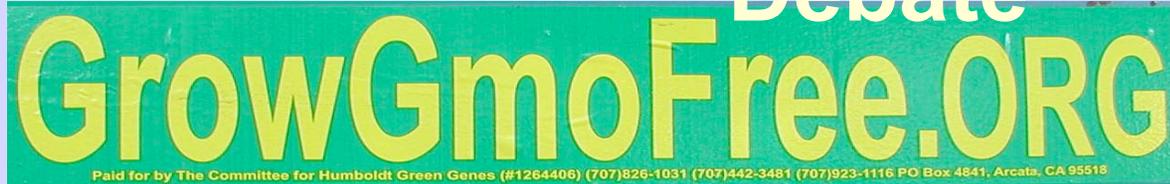


FOOD FIGHTS IN CALIFORNIA

Educational Challenges of the GMO

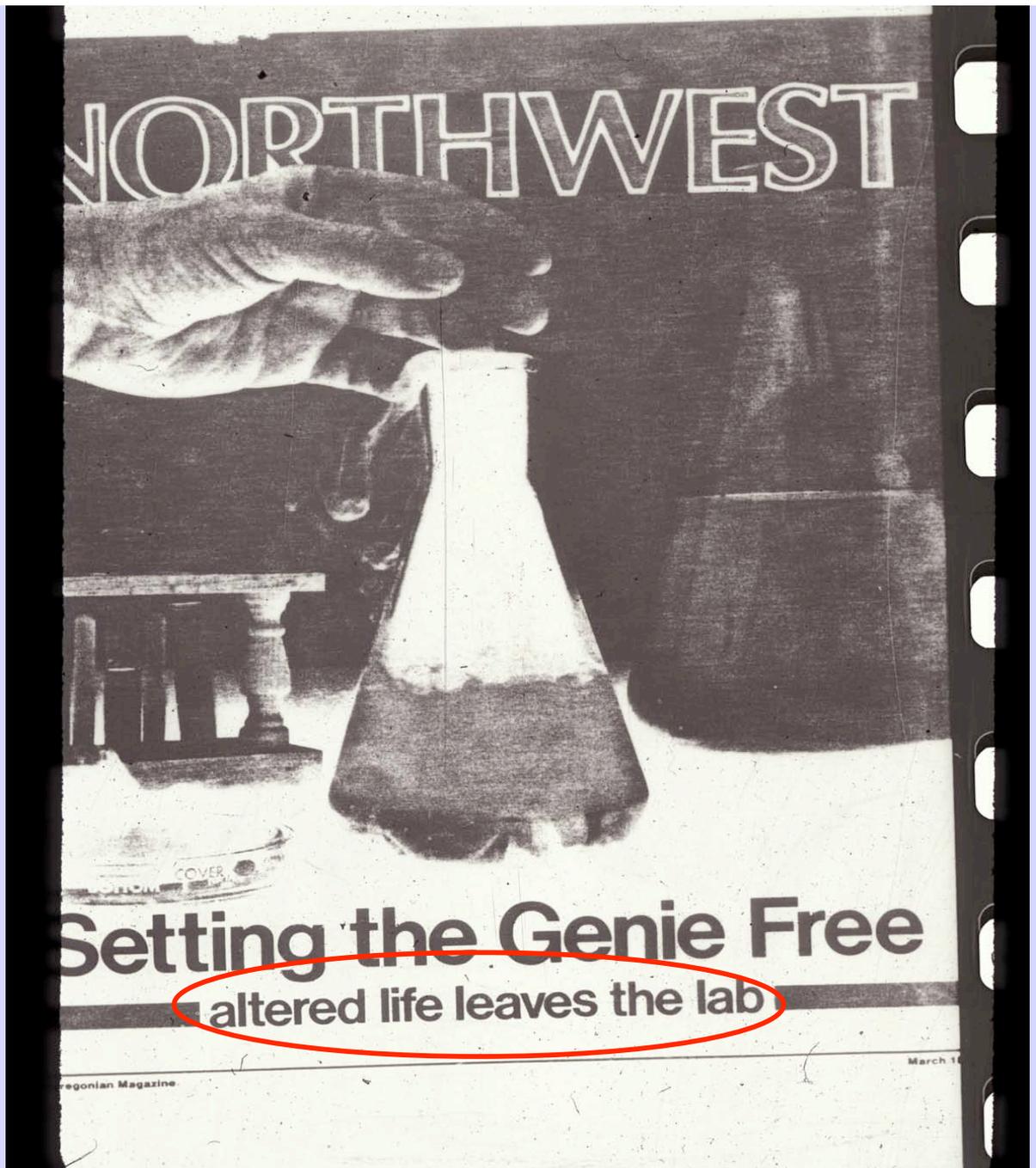
Debate



Peggy G. Lemaux, Barbara Alonso University of California, Berkeley
Alison van Eenennaam University of California, Davis

**Newspaper coverage
of the first field test
of a genetically
engineered organism
in northern
California in 1986.**

**The ice-minus
bacterium**



And this is what greeted residents during that first field test – men in moon suits spraying a genetically engineered organism on their local fields



More than a decade later concern over GE foods spread to Europe, when governments failed to quell consumer fears about mad cow disease and dioxin contamination of foods. In the late 90's Greenpeace stages protests and destroys fields of GE crops.



Greenpeace decontaminates GM field - Lord Melchett arrested

SOURCE: 7/26/99, Lyng/Norfolk, Greenpeace



14 April 1998 **Corinth, Greece**
Greenpeace action against genetically engineered soya at soya mill.
© Greenpeace/Karayannis

And protests have continued – forty Greenpeace activists in 2004 ready to destroy GE crops in Switzerland



And in July 2008 Greenpeace activists vandalize field of GE maize in France



A letter in 1999 from Greenpeace to Gerber starts corporate reaction in U.S.

Wall Street Journal
Friday, July 30, 1999

Strained Peace

Gerber Baby Food,
Grilled by Greenpeace,
Plans Swift Overhaul

Gene-Modified Corn and Soy
Will Go, Although Firm
Feels Sure They Are Safe

Heinz Takes Action, Too

By LUCETTE LAGNADO

Staff Reporter of THE WALL STREET JOURNAL

