



PROCESS BOOK



LOOK CLOSER

GENETICALLY MODIFIED MYSTERIES

TABLE OF CONTENTS

| | |
|------------------------|-------|
| PROJECT OUTLINE | 02 |
| RESEARCH | 03–08 |
| VISUAL RESEARCH | 09–10 |
| PROCESS | 10–19 |
| LOGO | 10–11 |
| LENTICULAR POSTER | 12–13 |
| SLOGAN STICKERS | 14–15 |
| PRODUCE STAND | 16–17 |
| WEB SITE | 18 |
| BROCHURE | 19 |
| EXECUTION | 20–27 |
| EVALUATION | 28–29 |

Nova Askue

Milwaukee Institute of Art & Design
Spring 2007

PROJECT OUTLINE

PROJECT DESCRIPTION

An investigation into the most effective way to accurately communicate both the problems and solutions of a controversial issue such as genetically modified foods.

OBJECTIVES

COMMUNICATION GOALS

- present both sides in an unbiased manner
- keep scientific information to a minimum
- present information in a wide variety of scales
- provide sources for more information
- remain open-minded to opinionated audiences

TARGET AUDIENCE

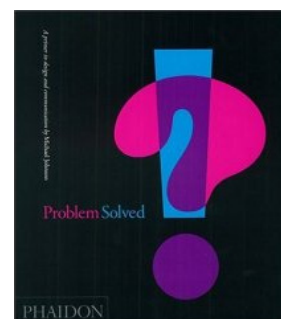
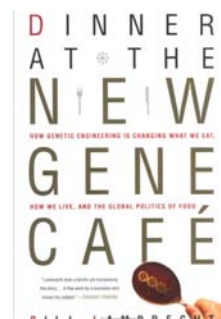
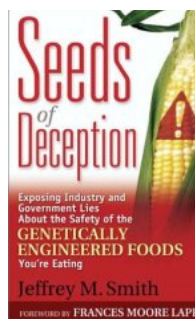
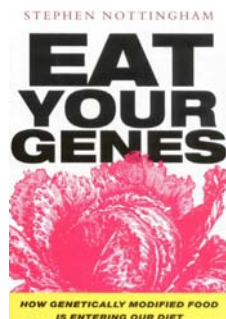
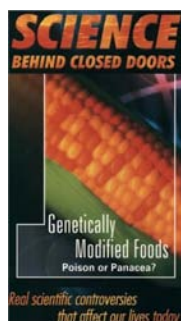
- anyone that is unaware and aware
- youth culture (18-30)
- most affected by genetically modified foods, women
- impressionable minds
- health conscious
- curious/open minded
- environmentally conscious

COMPONENTS

- stickers
- lenticular poster
- campaign advertisement poster
- informational brochure
- web site
- produce stand (crates containing apples)
- fact plaques

RESEARCH

BOOKS



WEBSITES

- www.krafty.org/geFree.html
- www.gefoodalert.org/
- www.organicconsumers.org/campaigns.cfm
- www.responsibletechnology.org
- www.sierraclub.org/biotech/kraft.asp
- www.consumersinternational.org
- www.soilassociation.org/gm
- www.rsnz.org
- www.iatp.org/foodandhealth/
- www.agobservatory.org/
- www.truefoods.com
- www.ers.usda.gov/AmberWaves/November03/Features/futureofbiotech.htm
- www.pbs.org/wgbh/harvest/coming/coming.html
- www.slowfoodusa.org/index.html
- www.beaconoftruth.com/gmf.htm
- www.vegsource.com/articles/gmo_feed_myth.htm

RESEARCH (SOURCE: PBS.ORG)

should we grow them:

SHOULD WE GROW GM CROPS?

ALLERGIC REACTION

If you answered Yes the first time:

What if you knew that detractors fear that GM foods might pose health risks for certain people?

Some people, including children, are highly allergic to peanuts and other foods. Some critics of GM foods feel the possibility exists that those genetically modifying food crops may unintentionally introduce a new allergen. Given that genes can be introduced from unrelated species -- for example, a fish gene can be put into a plant -- some critics argue that the possibilities of allergies might be greater than with traditionally bred crops.]

1

Another potential hazard to human health is the possibility that bacteria in our guts could pick up antibiotic-resistance genes found in many GM foodstuffs. (Food geneticists often add such genes to GM plants as 'markers' to tell them which plants have taken up exotic genes.) If this transfer happens, in principle it could exacerbate the already worrisome spread of disease-causing bacteria that have proven able to withstand our antibiotics.

"Today the vast majority of foods in supermarkets contain genetically modified substances whose effects on our health are unknown. As a medical doctor, I can assure you that no one in the medical profession would attempt to perform experiments on human subjects without their consent. Such conduct is illegal and unethical. Yet manufacturers of genetically altered foods are exposing us to one of the largest uncontrolled experiments in modern history."

TESTED on HUMANS

--Dr. Martha R. Herbert, pediatric neurologist [1]

What if you knew that many people feel genetically modifying organisms goes against Nature?

Many opponents of the genetic revolution -- whether it involves sequencing the human genome, owning genetic material, or devising GM crops -- pronounce that fiddling with the genetic makeup of plants and animals is unnatural. Nature takes millions of years to effect genetic change. What right do we have to make changes overnight, as it were?

4

Nature also does not mix apples and oranges, much less flounder and strawberries. (Scientists placed an antifreeze gene from the fish into the fruit in a failed attempt to help strawberries withstand frost.) In short, do we have the wisdom to substitute human for natural selection? To play God?

AGAINST NATURE

Uncontrolled experiment unknown consequences

If you answered Yes the third time:

What if you knew that opponents fear that GM crops could harm the environment?

Many critics believe we're opening a Pandora's lunchbox with GM technology, that raising GM crops is an uncontrolled experiment with unknown consequences for surrounding ecosystems. Remember, they admonish, the ravages of the now-banned pesticide DDT. Or PCBs. Or dioxin. Or leaded gas.

3

"Ecologists are unsure of the impacts of bypassing natural species boundaries. Consider, for example, the ambitious plans to engineer transgenic plants to serve as pharmaceutical factories for the production of chemicals and drugs. Foraging animals, seed-eating birds, and soil insects will be exposed to a range of genetically engineered drugs, vaccines, industrial enzymes, plastics, and hundreds of other foreign substances for the first time, with untold consequences."

