Genetically Engineered Crops in San Luis Obispo County

Before and After the Ballots

Mary Bianchi, UCCE San Luis Obispo
October 20, 2005

Counties with Ballot Measures 2004

- Adopted
  - Mendocino – adopted March 2004
- Qualified for November ballot
  - Butte
  - Humboldt
  - Marin
  - San Luis Obispo
- Initiated
  - Sonoma
  - Santa Barbara
  - Alameda
  - Lake

Committee for the Evaluation of Growing Genetically Engineered Cro In San Luis Obispo County

2004

Committee

- Convened at the request of the Ag Commissioner
  - Not Board of Supervisors appointed
    - Not subject to Brown Act
  - Minutes provided when requested
  - County counsel support for committee's consensus no to have proceedings taped

Committee Make-up

- University of California Cooperative Extension
- SLO GE Free
- San Luis Obispo County Farm Bureau
- California Certified Organic Farmers
- San Luis Obispo County Dept of Public Health
- San Luis Obispo County Agricultural Commission

Committee Timeline

- Twelve, 2-hour meetings
- 30 April through 15 July, 2004
- Ordinance placed on the ballot July, 2004
- Agendas and Minutes included in Committee Report to Ag Commissioner
- Report presented to Board of Supervisors 3 August, 2004

Committee Objectives

"...to provide information to the Board of Supervisors on growing genetically engineered crops in San Luis Obispo County about issues that are within their abilities to influence..."

Committee Objectives

"...to include basic information on definitions, terms and techniques for biotechnology, genetic engineering, organic and conventional production..."

Committee Objectives

"...to deliver this information in the context of the consumers choice for locally grown produce and the producers choice for how and what they grow."

Committee Ground Rules

- Be respectful
- Be bold, be brief, be seated
- Withhold judgment
- Listen as an ally

Thomas Bjorkman, Professor Vegetable Crop Physiology a
Cornell - letter in California Agriculture:

"Behavior of people is analogous to the regulatory pathways of plants . . .They just do what they do, and these are the consequences"

Committee Deliverables

- Glossary of terms
- Federal, state, and county regulatory overview
- Organic certification review
- Health Review
- Implications Table

- Report online at http://www.sloag.org/ under "Recent Correspondence"

San Luis Obispo County's Top 10 Crops – GE Potential

No.	Crop	Existing *	General Release from APHIS Pending***	Research Stage
1	Winegrapes	None	No	Yes (PD resistance)
2	Broccoli	None	No	Yes
3	Strawberries	None	No	Yes
4	Cattle	N/A	N/A	N/A
5	Head Lettuce	None	No	Yes
6	Vegetable Transplants	N/A	N/A	N/A
7	Indoor Decoratives	None in US**	No	Yes
8	Cut Flowers	None in US**	No	Yes
9	Avocados	None	No	Yes
10	Cauliflower	None	No	Yes
	Corn	Yes	N/A	Yes (for additio GE varieties)

Committee Deliverables

- Implications Table
  - Was not intended to reflect consensus
  - Agreement on major issues
  - Negotiated the implications of Board actions
  - Captured individual comments regarding consequences

  - Following slides show Table components

Implications of Actions by the Board of Supervisors Regarding Regulation of Genetically Engineered Crops in San Luis Obispo County

Issue or Concern	Potential actions by Board of Supervisors				
	Case 1	**Case 2**	**Case 3**	**Case 4**	**C**
AGRICULTURAL		**Voluntary guidelines**	**Case-by-case**	**Moratorium**	**Ban**
Impacts to profitability (productivity, inputs, etc)	Potential Consumer: NA Producer: Conventional – could remain status quo; Organic – Could also remain status quo	Potential Producer: Conventional - Increased costs for plant material, increased yield and quality, loss of production choices from adherence to guidelines; decrease in production costs/inputs. Organic – See organic sections	Potential Producer: Conventional - Increased costs for plant material, increased yield and quality, greater loss of production choices from regulation ; Organic – See organic sections	Potential Producer: would remain status quo for the term of the moratorium Organic – Could also remain status quo	Potential Producer: C could remai Organic – C remain statu

Comments:

Committee: Assuming only costs and impacts to producer in this section – no pest management inputs or market access issues considered here.
Impacts to non-GE operations not considered.
Largely associated with "input" GE (benefits primarily to growers)

GE Free: Since our top ten crops do not have a track record for GE varieties, we have nothing to look at regarding the relative success of these crops over their non-GE co
However, we can look at the track record of industry claims versus field performance of other GE crops that are being grown.
Initially higher yields and lower costs were predicted for GE varieties of soybeans and corn. However field measurements have contradicted these claims[i ii].
Reduced nitrogen fixation may explain the reduced yields seen in glyphosate resistant soybean. Glyphosate applications in young soybean delayed nitrogen fixation. [iii]
The growing rejection of GE crops by export markets has caused sales to decline for GE crops[iv]. After years of seeking approval to sell GE Bt-11 corn in the European Un has decided not to sell this corn in the EU due to consumer resistance to GE.[v] There are also greater consumer concerns domestically over GE horticultural crops compare crops.