The letter scrolling out of a fax machine at the Gerber baby-food company in Michigan May 28 was just one of many arriving that day and didn't even name the person it was meant for, but it sure got attention. Within days, it had found its way to Gerber's parent company in Switzerland, Novartis AG, and come to the attention of its CEO. There, executives soon were taking steps to overhaul a decades-old product



And protests continue in the U.S. in 2007 – like rallies associated with the BIO meeting



**IN CALIFORNIA IT ALL
STARTED IN 2004 IN**

MENDOCINO COUNTY

MENDOCINO COUNTY ORDINANCE

March 2004

- “Unlawful for any person, firm, or corporation to propagate, cultivate, raise, or grow genetically modified organisms in Mendocino County” (excluded microorganisms)
- “DNA or deoxyribonucleic acid means a complex protein that is present in every cell of an organism...”
- At election time, no GE organisms were known to be in production in Mendocino County

The discourse on both sides of the issue was often driven by alarming assertions and facts that were not derived from, nor supported by science

Dear Friends,

While the rest of the country focuses on one presidential candidate or another, Measure D represents Biodemocracy in action. Rarely do we have the opportunity to change the

Contamination is spreading so quickly that we have little time to waste before our entire food supply is lost forever...

statewide ban on GE crops. California's future is organic!

Yours in organics,
Organic Consumers Association
www.organicconsumers.org



The discourse on both sides of the issue was often driven by alarming assertions and facts that were not derived from, nor supported by, science

“Measure H should be rescinded...on the basis that multitudinous GMOs have always been dangerous because:

1. **...in order to remove present GMOs all soil would have to be plowed under or removed...**