BIO-HAZARD

-Jeremy Rifkin, author of **The Biotech Century: Harnessing the Gene and Remaking the World** [15]

DESTROYS FARMS

Hassan Adamu, Nigeria's minister of agriculture and rural development [6]

If you answered Yes the second time:

What if you knew that many feel GM crop technology will hurt small farmers?

Critics of GM agriculture insist that patenting genetically altered crops, as agribusiness is rushing to do, will make small farmers indentured to big firms. Monsanto, one of the biggest players in the field, is currently suing dozens of North American farmers whom it claims have raised its patented GM crops without paying for the privilege. (Farmers have responded that pollen from Monsanto crops blew in from neighboring fields.)

2

Some fear that GM crops might prove too expensive for poor farmers in developing countries, thus further widening the gap between rich and poor, or that they could repeat an often unspoken side effect of the Green Revolution. In countries like India, higher yields were achieved at such a cost in inputs that smaller farmers were often no better off, and many were forced into debt or off their land.

RESEARCH (SOURCE: PBS.ORG)

"Some researchers have shown that none of the genetically engineered seeds significantly increase the yield of crops. Indeed, in more than 8,200 field trials, the [genetically altered] Roundup seeds produced fewer bushels of soybeans than similar natural varieties, according to a study by Dr. Charles Benbrook, the former director of the Board of Agriculture at the National Academy of Sciences. Far from being a solution to the world's hunger problem, the rapid introduction of genetically engineered crops may actually threaten agriculture and food security."

--Dr. Peter Rosset, director of the Institute for Food and Development Policy and co-author of **World Hunger: Twelve Myths** (Grove Press, 1998) [7]

Fact
against
END
WORLD
HUNGER

What if you knew that GM patrons insist that farmers will reap great benefits from biotechnology?

Scientists are developing GM technologies to help farmers battle other scourges as well. To reduce losses from sudden frosts, which can kill young plants, geneticists have experimented with putting an antifreeze gene into tomato plants. To help crops cope with disease, researchers are trying to genetically confer disease resistance to food plants. And to help farmers in an increasingly land-hungry world sow crops on marginal land, agricultural scientists are working to craft plants that are drought- and salt-tolerant.

WITHSTANDS
FROST

RESISTS
DISEASE

What if you knew that many critics inveigh against biotech companies for being profit-driven, with little concern for potential risks to people or nature?

GM seed firms invest heavily in research and development, and naturally, they want to recoup their investment. But in their rush to secure patents and reap profits, critics contend, big biotech firms are deliberately over-promoting the benefits of GM technology and underestimating possible health, socioeconomic, and environmental hazards.

(S)

GREED OVER
NEED

Detractors say these companies are also concentrating their efforts in high-volume crops, such as soybeans, corn, and cotton, and not in crops that might help feed the billions of people who live in poor countries. A World Bank report in 1997 found only four "coherent, coordinated" GM research programs on developing-world crops at the time.

This "greed-not-need" ethic, GM opponents assert, may soon operate in an Orwellian agricultural climate, in which the power to produce and distribute food is concentrated in the hands of a few gigantic biotech firms. In 1998, the top ten seed companies controlled an estimated 30 to 40 percent of worldwide seed sales, which reach \$45 billion a year.

"The dramatic increase in the development, marketing, and sale of genetically modified seed and crops has far more to do with inflating corporate profits than with the sustainability of America's family farmers or the health of its consumers."

--Howard Vail, president of Farm For Profit Research & Development, a

(FDA), the Department of Agriculture, and the Environmental Protection Agency -- are too lax in their scrutiny and regulation, they say.

The FDA, for one, has long maintained that most GM foods are "substantially equivalent" to unmodified foods and are thus not subject to FDA regulations. Biotech companies are not required to consult with the FDA on new GM foods, and even those that voluntarily do so do not have to follow the FDA's recommendations. Even a new FDA plan announced in early 2001 to review new GM foods for safety falls far short of the current surveillance of food additives, critics say.

Labeling is another issue that raises the hackles of anti-GM food activists. In the U.S., producers do not have to label GM foods. The result, those who denounce the policy say, is that you as a consumer don't know what you're eating, you don't have the option of choosing not to buy foods with GM ingredients, and if you get sick from a GM food, no one will be able to trace your illness back to its source.

"[B]iotechnologies... cannot be evaluated solely on the basis of immediate economic interests. They must be submitted beforehand to rigorous scientific and ethical examination, to prevent them from becoming disastrous for human health and the future of the Earth."

BLANK

What if you knew that proponents assert that GM foods will promise many health benefits?

GM foods will have even greater benefits for the world's poor, supporters state. In developing countries, malnutrition is a grave problem, because people often have to rely on a single staple, such as rice, that on its own doesn't supply sufficient nutrients. Food scientists hope to genetically modify crops to add vitamins and minerals. One of the most promising is "golden rice," which can stimulate our bodies to generate vitamin A. In the developing world, vitamin-A deficiency kills two million children each year, and another 500,000 become permanently blind.

VITAMINS
ADDED

Eventually GM plants will serve as environmentally friendly 'factories' that mass-produce useful substances such as pharmaceuticals. Scientists are hard at work, for instance, trying to genetically add vaccines to tomatoes or bananas. Traditional vaccines are costly to manufacture and require specialized storage not always available in developing countries. "Eatable vaccines," developers say, will be easier to ship, store, and administer.

EDI BLE
VACCINES

"The benefits of biotechnology are many and include providing resistance to crop pests to improve production and reduce chemical pesticide usage, thereby making major improvements in both food quality and..."

VISUAL RESEARCH



STOCK IMAGERY/ CUSTOM PHOTOGRAPHY

(LEFT) IMAGES FOUND ONLINE OF OTHER CAMPAIGNS, AND IMAGERY REGARDING GENETICALLY MODIFIED FOODS

(BELOW) IMAGES TAKEN/ PHOTO DIRECTED BY NOVA ASKUE



LOGO DEVELOPMENT

(LEFT) SKETCHES FOR LOGO AND CAMPAIGN NAME (BOTTOM) EXAMPLES OF PRODUCE STICKERS ON FRUIT AND VEGETABLES (RIGHT) MORE DEVELOPED LOGOS, THE FINAL LOGO IS THE ONE WITH A RED OUTLINE.



