

**Food+ Research Symposium**  
**February 27, 2015**  
**Faculty Abstract**

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*Genetic Alternatives to Pesticides, Herbicides, Antibiotics and Antiviral Chemicals.*

ABSTRACT: Alternatives are needed for expensive and hazardous doses of chemicals applied to entire ecosystems and the systems fed by water runoff to repeatedly (and temporarily) fight off numerous pests. Genetics can help by changing the types of food production, e.g. vegan/microbial sources with taste and texture equivalent to meat and dairy. A second route is via gene drives which enable intentionally permanent or reversible changes in the pest populations or disease vectors.