3. Fire retardants for fighting forest fires cannot be abolished...

4. ...in order to remove present GMOs all soil would have to be plowed under or

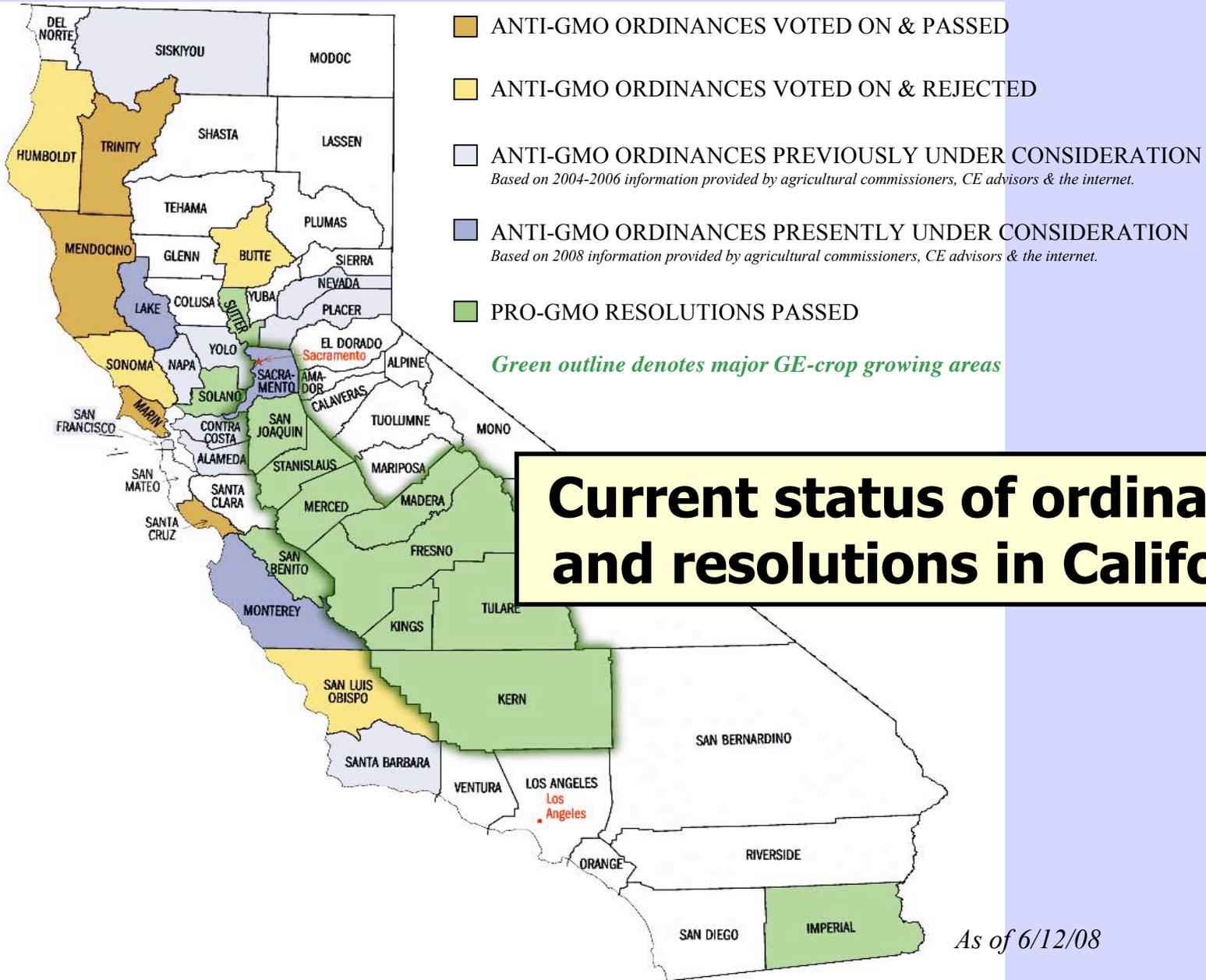
5. **...anyone visiting another county or coming in on a plane, train, or boat would have to have a security check...**

All of the above I have thoroughly investigated through pertinent organizations...”

Marie White, Ukiah Daily Journal

November 16, 2003





The background of the slide is a book cover. At the top, the word "Seeds" is written in a large, red, stylized font. Below it, a photograph of a corn cob is shown, partially cut open to reveal the yellow kernels. The word "Deception" is written in a red, stylized font below the corn. At the bottom of the cover, the text "ENGINEERED FOODS" is visible in a smaller, red font, followed by "You're Eating" and the author's name "Jeffrey M. Smith" in a white serif font.