PROCESS

PROS GN's claims to...

Example - Cahon & Associates USA 1996

Images of food?

different word

SAVE WORLD
HUNGER

everything is double-sided started into biased

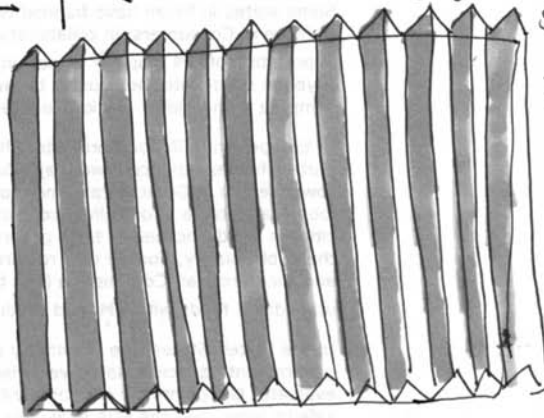
Lenticular folding

cons

VS

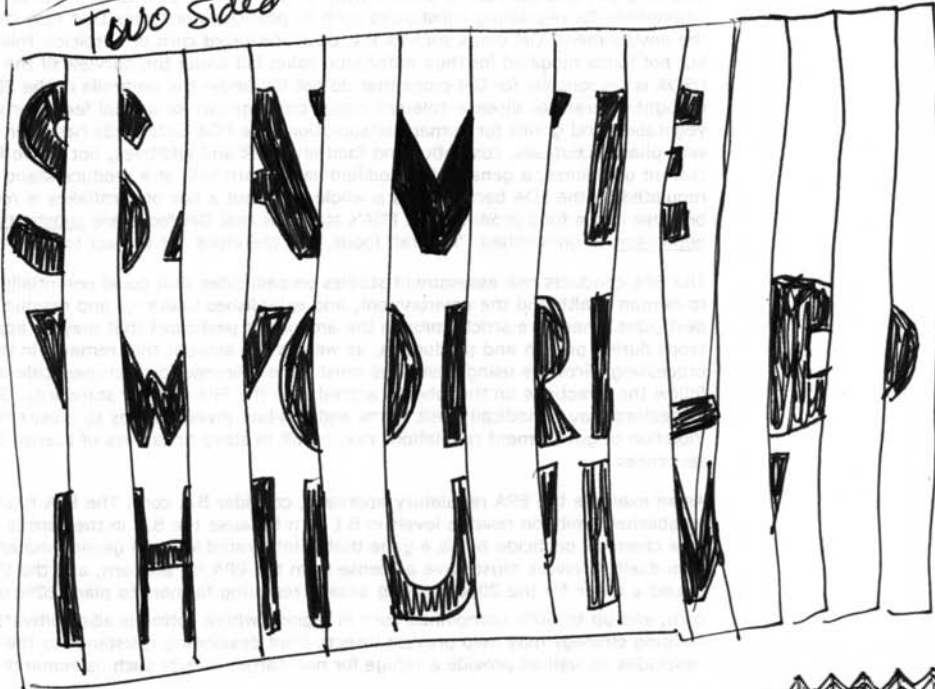
Contaminate Soil

Two sided



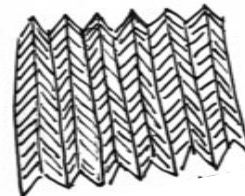
play on confusion of a controversial topic.

2 1/2



4 feet

texture of fruit



LENTICULAR POSTERS

1 PROMISES HEALTH BENEFITS/TESTED ON HUMANS 2 EDIBLE VACCINES/EDIBLE PESTICIDES (VERSION 1) 3 EDIBLE VACCINES/EDIBLE PESTICIDES (VERSION 2) 4 EDIBLE VACCINES/EDIBLE PESTICIDES (VERSION 3) 5 GREED OVER NEED/ENDS WORLD HUNGER



PROCESS

PROS

- Eliminate world hunger
alleviate, wipe out, end
- Solve world hunger and malnutrition problems
- Feed a growing world population
- enhanced taste and quality
 - increased flavor
- more nutritious, long lasting
- reduced maturation time
- safe for humans and the environment
- "generally regarded as safe"
- no proven danger
- no evidence of harm
- * promises many health benefits VS.
- * eatable vaccines VS. edible va
- pest resistance
- herbicide tolerance
- disease resistance
- super crops
- drought tolerance

create new

HEALTHY FOR

CONS

- Increase hunger and starvation
- destroy small farms
 - hurt small farms
- increase corporate control over food resources and production
- * greed not need same?
- * profit driven
- Feed a growing world population
- widen the gap between rich and poor
- uncontrolled experiment, unknown consequences
- opening Pandora's lunchbox
- "superbugs"
- "superweeds"
- reduced effectiveness of pesticides
- gene transfer to non-target species
- man-made natural creations
- nothing but financial gains
- all about the money
- * unnatural
- * playing god
- * goes against nature
- * pretty but not tasty
- health risks
- unknown effects
- potential side effects
- unintended harm to other organisms
- hazardous experiment on humans and the environment
- create new allergens
- pollen drift
- * soil contamination
- * Tested on humans

