

GM Labeling

Joe Guenther

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**Raise your hand
if you have
eaten food
produced with
GM technology.**

**Keep your
hand up if GM
food harmed
your health.**

GM Labels

- **Voluntary?**
- **Mandatory?**



Guenthner Farm
Antigo, WI



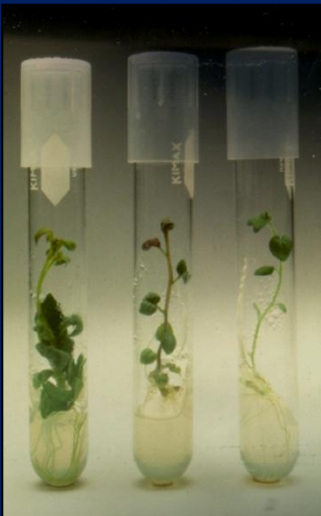
WISCONSIN FOOD PYRAMID

Potato Biotech

- **Calgene 1989**
- **Hybritech 1991**
- **Monsanto 1991-99**
- **Syngenta 2000**
- **Technico 2003-05**
- **Cibus 2012**
- **UI & MSU 1980s-now**



Potato Biotechnology



MONSANTO
Food • Health • Hope™



Newleaf

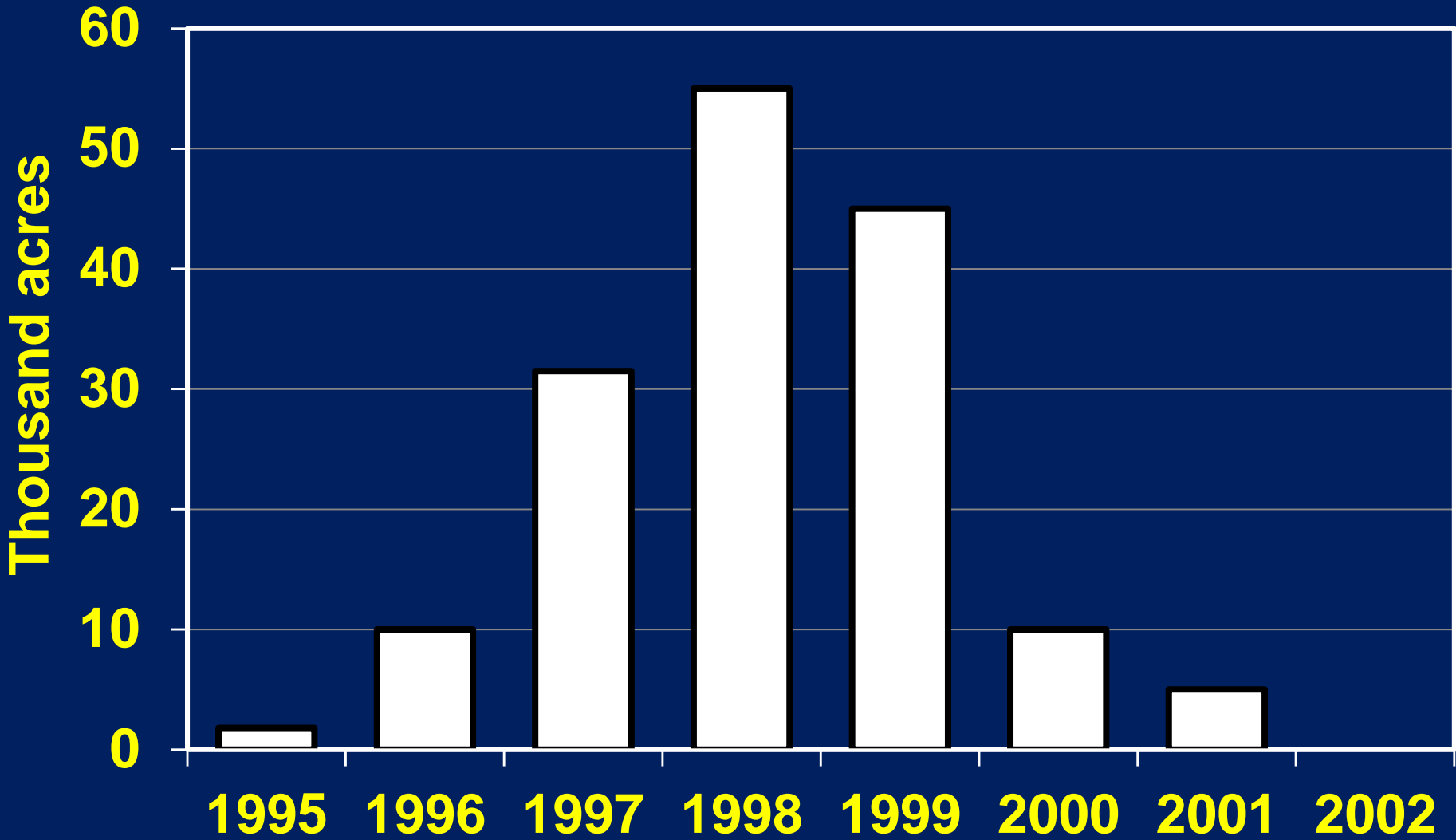


Monsanto



Colorado Potato Beetle

NA GM Potato Plantings





**Market
Failure!**

International

- **MSU**
- **Inst for Int'l Agr**
- **Africa**





ABSP

The Agricultural Biotechnology Support Project



*Building capacity in biotechnology research and policy
in developing countries*

in developing countries



South Africa

MSU Short Course







**Ghana
Mar 2013**

MSU Biosafety

Position: Voluntary Label



Voluntary Label

1. Policy

2. Costs

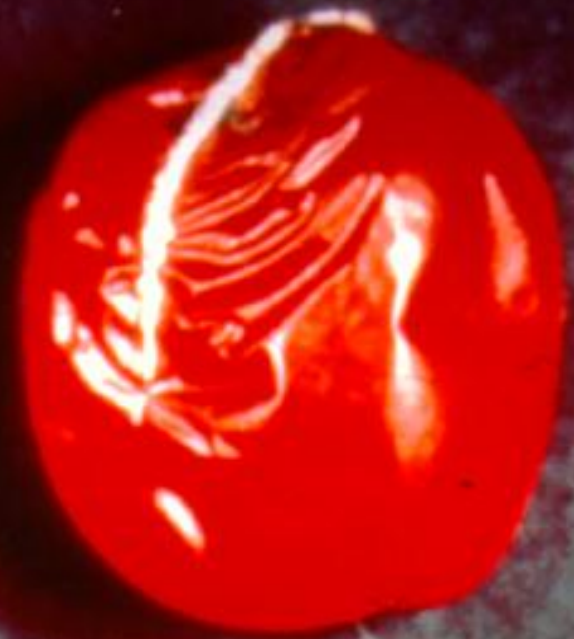
3. Markets

4. Hunger

Flavr Savr Tomatoes

Monsanto

**First GM plant
Product mid 1990s**



BST Milk



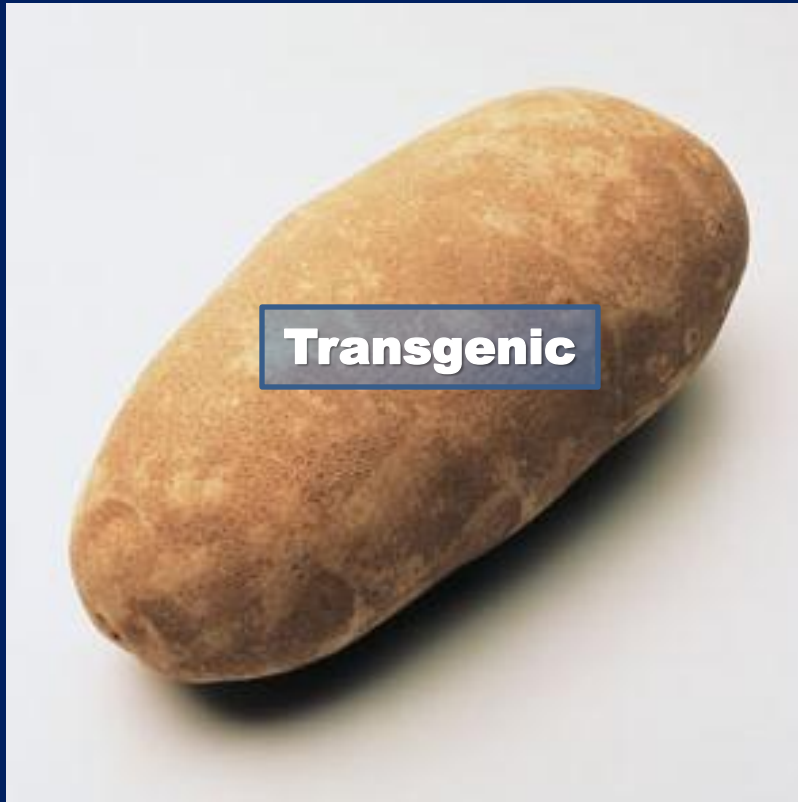
**First GM animal product
mid 1990s**

Policy



- **Substantial equivalence**
- **USDA**
- **EPA**
