# GM0s?

### What are GMOs:

An organism whose genetic material has been altered using genetic engineering techniques.

### Why:

To enhance plant growth, nutritional value, resistance to pests, eliminate need for pesticide use, and to help plants survive in extreme environments.

#### Methods

Viral Method - An E. coli virus infected with a positive characteristic derived from another organism. It's grown in a petri dish in an ideal environment and the seeds are then extracted.

**Soil Method** – Bacteria infects the soil, which in turn infects the crop.

Gene gun – It shoots gold particles with the modified DNA into the host cells.

## GMOs: Fact vs. Fiction

## Hype:

- They are unregulated and unknown
- They disrupt nature and hurt the environment
- There is an emergence of super weeds because of them
- They are unsafe and cause cancer
- They have unpredictable consequences



## Truth:

- GMOs have been around for over 10,000 years
- Many organizations causing panic are strongly one-sided
- The hype isn't evidence based
- Not a single instance of harm to humans has been recorded from GMOs
- There are no credible environmental effects noted

For more information:

- <u>http://tinyurl.com/pzpwm46</u>
- <u>http://seattletimes.com/flatpages/local/abcso</u> <u>fgmos.html</u>

1865 Gregor Mendel's pea-breeding experiments demonstrate heredity.

1977

that

University of

Washington

scientists show

Agrobacterium

injects DNA

into plant

Pigs with human

growth

1994

on the

2000-

Golden rice,

produce

engineered to

beta-carotene, is developed.

market.

Flavr Savr

tomato is the

first GE crop

hormone are

farm animal.

the first GE

cells.

1985

**GMO** milestones

#### 1953

James –Watson and Francis Crick describe the double helix structure of DNA.

#### 1983

First GE plant, antibioticresistant tobacco.

## 1990

An enzyme used in cheesemaking is the first approved GE food product.

## -1996

Herbicideresistant soybeans and insectresistant cotton and corn are widely planted.

## 2012

Monsanto introduces GE sweet corn.