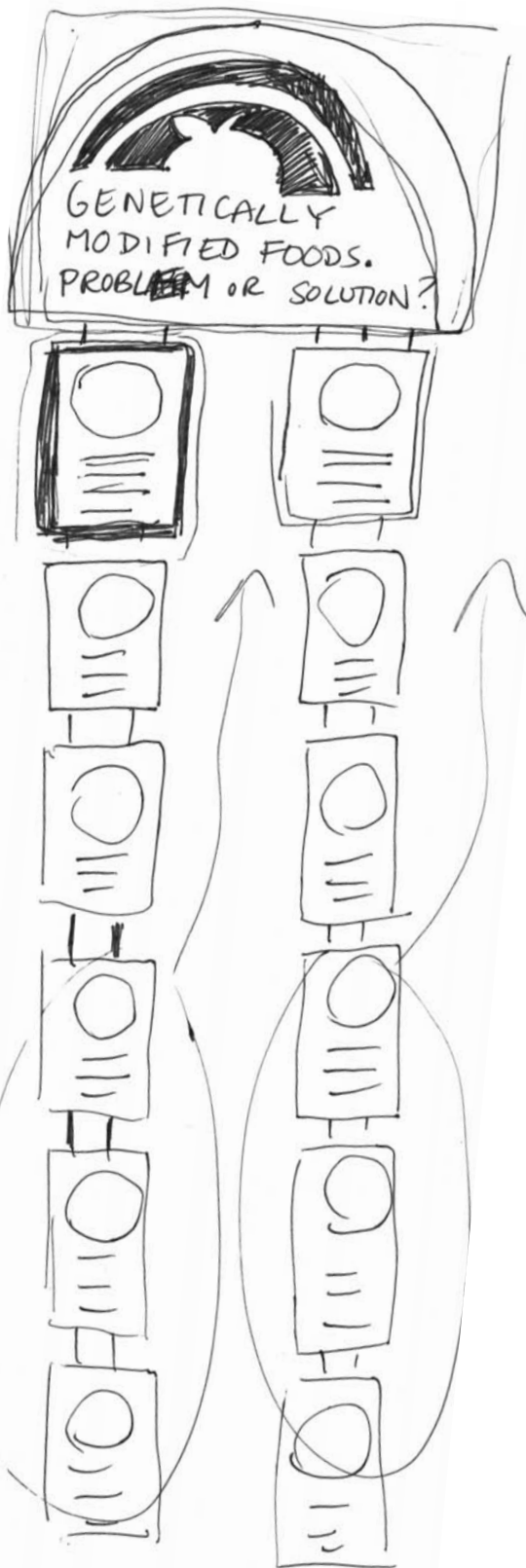
* EDIBLE PESTICIDES

SLOGAN STICKERS

(LEFT) BRAINSTORMING LISTS OF THE PROS AND CONS OF GENETICALLY MODIFIED FOODS, (BELOW) POSSIBLE EXECUTED SLOGAN STICKERS, FIRST HALF ARE CONS, SECOND HALF ARE PROS.

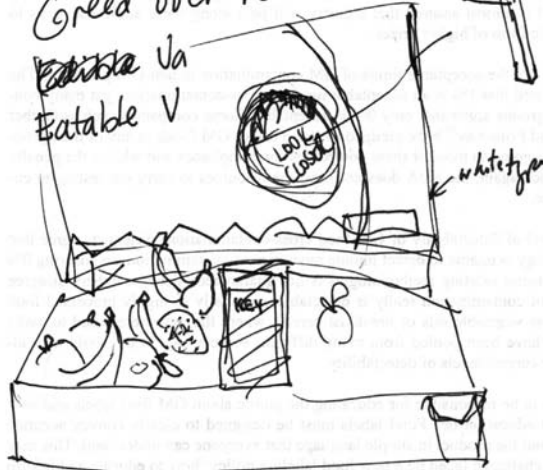


PROCESS

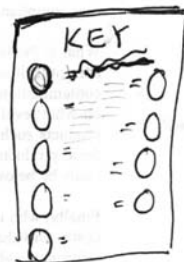


ADS

End world hunger
 Greed over need
~~Eatable Va~~
 Eatable V



FAKE



different slogans on stickers

- End world hunger
- Eatable vaccines
- Edible Pesticides
- Greed over need
- Promises health benefits Increased

GM FOODS ARE A SOLUTION

EDIBLE PESTICIDES Eventually GM plants will serve as an environmentally friendly alternative for mass produce control substances such as pharmaceuticals. Scientists are looking at ways to try to genetically engineer vaccines to be made in plants, which will be easier to ship, store and administer.

EDIBLE VACCINES To help crops cope with disease, researchers are trying to genetically engineer disease resistance into food plants.

EDIBLE MEDICINE In developing world, vitamin A deficiency kills two million children each year, and each year 100 million people go blind. To do this, scientists need to genetically modify crops to add vitamins and minerals.

HEALTH BENEFITS Higher soluble content (fiber, starch, essential vitamins and minerals), lower calories and saturated fat.

IMPROVED STORAGE To reduce losses from produce spoils, which are lost every minute, scientists have experimented with putting an ethylene gas into tomato plants.

IMPROVED TASTE Using the vast majority of foods in supermarkets contain genetically modified substances whose effects on the health are unclear.

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GM FOODS ARE A PROBLEM

ANTHROPOMORPHIC There have been an equivalent to about 100 GM foods, which have been the subject of a growing number of lawsuits. GM foods are not safe to eat, and they are not safe to feed to livestock.

ANTHROPOMORPHIC GM crops may unintentionally introduce new allergens. One GM protein was introduced from unrelated proteins for example. GM crops can also be genetically modified to produce a protein that is a common allergen, such as the protein of peanuts. GM crops can also be genetically modified to produce a protein that is a common allergen, such as the protein of peanuts.

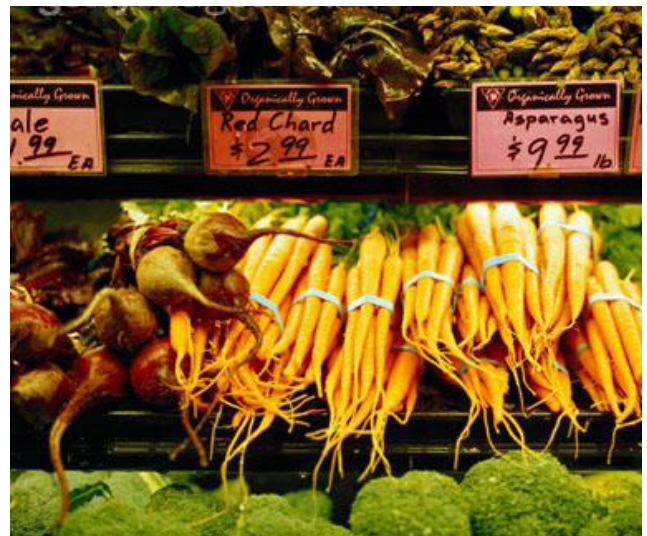
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PRODUCE STAND

