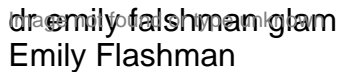


Key to developing flood-resistant crops: Genetically engineering plants' stress response survival strategy

[The following is a Q&A with Dr. Emily Flashman, organic chemistry researcher at the University of Oxford, about a [study](#) she co-authored published in Nature Communications March 23, 2017.]

Why is this study so important?

Most living things need oxygen to survive, including plants, but flooding is a major threat to agriculture and vegetation. A plant's oxygen levels are jeopardised during a flood, and they basically can't breathe. To protect themselves from flooding and survive longer, plants have a built-in stress response survival strategy, which re-configures their metabolism and supports them to generate more energy.

Dr. Emily Flashman
Emily Flashman

Scientists knew about this stress response, but they didn't know exactly how it was controlled. Our research underpins not only an understanding of how plants respond to loss of oxygen, but also how this response could be manipulated to protect them long term. With climate change of increased prevalence in today's society, flooding is a constant source of concern, so it is even more important for us to understand how hypoxia affects plants and crops, so that we can find new ways to preserve and protect them from it. Manipulating the enzymes involved in the process may help us to cultivate new crops and even to weather-proof them.

What was the aim of your research?

The overall aim [is] to genetically modify crops to make them flood tolerant.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Manipulating plant enzymes could protect crops from flooding](#)

For more background on the Genetic Literacy Project, read [GLP on Wikipedia](#)