- **FDA**
- **GM = conventional**
- **Trust government**

Equivalent



=



Position

Voluntary

No Label



=



Shades of Labels

- **Grey: environment**
- **Green: intragenic**
- **Red: transgenic**
- **Red: medical**
- **White: industrial**
- **Blue: sea**

Voluntary Label

1. Policy

2. Costs

3. Markets

4. Hunger

IP systems for GM potatoes

Joe Guenther



Risk Management



Planting

A tractor with a planter is shown in a field, likely used for planting crops. The tractor is dark-colored and is moving from left to right across the frame. The field is a mix of dark soil and lighter-colored plants or mulch. The background shows a hazy sky and distant trees.

- Plant GM last
- No split fields
- Buffer at least 60 ft
- Dedicated GM fields
- Dedicated GM equipment

Other Practices

- Harvest
- Storage
- Waste
- Volunteers

ID Raw Product Costs

	No Label	GM Label
Scenario A	\$8.79	\$15.33
Scenario B	\$8.80	\$14.87
Scenario C	\$9.65	\$14.56

Labeling IP

Increases raw
product costs
50% to 75%

Voluntary Label

1. Policy

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**THIS MILK IS FROM COWS
NOT TREATED WITH rBST**

THE FOOD AND DRUG
ADMINISTRATION HAS
DETERMINED THERE IS NO
SIGNIFICANT DIFFERENCE
BETWEEN MILK FROM
rBST TREATED COWS AND
NON-rBST TREATED COWS

**INGREDIENTS: PASTEURIZED
HOMOGENIZED REDUCED FAT**



GMO FREE ZONE

