

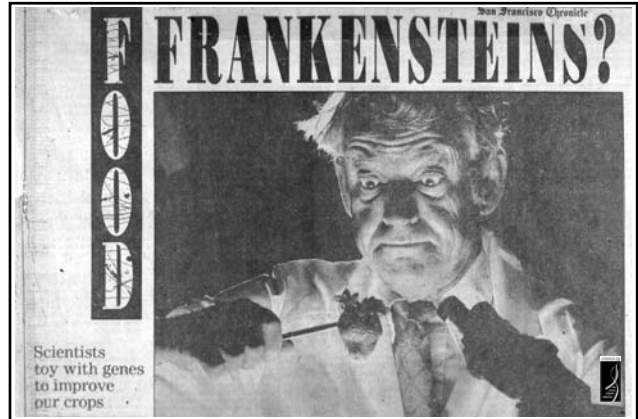
- ### TERMS USED
- GMO Genetically Modified Organism
 - GEO Genetically Engineered Organism
 - LMO Living Modified Organism
 - Transgenic Organism modified with GE
 - rDNA Recombinant DNA
 - Biotechnology

<i>Classical Breeding</i>	compared to	<i>Genetic Engineering</i>
Uses plant machinery in plant		Uses plant machinery in laboratory
Gene exchange is random involving entire genome		Gene exchange is specific, single or a few genes
When/where genes expressed not controlled by breeder		When/where gene expressed can be controlled precisely
Only between closely related or within species		Source of gene from any organism



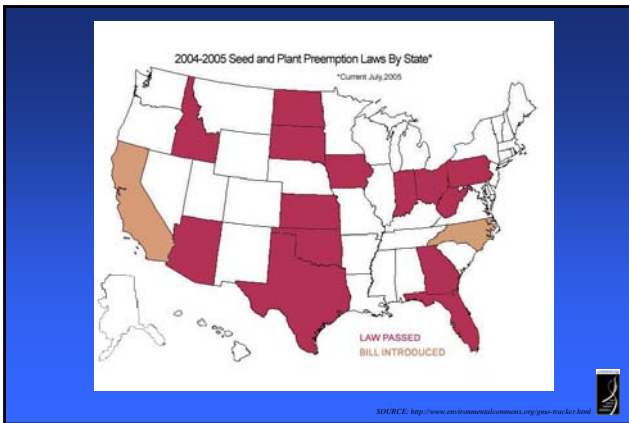
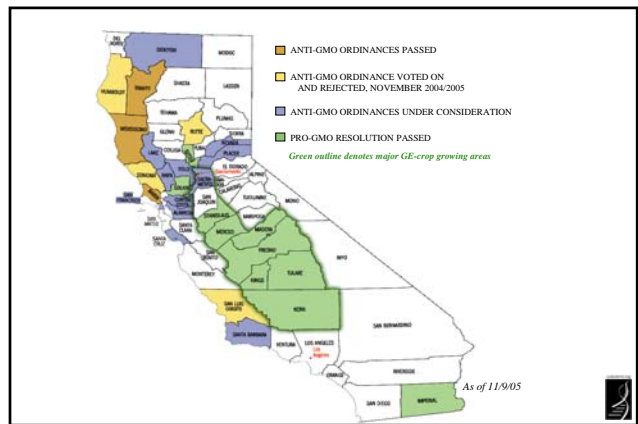
GE Products - may/may not appear in market

- Strawberries resistant to molds
- Tomatoes protected against root nematode
- Grapes resistant to Pierce's disease, powdery mildew
- Peppers resistant to bacterial diseases
- Plant foods with omega-3 and omega-6 oils
- Potatoes no longer susceptible to blight
- Sugar pine resistant to white pine blister rust
- Foods with increased folate levels
- Frost-tolerant pears
- Pollen with reduced allergy symptoms
- Blue, longer lived roses
- Cotton with higher fiber quality



- 43% falsely asserted that ordinary tomatoes don't contain genes, only those that are genetically modified have genes.
- 31% mistakenly believed that eating genetically modified fruit could modify a person's genes.
- 40% of respondents falsely thought that tomatoes genetically modified with genes from catfish would taste "fishy".

SOURCE: "Public Perceptions of Genetically Modified Foods: A National Study of American Knowledge and Opinion" - Food Policy Institute, Rutgers University



Some food safety concerns with genetically engineered crops

- Creation of allergen
- Activation of toxin gene
- Horizontal gene flow from food to intestinal flora
- Increase in antibiotic resistance
- Changes in nutritional content
- Labeling
- Pharma crops

Some environmental concerns about genetically engineered crops

- Transgene movement via pollen flow
- Transfer of transgenes to non-GMO / organic crops
- Generation of "superweeds" (transfer of herbicide-tolerance to wild/weedy species)
- Spread of pharmaceutical genes to edible crops
- Loss of genetic diversity
- Property rights (gene patents)

Where to get more information?



Information on various topics related to GE crops and animals: Click on "Workshops" in Resources section of ucbiotech.org