

# A roadmap for research on crassulacean acid metabolism (CAM) to enhance sustainable food and bioenergy production in a hotter, drier world

**Funding: Genomic Science Program DE-SC0008834**

## Background:

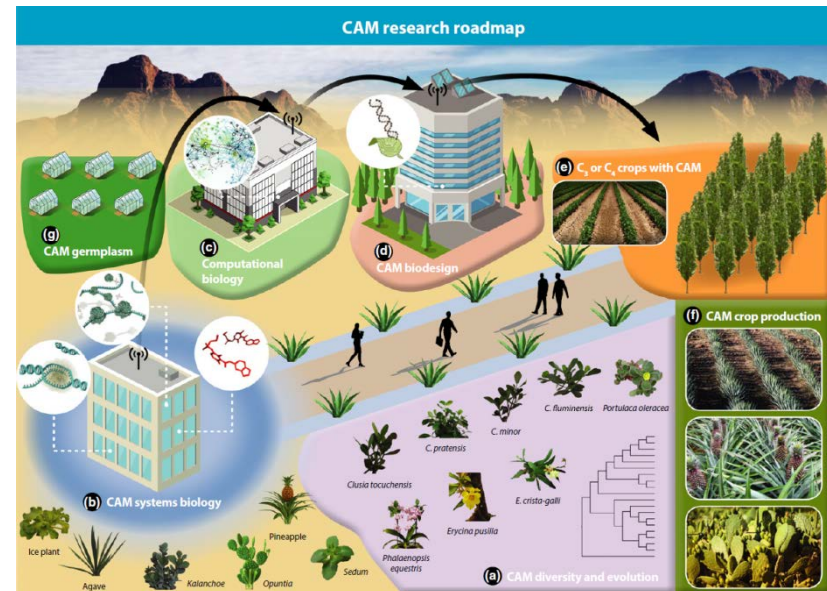
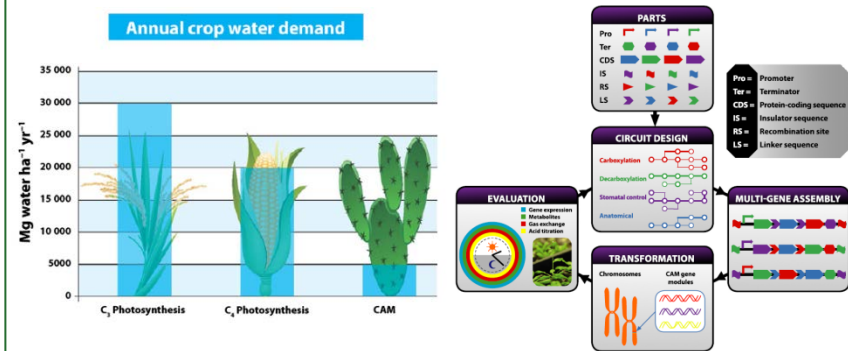
The grand challenges caused by ever-increasing human population and predicted global warming will require scientific innovations to guarantee a secure and sustainable supply of food, feed, fiber, and fuel. As a proven mechanism for increasing water-use efficiency in plants, CAM offers great potential for enhancing the sustainable production of food and biomass on semi-arid, abandoned, or marginal agricultural lands.

## Significance:

- This article, co-authored by 51 researchers from 9 countries, outlined a comprehensive blueprint for international collaboration on CAM research.
- It provides direction for realizing the potential of CAM for human good in terms of food, feed, fiber, and fuel production to lessen food and energy insecurity around the world.

## Press coverage:

- This is the first Viewpoint article in *New Phytologist*, highlighted in an editorial by Editors, and a press release from the publisher (Wiley).  
<http://www.wiley.com/WileyCDA/PressRelease/pressReleaseld-119182.html>
- The CAM research roadmap has been featured in the press such as Scientific American™  
<http://www.scientificamerican.com/article/does-agave-hold-the-secret-to-drought-resistant-farming/>
- It has been selected for inclusion in the upcoming Virtual Special Issue to celebrate the Ecological Society of America conference in Baltimore.



**Citation: Yang X, Cushman JC, Borland AM, Edwards EJ, Wulschleger SD, Tuskan GA, et al. (2015) A roadmap for research on crassulacean acid metabolism (CAM) to enhance sustainable food and bioenergy production in a hotter, drier world. *New Phytologist* 207: 491-504**

**doi:10.1111/nph.13393** . Contact: Xiaohan Yang; email: [yangx@ornl.gov](mailto:yangx@ornl.gov); phone: 865-241-6895