With droughts escalating, and no current tools of use, scientists and farmers look to CRISPR gene editing

Scientists fear that we're entering a megadrought that could last decades.

As agriculture consumes 80 percent of available water nationwide — 90 percent in some western states—more pain inevitably seems in store for food growers. That will likely result in scarcer produce and higher prices for all of us.

A potential solution is on the horizon for farmers and consumers, though, in the form of gene editing. This fast-developing innovation allows plant scientists to make specific, targeted changes to a crop's DNA. They do so by using an enzyme tool, such as CRISPR, to turn a gene's expression on or off.

Researchers at the University of Illinois have showed that by altering the expression of a single gene, they could produce a model crop that uses water 25 percent more efficiently with no loss of yield. The technique shows promise for numerous food crops.

Meanwhile, a team of Iowan researchers have worked on a new strain of corn that delivers higher yields under drought conditions. And even more recently, scientists at China Agricultural University in Beijing successfully edited genes in tomatoes to increase their tolerance to heat stress.

Advances like these are cause for great hope.

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