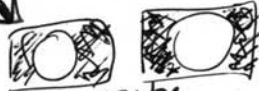
(LEFT) SKETCHES FOR THE MINI-PRODUCE STAND INCLUDING A POSTER ABOVE, AND A KEY CONTAINING INFO THAT CORRESPONDS TO STICKERS ON FRUITS AND VEGETABLES. (BELOW) VISUAL RESEARCH: PRODUCE SECTIONS, SIGNAGE, FRUIT CRATES



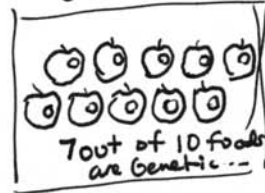
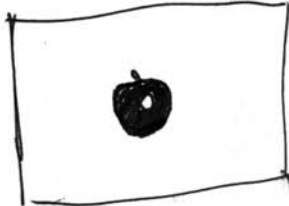
PROCESS

LOOK CLOSER

zoomed in of LOOK CLOSER

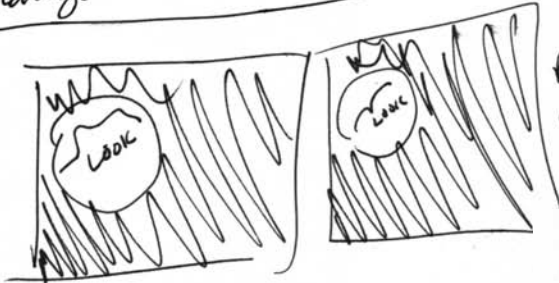


maybe



CLICK info under 7 out of 10 FOOD ...

Change web site on stickers



rollover change color



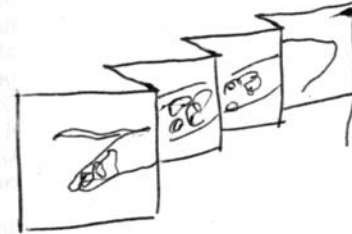
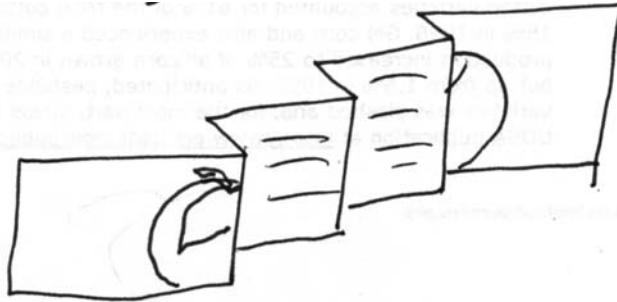
THE DEBATE PROBLEM OR SOLUTION
 • POLL
 • GET INVOLVED
 other websites
 LINKS
 • STICKERS
 • CONTACT

WEB SITE

(LEFT) SKETCHES FOR WEB SITE, INCLUDING SPLASH INTRODUCTION.

BROCHURE


(BELOW) IDEATION OF A 2-SIDED ACCORDION FOLDED BROCHURE.





GM* FOODS ARE A SOLUTION

*Genetically Modified: pertaining to a living organism whose genetic material has been altered, changing/enhancing one or more of its characteristics



END HUNGER

In developing countries, malnutrition is a grave problem, because people often have to rely on a single staple, such as rice, that on its own doesn't supply sufficient nutrients. Food scientists hope to genetically modify crops to add vitamins and minerals.

EDIBLE VACCINES

Medicines and vaccines often are costly to produce and sometimes require special storage conditions not readily available in third world countries. Researchers are working to develop edible vaccines in tomatoes and potatoes. These vaccines will be much easier to ship, store, and administer than traditional injectable vaccines.

HEALTH BENEFITS

- Benefit waistlines
- Higher nutrition content
- Higher Fiber
- Higher Starch
- Added Vitamins
- Added Minerals
- Lower calories
- Lower saturated fat

for more info: GMM/STERES.org



and environmental hazards. GM seed firms concentrate their efforts in high-volume crops, such as soybeans, corn, and cotton, and not in crops that might help feed the billions of people who live in poor countries.

to be sprayed on crops, however it may lead to reduced effectiveness of pesticides, leading to mass amounts of pesticides being used on the foods we ingest. This harms the environment and our health.

Yet manufacturers of genetically altered foods are exposing us to one of the largest uncontrolled experiments in modern history.

for more info: GMM/STERES.org

GM* FOODS ARE A SOLUTION



GM* FOODS ARE A PROBLEM



GREED OVER NEED

Biotech firms are deliberately over-promoting the benefits of GM technology and under-estimating possible health, socioeconomic, and environmental hazards. GM seed firms concentrate their efforts in high-volume crops, such as soybeans, corn, and cotton, and not in crops that might help feed the billions of people who live in poor countries.

EDIBLE PESTICIDES

Crops are being genetically modified to produce their own pesticides. This may cut down the amount of pesticides that need to be sprayed on crops, however it may lead to reduced effectiveness of pesticides, leading to mass amounts of pesticides being used on the foods we ingest. This harms the environment and our health.

TESTED ON HUMANS

Today the vast majority of foods in supermarkets contain genetically modified substances whose effects on our health are unknown. Yet manufacturers of genetically altered foods are exposing us to one of the largest uncontrolled experiments in modern history.

for more info: GMM/STERES.org

LookCloser.info

EXECUTION



LENTICULAR POSTER

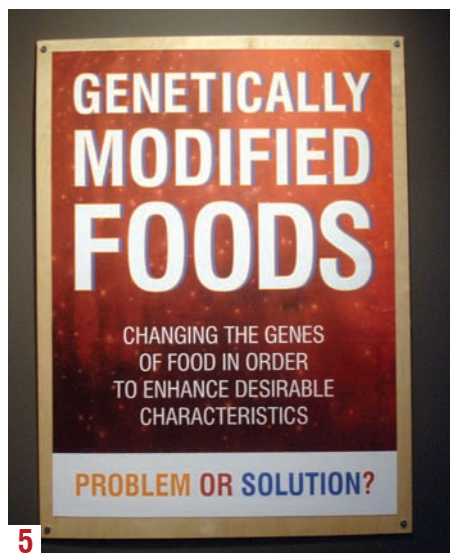
- 1 POSTER VIEWED FROM THE FRONT 2 EDIBLE VACCINES (LEFT SIDE VIEW): WITH BANANA BACKGROUND
3 TESTED ON YOU (RIGHT SIDE VIEW): WITH TOMATO BACKGROUND