**VIDEOS AND ARTICLES ARE
AVAILABLE FOCUSED ON AN
ANTI-GE STANCE but...**

**WHAT EDUCATIONAL
MATERIALS DID WE CREATE TO
COUNTER THESE MESSAGES?**

ENGINEERED FOODS
You're Eating

Jeffrey M. Smith

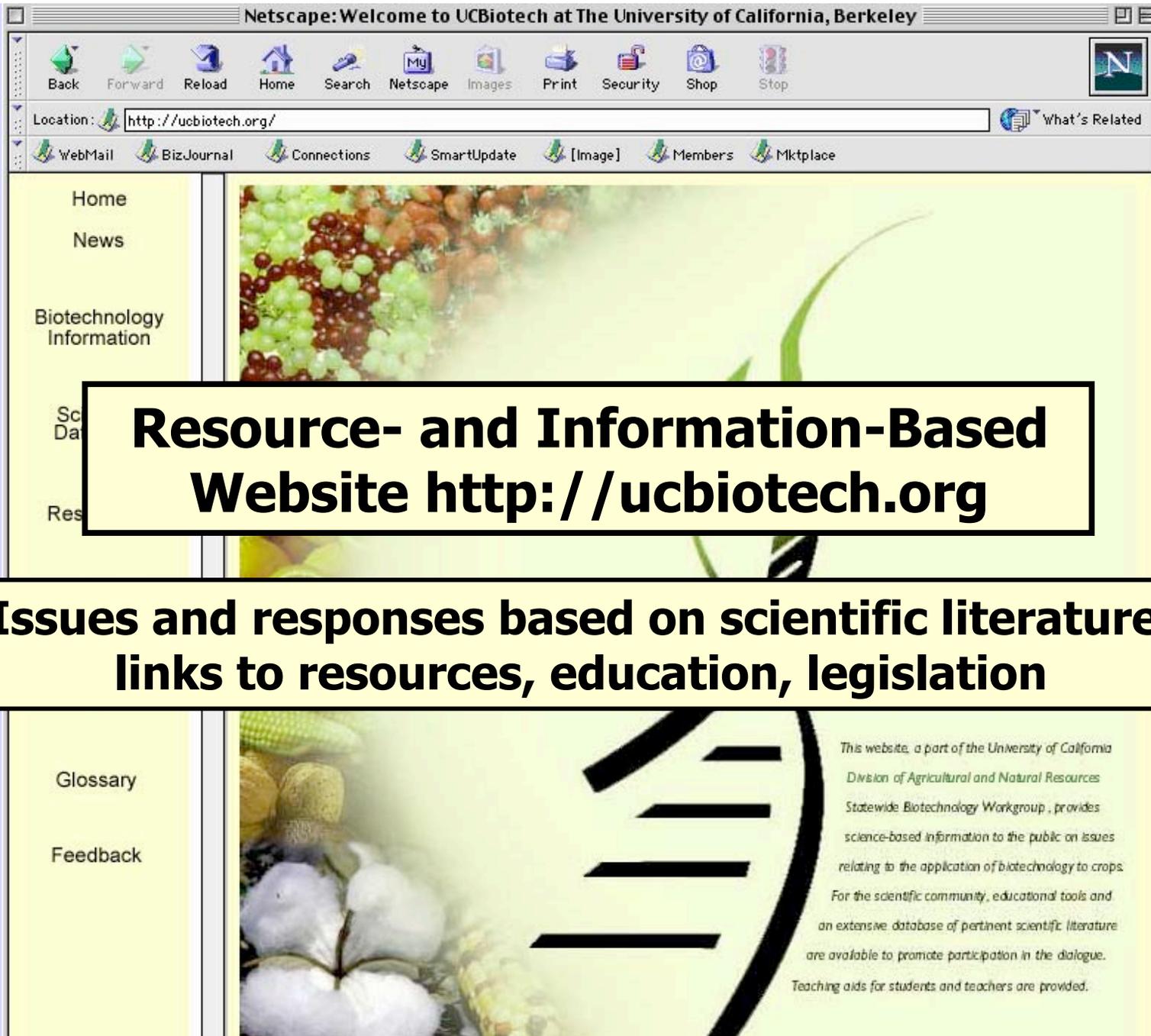


Peer-Reviewed Educational Videos

30-minute, Peer-reviewed Videos

“Genetic Engineering in California Agriculture” explains where and why genetically engineered crops and animals are being used in California.

