemblance to the skinny, scrappy ears of the plant from which modern maize was domesticated.

The genetic changes that gave rise to these huge alterations have been almost entirely unknown — but a team of scientists has pinpointed many of them using DNA analysis.

The researchers, whose findings were published in Friday's issue of the journal *Science*, estimate that about 2% to 4% of the plant's genome contributed to the domestication of corn.

Corn originated in southern Mexico, where it was domesticated 6,000 to 9,000 years ago from teosinte, a wild grass.

In some respects, teosinte is corn-like: It has the same thin leaves and pollen-producing tassels. But the ears are very different: Teosinte has side branches covered with many ears, each consisting of a single row of hard, triangular seeds.

Corn has lost those side branches. Multiple single-rowed ears have fused together to form fat cobs of fleshy seeds.

One gene — dubbed *tb1* — is known to be part of this change: It suppresses branching in corn.

Scientists at four universities analyzed the DNA sequences of 774 genes in strains of teosinte and corn. They found that a small group of these genes were alike in all corn strains, but far more varied in teosinte strains.

This implies that these genes, because they shaped corn-like traits, were bred for during domestication. Some of the genes are known to be involved in responding to plant growth hormones or in making amino acids, which differ somewhat between ears of teosinte and corn.

Learning what these selected genes do should prove useful for breeding better corn varieties, said Brandon Gaut, a geneticist at UC Irvine and a lead author on the study.

---

If you want other stories on this topic, search the Archives at [latimes.com/archives](http://latimes.com/archives).

**TMSReprints**

Article licensing and reprint options

Copyright 2005 Los Angeles Times | [Privacy Policy](#) | [Terms of Service](#)  
[Home Delivery](#) | [Advertise](#) | [Archives](#) | [Contact](#) | [Site Map](#) | [Help](#)

PARTNERS:  