PRODUCE STAND

- 4 FACTS THAT SUPPORT "GM FOODS ARE A SOLUTION" & "GM FOODS ARE A PROBLEM" 5 POSTER DEFINING GENETICALLY MODIFIED FOODS 6 CRATES FULL OF APPLES 7 PHOTO OF PRODUCE STAND AREA



4



5



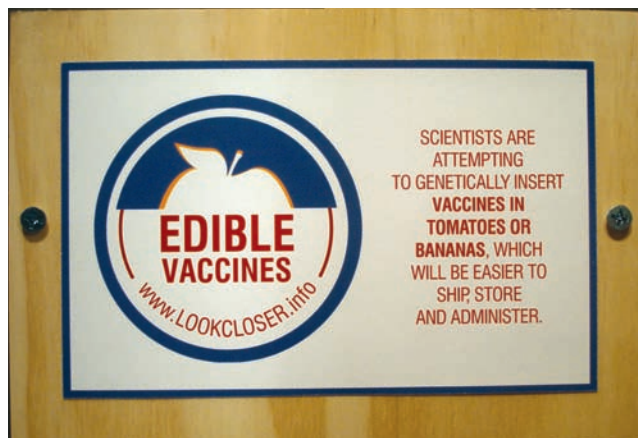
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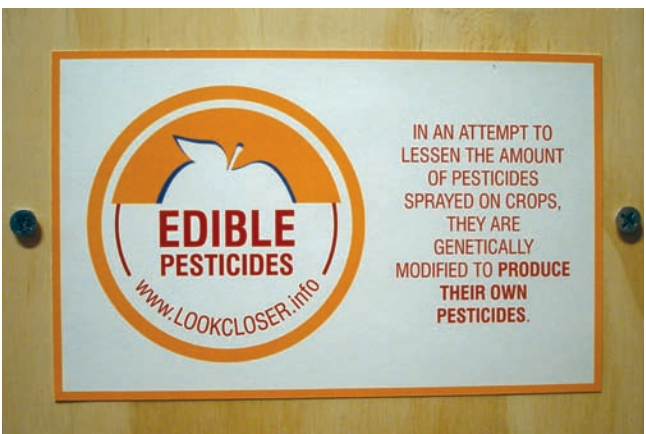
7