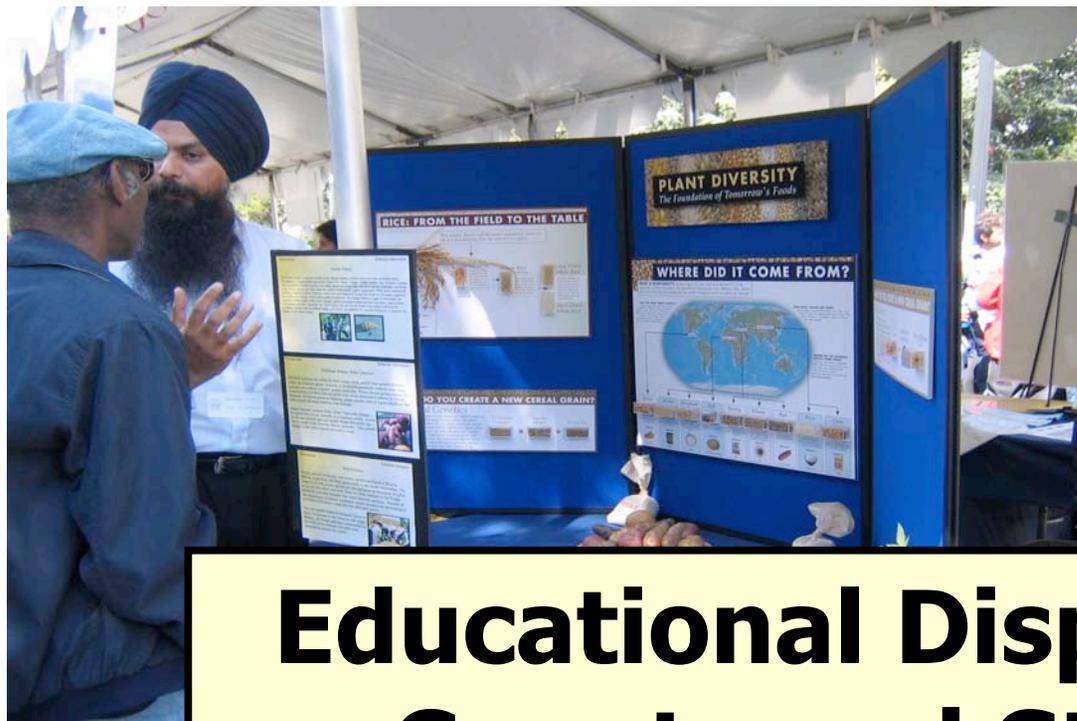
“Cornucopia’s Challenge” explains the challenges farmers face in growing and marketing crops for diverse markets and consumer preferences.



Resource- and Information-Based Website <http://ucbiotech.org>

Issues and responses based on scientific literature, links to resources, education, legislation

This website, a part of the University of California Division of Agricultural and Natural Resources Statewide Biotechnology Workgroup, provides science-based information to the public on issues relating to the application of biotechnology to crops. For the scientific community, educational tools and an extensive database of pertinent scientific literature are available to promote participation in the dialogue. Teaching aids for students and teachers are provided.



Plant Diversity: The Foundation of Tomorrow's Foods

Educational Displays for City, County and State Events

Foods: Yesterday, Today, and Tomorrow





Informational Workshops for County Officials and Staff

Two-part series in *Annual Review of Plant Biology*

Genetically Engineered Plants and Foods: A Scientist's Analysis of the Issues (Part I)

Peggy G. Lemaux

Department of Plant and Microbial Biology, University of California, Berkeley, California 94720; email: lemiaux@plantmicro.berkeley.edu

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Food and food safety issues

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- 2.5. Will use of herbicide tolerant GE crops result in increased use of pesticides?
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Environmental and socioeconomic issues

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What will happen with the application of and research in genetic engineering of agricultural crops and animals in the future?