UCCE: Most of the available GE crops have been engineered with pest resistance or herbicide tolerance, not for yield improvement. The term yield drag refers to the red of GE varieties as compared to conventional selections.

Agricultural Impacts

costs and impacts to producers, not to consumers.

- Impacts to Profitability
- Impacts to Integrated Pest Management Programs, pesticides, and resistance management
- Impacts to Producer Choices

Economic Impacts

- Market Protection
- Market Reaction and Reputation
- Conventional Product Marketing
- Organic Product Marketing

Environmental Impacts

- Gene Flow
- Unintended/Unknown Consequences
- Wildlife Impacts
- Changes in Bio-diversity
- Impacts to Non-target Organisms
- Benefits to the Environment

Health Implications

- Food Safety
- Allergens
- New Sources of Medications
- Rapid Technological Changes

Regulatory/Legal Issues

- Enforcement Authority
- Enforcement Costs
- Local Property Rights
- Liability Issues

Risk/Benefit Analysis

Risk

- Food consumption
- Environmental
- Gene flow
- Resistance to pest control
- Adverse market reaction
- Lack of local control

Benefits

- Agricultural
  - Pest management
  - Adverse growing conditions
  - Improves productivity/lowers costs
- Food Processing
- Production of industrial and pharmaceutical products at reduced cost

Regulatory/Legal Issues
Ag Commissioner's Perspective

- State and Federal Activities
- Local Regulatory Issues
  - Lack of Notification
  - Authority to Enter Property
  - Penalties
- Costs

Lessons Learned from Committee Experience

- UC was not perceived as an unbiased source of information regarding biotechnology
  - "Your salaries are paid for by Monsanto"
  - Offering refereed information viewed as combative
  - Work to do on how biotechnology and UC's role is represented
- Organic producers served as "middlemen" in discussion

COUNTIES

Map of California Counties - Status of Ordinances (as of 9/13/05)

Continuing efforts

Signs at Farmer's Market

SLO GE Free has received permission for the North Coast Farmer's market vendors to put up voluntary signs. If you would like to approach your local market assocation with this idea, drop us an email and we will send you the materials.

You can also click the image to the right and print out your own sign.

Volunteer

From: http://slogefree.org/

Continuing efforts

SLO GE Free Introduces Labeling Resolution

SLO GE Free has introduced a resolution supporting labeling of GE foods to the S
County Board of Supervisors. The goal of the resolution is to ask our federal
representatives to support Dennis Kucinich's Genetically Engineered Food Righ
Know Act.

If you are interested in speaking at meetings in support of this resolution or wish
work on getting your local city or town council to pass a similar resolution, please
contact the drafter of the resolution, Mark Phillips, at mark@slogefree.org.

[Read the entire resolution]

From: http://slogefree.org/

Labeling Resolution Request to BOS

And Whereas:

A significant portion of the citizens of San Luis Obispo Co. have expressed their
for an outright ban of genetically engineered crops via Measure Q and even opp
of measure Q have publicly expressed their support of GE labeling.

Therefore, be it resolved that:

The San Luis Obispo Co. Board of Supervisors, on behalf of the citizens of San L
Obispo County, do hereby urge our representatives at both the state and the fe
level to support efforts to require mandatory labeling of GE foods. In particular,
urge our federal representatives to support Dennis Kucinich's Genetically Enginee
Food Right To Know Act of 2003, otherwise known as H.R. 2916 in every way pos
We also urge the US FDA to move forward with provisions for GE labeling.

Health Commission Committee

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Posted on Thu, Oct. 20, 2005

Panel on modified crops to expand

The task force on the safety of genetically engineered crops had been criticized by Measure Q backers

By David Sneed
The Tribune

MORE NEWS FROM TOPIX.NET
· Agriculture
· Science

The county Health Commission has expanded a task force looking into the health implications of genetically engineered crops.

The five-person task force will add two new members -- a biomedical researcher and a biomedical ethicist. The panel is also looking for a new public health representative to replace one who is retiring.

The task force was convened at the request of county supervisors after voters last year defeated a ballot initiative called Measure Q that would have banned genetically modified crops in the county.

