

# Scientists pinpoint gene for better rice

July 6 2015

---



Working in two separate groups, researchers from China discovered that mutations in a specific gene resulted in longer, more slender grains with less chalkiness, and better harvests

Scientists said Monday they had pinpointed variants of a gene to improve the quality and yield of rice, a staple starch for billions of people.

Working in two separate groups, researchers from China discovered that mutations in a specific gene resulted in longer, more slender grains with

less chalkiness, and better harvests.

Breeders can now combine versions of the gene with others known to affect quality to breed better and more productive strains, they said.

"Rice is the key source of dietary calories for over half the world's population and a substantial improvement of yield potential will be required to feed a growing human population," Fu Xiangdong of the Chinese Academy of Sciences, a co-author of one of the studies, told AFP by email.

Fu said [rice](#) breeders have found it challenging to simultaneously improve grain yield and quality.

There is a genetic tradeoff in plant breeding, meaning that it is hard to make gains in both areas at the same time.

Fu and a team crossed two rice varieties—one a widely-grown but mediocre hybrid variety and the other a better but less prolific type, to locate the genetic variant responsible for the difference in quality.

They then used this to develop experimental high-yield, better [rice strains](#).

A separate team used similar methods to pinpoint variants of the same gene, called LOC\_Os07g41200.



Workers plant rice in a paddy field at a farm in the New Territories in Hong Kong on August 6, 2014

The two papers were published Monday in the journal *Nature Genetics*.

"Both studies demonstrated that other gene variants known to improve yield or other traits affecting quality could be combined with the high quality LOC\_Os07g41200 variant to produce new elite varieties of rice," said a Nature press release.

The research is the latest in a host of better-rice gene discoveries.

They include variants which help the plants cope better with drought or inhospitable soil, offering a potential boon to farmers at a time of worsening climate change.

**More information:** [DOI: 10.1038/ng.3346](https://doi.org/10.1038/ng.3346)  
[DOI: 10.1038/ng.3352](https://doi.org/10.1038/ng.3352)

© 2015 AFP

Citation: Scientists pinpoint gene for better rice (2015, July 6) retrieved 23 April 2024 from <https://phys.org/news/2015-07-scientists-gene-rice.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.