**Genetically Engineered Food
is not welcome here**

We value our health and our environment

Please protect the planet & your children
from GMO contamination

got hormones?

we don't.



Western family milk is all natural from cows not treated with the growth hormone rBST.



Milk from cows **NOT** treated with **rBST/rBGH***

1%
LOWFAT
MILK

1% MILKFAT • VITAMIN A&D

***NO SIGNIFICANT DIFFERENCE HAS BEEN SHOWN IN MILK FROM COWS TREATED WITH THE ARTIFICIAL GROWTH HORMONE rBST AND NON rBST TREATED COWS.**

Positive Label

- Voluntary
- Market value
- Who pays?
 - org farmers
 - org consumers



Positive Label

- Voluntary
- Market value?
- Who pays?
 - GM-free farmers
 - GM-free consumers



Negative Label

(What if?)

- Mandatory
- Zero value
- Who pays?
 - farmers
 - taxpayers
 - all consumers



Negative Label

(What if?)

- Mandatory
- Zero value
- Who pays?
 - farmers
 - taxpayers
 - all consumers



Mechanic Toolbox



Crescent Wrench

- **Adjustable**
- **Efficient**
- **Monkey Wrench!**
 - **endangered species**
 - **global warming**



**WARNING! This car
was fixed with a
Monkey Wrench**

parody

Voluntary Label

1. Policy

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Farmer to Farmer



Ethiopia











Malawi

Farmer to Farmer



**Some of my neighbors
are so poor they only
eat one meal a day**









Whose turn to eat breakfast?