Agricultural Committee - 2005

- Organized at the request of the Ag Commissioner
  - Responding to a request for information from the Chair of the Board of Supervisors
    - Public testimony at Board meetings
    - Interest by ag community
- Task: Investigate the limits of co-existence for conventional, organic, and GE crops

Co-existence Components for Discussio

- Tolerance
  - Fundamental agreement on the possibility of adventitious presence
- Existing Methods from other States, Programs
  - Co-existence
  - Isolation / segregation
- Consequences
  - Safety
  - Liability

Know your buyers

GMO growers, know the market requirements for he GMO crop(s) being grown. Not all GMO crops re accepted by all buyers. Be prepared to segregate rops to meet buyer expectations. Know your uyer's sampling and testing protocols. Know the arket-driven GMO rejection levels (tolerances) for he crops grown. Know the labeling requirements or GMO crops, if crops are being exported. Communicate with buyers, GMO seed companies, nd Extension agents concerning GMO market ssues.

Non-GMO growers, know the contract specifica-ions under which non-GMO crops are being grown. Know your buyer's sampling and testing protocols. Know the market-driven GMO rejection levels tolerances) for the crops grown. Communicate with buyers and organic certifying agents (or non-GMO certification body) concerning GMO contamination issues.

Know your risk

GMO growers, be clear on your risks and liability coverage. For example, Bt corn is an EPA-registered pesticide. In addition to genetic drift exposure, pesticide trespass laws may apply if the Bt toxin planted on your land is found to cause harm to neighboring landowners. Review your farm's liability insurance policy to determine if you are covered for genetic drift and related damages. Talk with your seed dealer and GMO company representatives concerning liability, since the GMO company retains ownership of the proprietary crops planted on your farm. Establish who is liable for potential damages prior to planting GMO crops.

For more information on GMO and IP seed, contact:

- *Jim Riddle, Endowed Chair in Agricultural Systems, University of Minnesota, 507-454-8310, jriddle@hbci.com*
- *Minnesota Crop Improvement Association (MCIA), 800-510-6242, mncia@umn.edu*
- *Bill Wilcke, University of Minnesota Extension Specialist, Grain Storage and Identity Preserved Seed, 612-625-8205, wilck001@umn.edu*

This research was conducted as part of Jim Riddle's tenure in the Endowed Chair in Agricultural Systems at the University of Minnesota. Earlier drafts reviewed by Paul Porter, Bill Wilcke, Helene Murray, and Gary Biel.

January 2004

ver the past 22 years, James A. Riddle has en an organic farmer, inspector, educator, licy analyst, author, and consumer. He was unding chair of the Independent Organic spectors Association, (IOIA), and co-author the IFOAM/IOIA International Organic spection Manual. He has trained hundreds of ganic inspectors worldwide. Jim serves on e Minnesota Department of Agriculture's rganic Advisory Task Force, and currently rves on the National Organic Standards oard.

MISA

The School of Agriculture
Endowed Chair in Agricultural Systems

A PLAN FOR CO-EXISTENCE

Best Management Practices for Producers of GMO and non-GMO Crop

Co-existence is the ability of farmers to provide customers with a choice between GMO modified organisms), non-GMO, and organic crops and products. Since different types of agric on adjoining fields, suitable measures during planting, cultivation, harvest, transport, storage, s needed in order to prevent the accidental mixing of GMO and non-GMO material. Contaminat seed impurities, wind- or insect-borne cross-pollination, volunteer plants, and/or inadequate ha practices.

Producers of GMO crops, including herbicide resistant c and corn, and insecticidal (Bt) corn and cotton, have a re implement best management practices (BMPs) to minim other forms of contamination which can negatively impe preserved (IP), and other non-GMO producers.

Organic, transitional, IP, and other non-GMO crop farme implement BMPs to minimize risks of GMO contaminat tion outlines some BMPs that GMO and non-GMO farm order to minimize genetic drift, commingling, and other