Organic Consumers Association
 Campaigning for Food Safety, Organic Agriculture, Fair Trade & Sustainability.

Campaign To Stop GM Wheat

As you may already know, there is movement afoot to introduce genetically modified (GM) wheat to the United States. Last December Monsanto applied to the USDA for approval of GM wheat. Despite the fact that GM wheat is safe to eat, and human consumption, now is the time for voices to be raised to push ahead regardless of the approval of GM wheat until there is no system in place to segregate GM and non-GM wheat. Please check back regularly as this list will be expanding.

These two companies in North Dakota are leaders in the expansion of GM wheat. Dakota Growers Pasta Company and Pioneer Hi-Bred International are producing GM wheat. No decisions have been made if they will be approved for sale. Both of these companies produce a line of pasta.

GMO-free Finland campaign

This is the homepage of GMO-free Finland campaign run by Finnish NGO's. At the moment four organisations take part in the campaign:

- The Union of Organic Farmers in Finland
- The Union of Organic Forestry in Finland
- Biodynamic association in Finland
- Friends of the Earth Finland
- People's Biosafety Association in Finland

The campaign:

- encourages to express one's opinion
- spreads information
- lobby decision makers on national level
- puts the GMO's into general and public discussion

BioDemocracy Alliance

Stop Monsanto's Genetically Engineered Sugar Beets

OCA & Allies Call for a Consumer Boycott of Kellogg's

Visit OCA's Kellogg's Boycott Action Center

Send a Letter to the Editor of your local Newspaper

Send a Letter to the Editor of your local Newspaper

Send a Letter to the Editor of your local Newspaper

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Send a Letter to the Editor of your local Newspaper

CALIFORNIANS FOR GE-FREE AGRICULTURE

Join Us

Newsletter Sign-up

Donate

Sign-up for the Cal GE-Free Newsletter

Cal GE-Free's newsletter is a one of a kind source of news and information related to genetic engineering in agriculture in California.

Donate

Cal GE-Free is a broad-based coalition working towards restricting Genetic Engineering in California. In the five years of its existence Cal GE-Free has stilled the introduction of Ventria's pharmaceutical rice, built a big network of local activists who have enacted local restrictions in their own communities and protected the state from preemption. This strategic and timely work has been made possible by your support.

To make make a tax-deductible donation, send a check payable to Cal GE-Free at: 15290 Coleman Valley Rd., Occidental, CA 95465

Or click on the "Make a Donation" Link on the left to make a donation to Cal GE-Free

A photograph of a classroom. A male professor in a grey button-down shirt stands on the right, pointing his right hand towards a whiteboard. He is holding a small device in his left hand. In the foreground and middle ground, several students are seated at desks, some looking towards the professor and others looking down at their papers or laptops. The room has a whiteboard and a chalkboard in the background.

Are applications in agriculture going to be the only targets?

GENE THERAPY?

GLOBAL WARMING?

NANOTECHNOLOGY?

Will the continuing, often anti-science debates affect the education, attitudes and opportunities for today's students?



In Chapter 3 **“What Could Go Wrong? – A Partial List...”**

CANCER “The CaMV light switch and other viral promoters used in GM crops can also activate other, non-viral genes in the species where it ‘happens to be transferred. One consequence of such inappropriate over-expression of genes may be cancer’.”

WAKING SLEEPING VIRUSES “The nature of the CaMV promoter presents another risk, which is probably the greatest risk of GM crops. Laboratory research demonstrates that ‘the insertion of modified virus and insect virus genes into crops’ can ‘create highly virulent new viruses’.”

UNPREDICTED TOXINS “In human gene therapy, studies have verified that insertion mutation can lead to leukemia in children...In plants the disruptions may be similarly dangerous, producing unpredicted toxins.”

Jeffrey M. Smith