EXECUTION

SOLUTION FACT PLAQUES



PROBLEM FACT PLAQUES



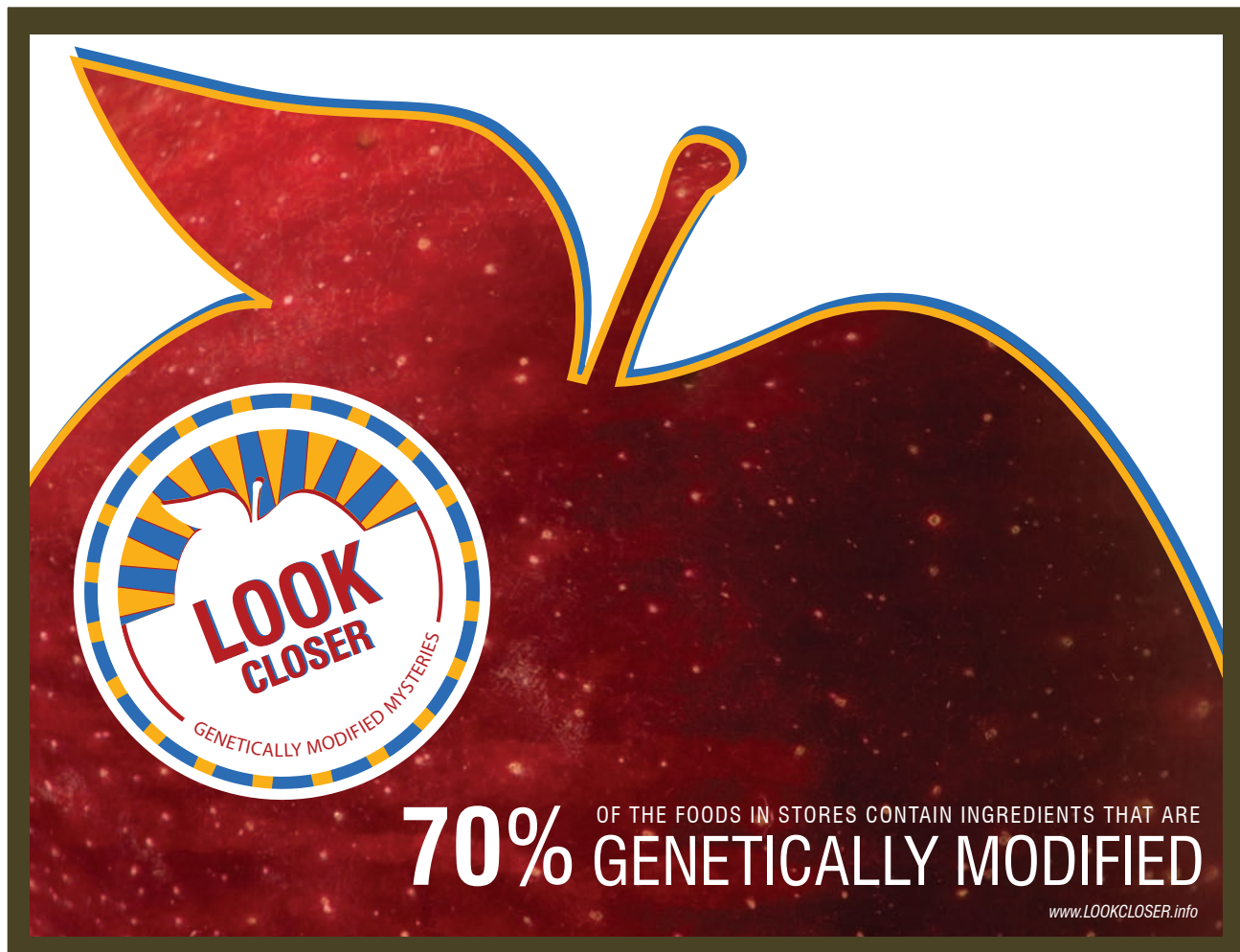
EXECUTION

CAMPAIGN POSTER

1 POSTER INCLUDING FACT ABOUT GM FOODS

BROCHURE

2 SIDE 1 (GM FOODS ARE A PROBLEM) 3 SIDE 2 (GM FOODS ARE A SOLUTION) 4 SIDE 1 FOLDED CLOSED 5 SIDE 1 FOLDED CLOSED





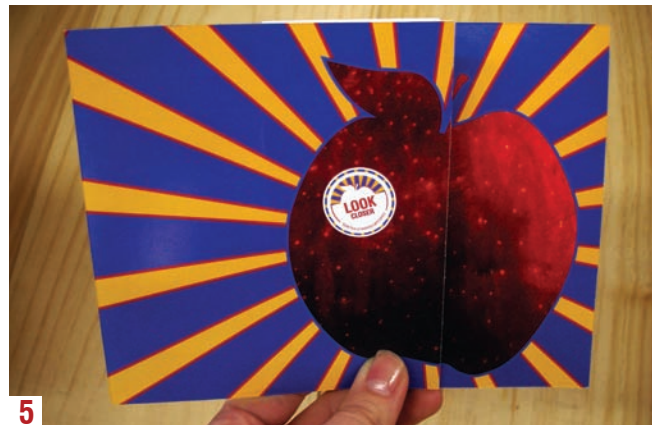
2



3

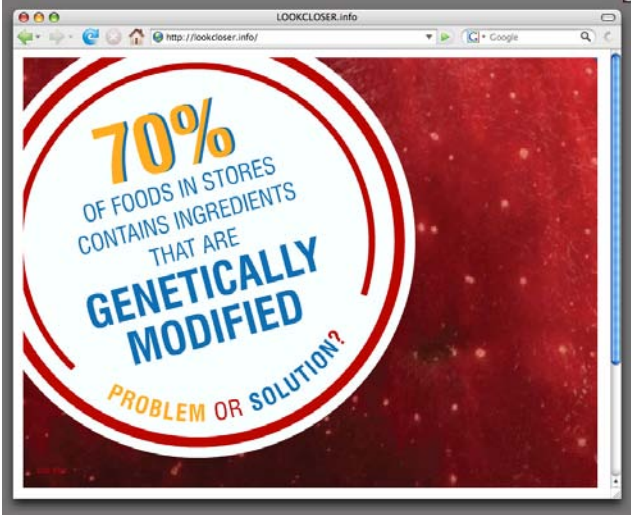
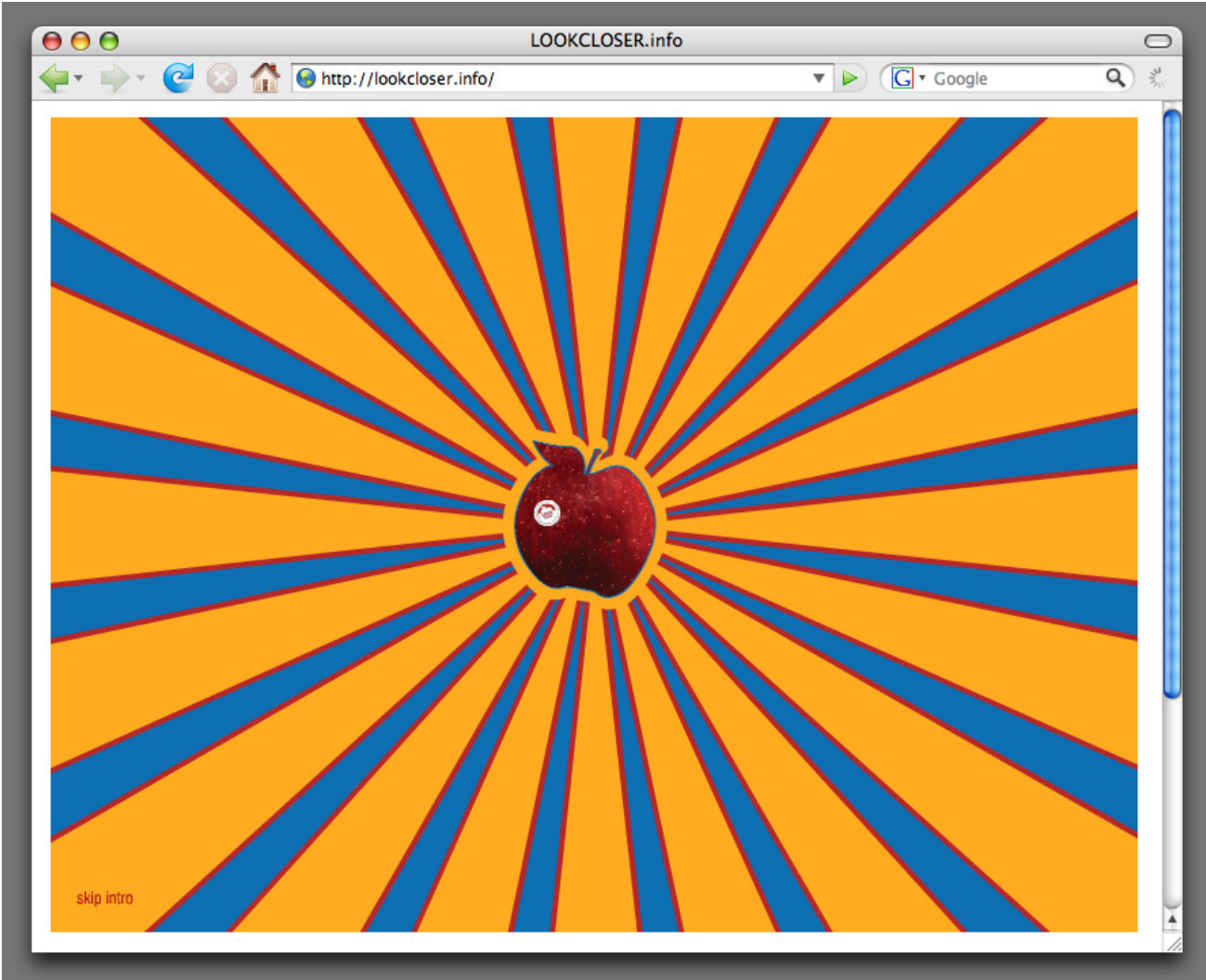