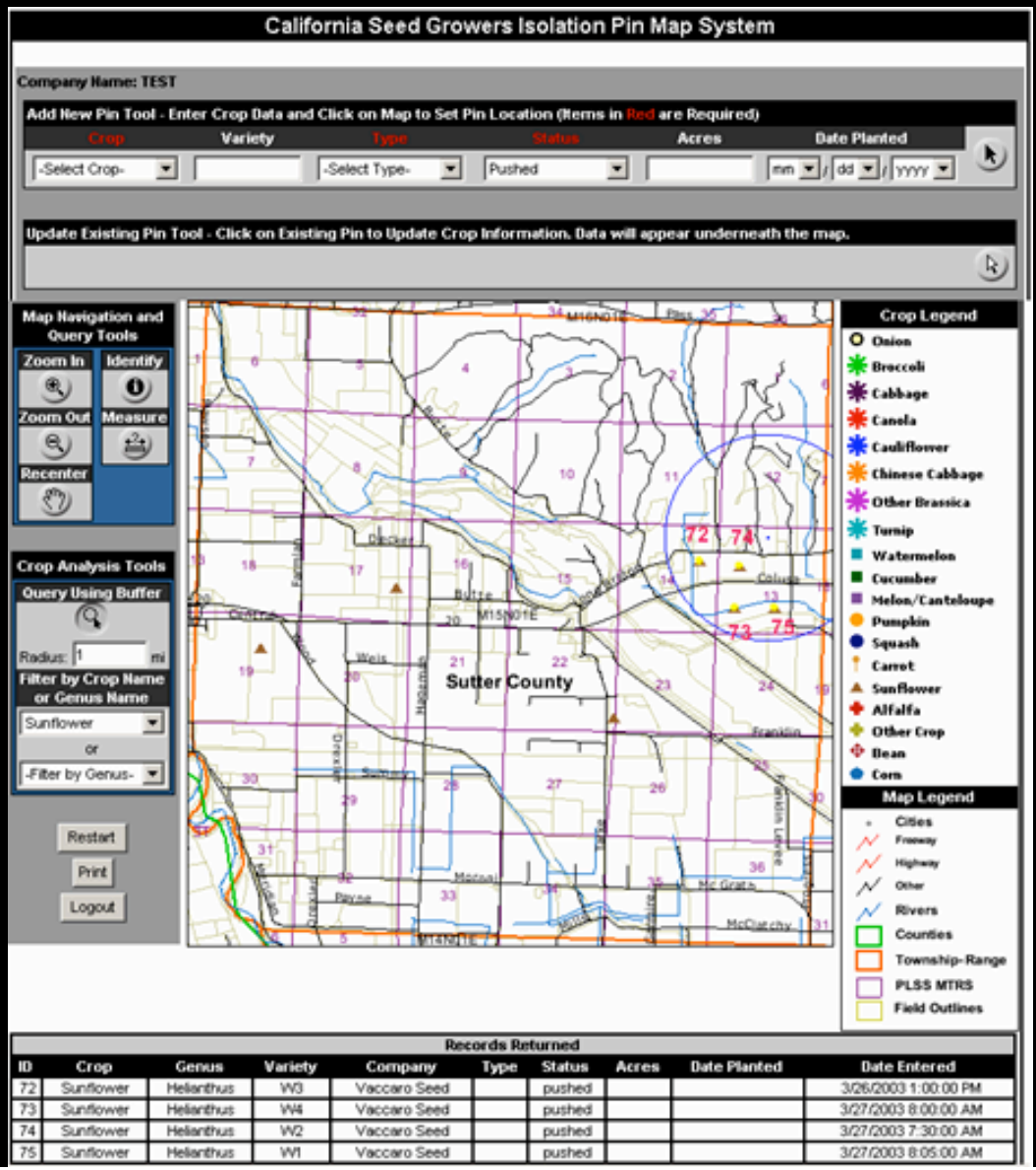
Before you grow:

Know your crop

GMO growers, prior to planting, verify the type of GMO seeds to be planted. Read and understand licensing agreements issued by biotech seed suppliers. Follow all planting instructions. Retain copies of licensing agreements you have signed and all other communications with GMO seed suppliers. Know the distance pollen is likely to travel. The isolation distance required for the production of certified seed provides guidance on the distance pollen is likely to travel for any given crop. Know the types of tests used to establish the presence of the biotech crop(s) you are growing. Manage herbicide resistant crops to minimize the develop-ment of herbicide resistant weed herbicide resistant and non-resis herbicide chemicals. Make sure not "volunteer" the following ye additional risks of contaminatio

Non-GMO growers, prior to pl non-GMO seeds will be used. O from seed companies concernin status of the varieties to be plan tested for all applicable GMO "t copies of test results, seed samp seed suppliers. Make sure not to engineered legume inoculants. (GMO.)

California Seed Growers Isolation Pin Map System



CO-EXISTENCE METHODS BY COMMODITY, THEIR CURRENT APPLICATIONS IN SAN LUIS OBI COUNTY AGRICULTURE AND IMPLEMENTATION OF GUIDELINES

- Latest draft 9-15-05
- Winegrapes
  - County's #1 Crop
- Corn
  - Not included in county crop ranking
  - Of concern to public (home gardeners)
- Report back to Board of Supervisors late 2005