

How reviving ancient heat-resistant proteins could help plants survive rising temperatures

After what NASA says was the hottest three-month period ever recorded on Earth, people in the Northern Hemisphere in particular are looking for some sort of relief. But some 23 million years ago, our planet was much hotter than today.

So how did Earth's ecosystem cope?

It turns out that it used a plant protein which still spans the globe. In its ancient form, Rubisco (ribulose-1,5-bisphosphate carboxylase/oxygenase) helped plants protect themselves from the heat. Trouble is, this ancient form of Rubisco is no longer naturally available.

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But an early-career Cornell University researcher is working on a way to reconstruct this ancient Rubisco so that it can be reintegrated into food crops. The idea is to mitigate at least some of the deleterious effects that the current and projected future rise in temperatures is expected to have on agriculture.

To that end, the U.S. Department of Energy has just awarded Cornell plant biologist Laura Gunn an \$875,000 grant to explore this ancient enzyme, which is a key component of photosynthesis.

[This is an excerpt. Read the original post here](#)