4



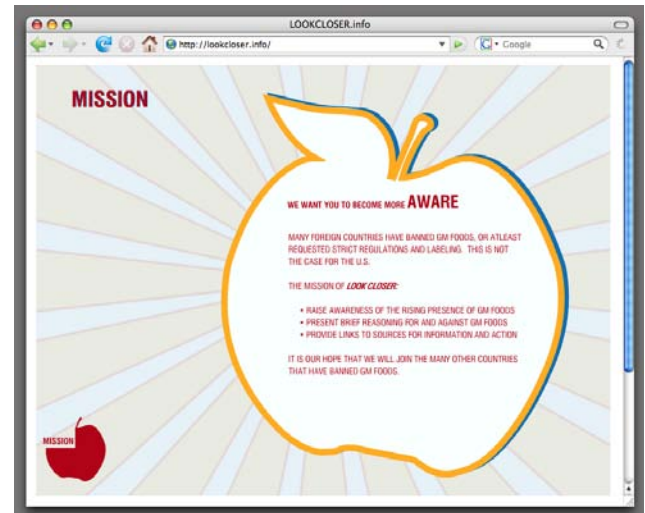
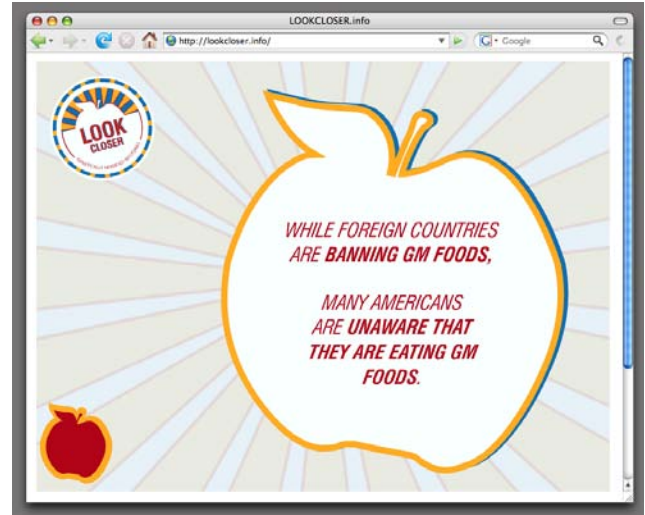
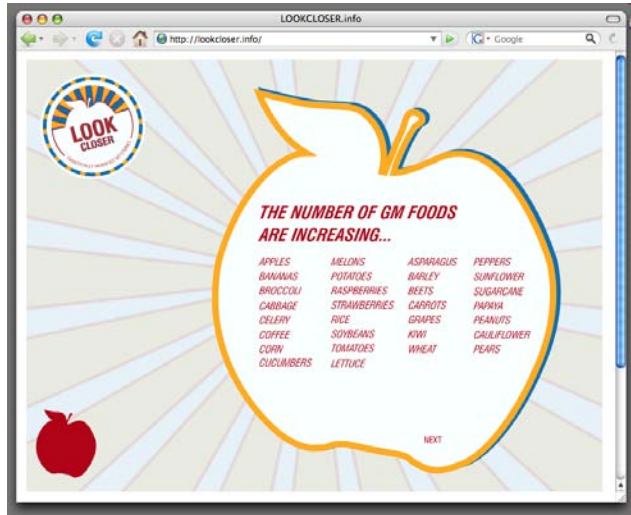
5

EXECUTION



WEB SITE

WWW.LOOKCLOSER.INFO: BEGINNING WITH ANIMATED SPLASH PAGE, FOLLOWED BY INFORMATION, AND 4 SEPARATE PAGES CONTAINING INFO.



EVALUATION

SUCCESS AT MEETING OBJECTIVES

- PRESENTED BOTH PROBLEMS AND SOLUTIONS IN AN UNBIASED MANNER
- KEPT INFORMATION BRIEF AND TO THE POINT
- INCLUDED A WIDE VARIETY OF HIEARCHY IN COMPONENTS
- PUT VIEWER IN THE ENVIRONMENT WITH THE PRODUCE STAND OF APPLES
- IMAGES MADE THE WORDS GENETICALLY MODIFIED MORE PERSONAL
- THE LENTICULAR POSTER WAS WELL CRAFTED
- SOME CONFUSION RESULTED BY ABBREVIATING "GENETICALLY MODIFIED" TO GM
- GM= GENERAL MOTORS INSTEAD OF GENETICALLY MODIFIED
- COULD HAVE PUSHED IT FURTHER
- COULD HAVE "DUMBED IT DOWN" MORE

QUALITY OF DESIGN

- SIMPLE
- CLEAR HIEARCHY
- ACCURATE COLOR CHOICE, ALTHOUGH THE ORANGE COULD HAVE HAD MORE CONTRAST, TO STAND UP AGAINST THE BLUE
- THE INSTALLATION WAS EFFECTIVE IN BEING APPROACHABLE FROM ALL ANGLES.

SUMMARY

- CONVINCING CONSUMERS ABOUT CONTROVERSIAL TOPICS IS TOUGH, ESPECIALLY WHILE TAKING AN UNBIASED STANCE.
- AMERICANS ARE USED TO HAVING THEIR HAND HELD OR BEING TOLD WHAT TO DO, THEREFORE, PRESENTING BOTH SIDES OF A CONTROVERSIAL TOPIC, WITHOUT CONCLUDING WITH AN ANSWER IS VERY OPEN-ENDED.

CAMPAIGN STICKERS

(OPPOSITE PAGE) INSERTED IS A SHEET OF STICKERS TO SPREAD THE WORD ABOUT THE PROBLEMS AND SOLUTIONS OF GENETICALLY MODIFIED FOODS.