

The New York Times

This copy is for your personal, noncommercial use only. You can order presentation-ready copies for distribution to your colleagues, clients or customers [here](#) or use the "Reprints" tool that appears next to any article. Visit www.nytreprints.com for samples and additional information. Order a reprint of this article now.

January 20, 2009**OBSERVATORY**

More-Reflective Crops May Have Cooling Effect

By [HENRY FOUNTAIN](#)

Some of the [most imaginative solutions](#) to the problem of global [climate change](#) involve planetary-scale geoengineering projects to reduce the sunlight reaching the Earth's surface. But proposals like building a huge sunshade in space or seeding the atmosphere with sulfate particles would cost enormous sums and require a degree of international cooperation that is difficult to achieve.

Andy Ridgwell and colleagues at the University of Bristol in England have another idea, one they call bio-geoengineering. Rather than developing infrastructure to help cool the planet, they propose using an existing one: agriculture.

Their calculations, [published in Current Biology](#), suggest that by planting crop varieties that reflect more sunlight, summertime cooling of about 2 degrees Fahrenheit could be obtained across central North America and a wide band of Europe and Asia.

"Arable agriculture is already a global-scale undertaking," Dr. Ridgwell said. "We wondered whether you might grow slightly different crops and have some sort of climate impact."

Plants reflect slightly different amounts of light depending on factors like how waxy the leaves are. Even differences in growth patterns between two varieties of a crop — the way leaves are arranged — can affect reflectivity.

Existing varieties could be used, Dr. Ridgwell said, or crops could be bred or genetically engineered for greater reflectivity (without affecting yields, nutritional values or other important characteristics). But shifts to different crops — from wheat to corn, for instance — would be too disruptive, he said.

Dr. Ridgwell acknowledged that the idea would not be a complete solution to the climate change problem. For one thing, the Southern Hemisphere would be less affected, in part because there is much less agricultural land.

But it wouldn't cost much, and it wouldn't require much international cooperation. "It's very practical, and it could just be done," he said. "It's not some trillion-dollar pie-in-the-sky idea."

Copyright 2009 The New York Times Company

[Privacy Policy](#) | [Search](#) | [Corrections](#) | [RSS](#) | [First Look](#) | [Help](#) | [Contact Us](#) | [Work for Us](#) | [Site Map](#)