**Who will feed the
AIDS orphans?**

South Africa

Farmer to Farmer



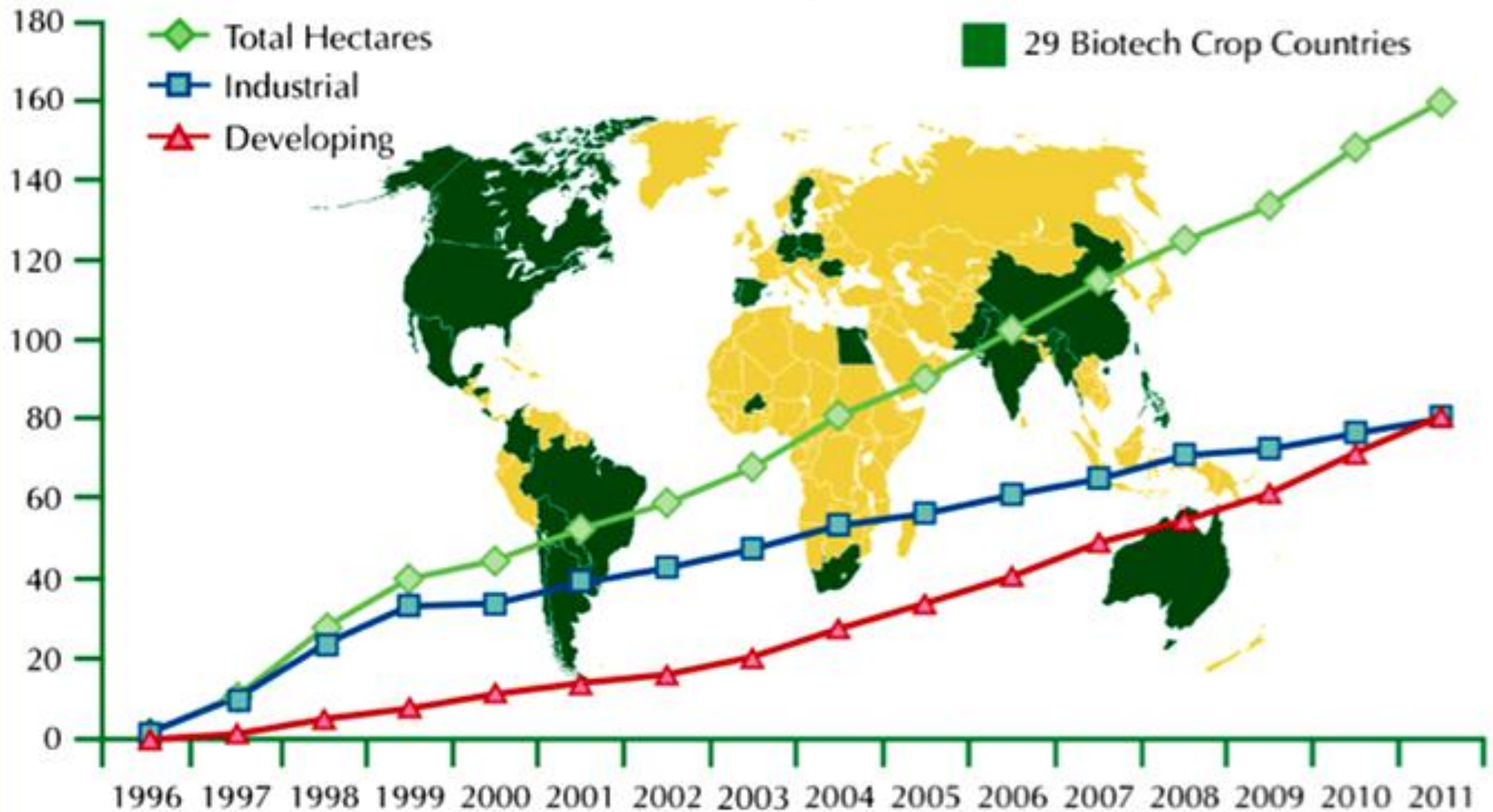
Kenya

Kenya

3 burdens



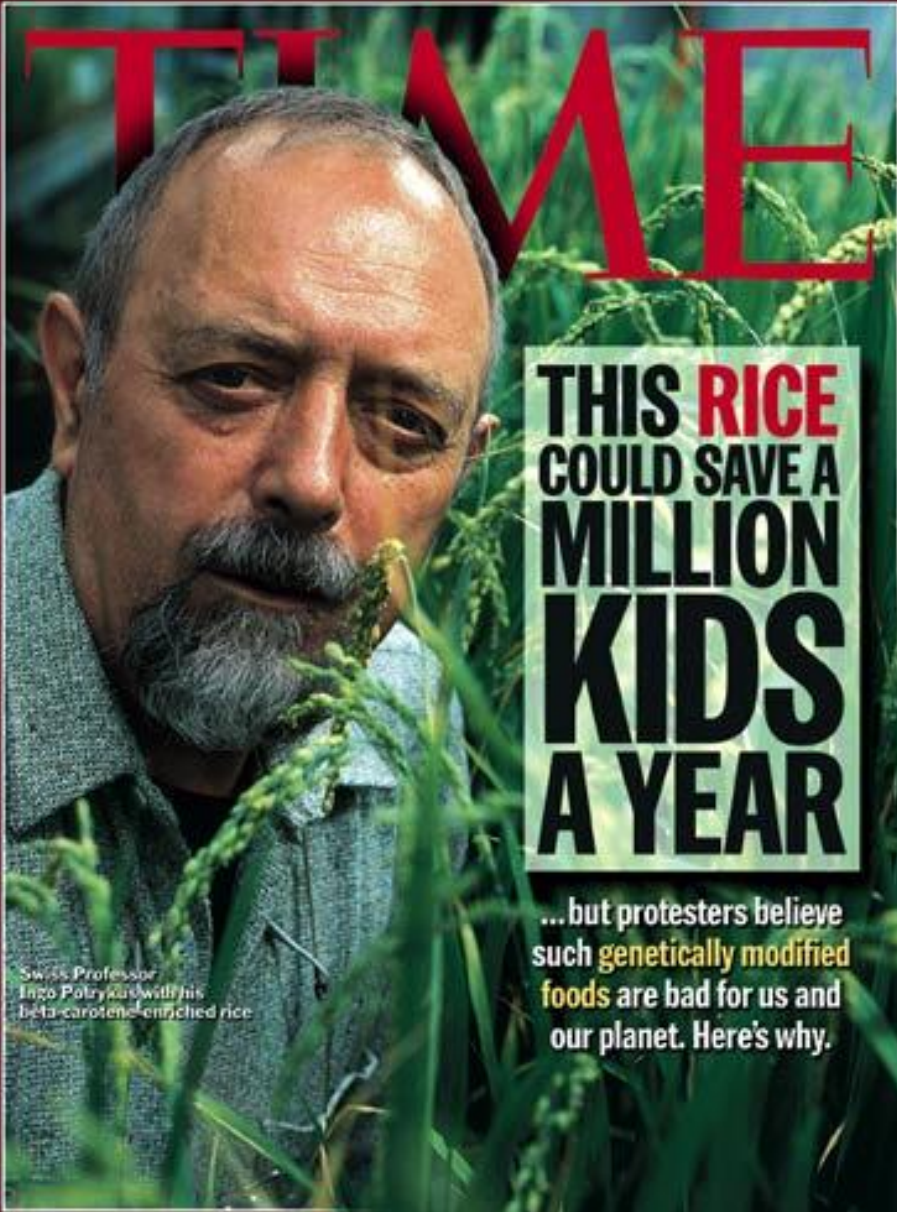
GLOBAL AREA OF BIOTECH CROPS Million Hectares (1996-2011)



A record 16.7 million farmers, in 29 countries, planted 160 million hectares (395 million acres) in 2011, a sustained increase of 8% or 12 million hectares (30 million acres) over 2010.

JULY 21, 2008 \$3.50

www.time.com AOL Keyword: TIME



“If we could get more of this golden rice, which is genetically modified ... out to the developing world, it could save ... people who are malnourished and dying.”
Bill Clinton



Africa's Food Crisis Worsens

**Zimbabwe Pres
Robert Mugabe
Bans GM Food**



GREENPEACE



www.greenpeace.org

North America

A satellite-style map of North America, showing the continent in shades of green and brown, with the surrounding oceans in dark blue. The map is centered on the continent and serves as the background for the text.

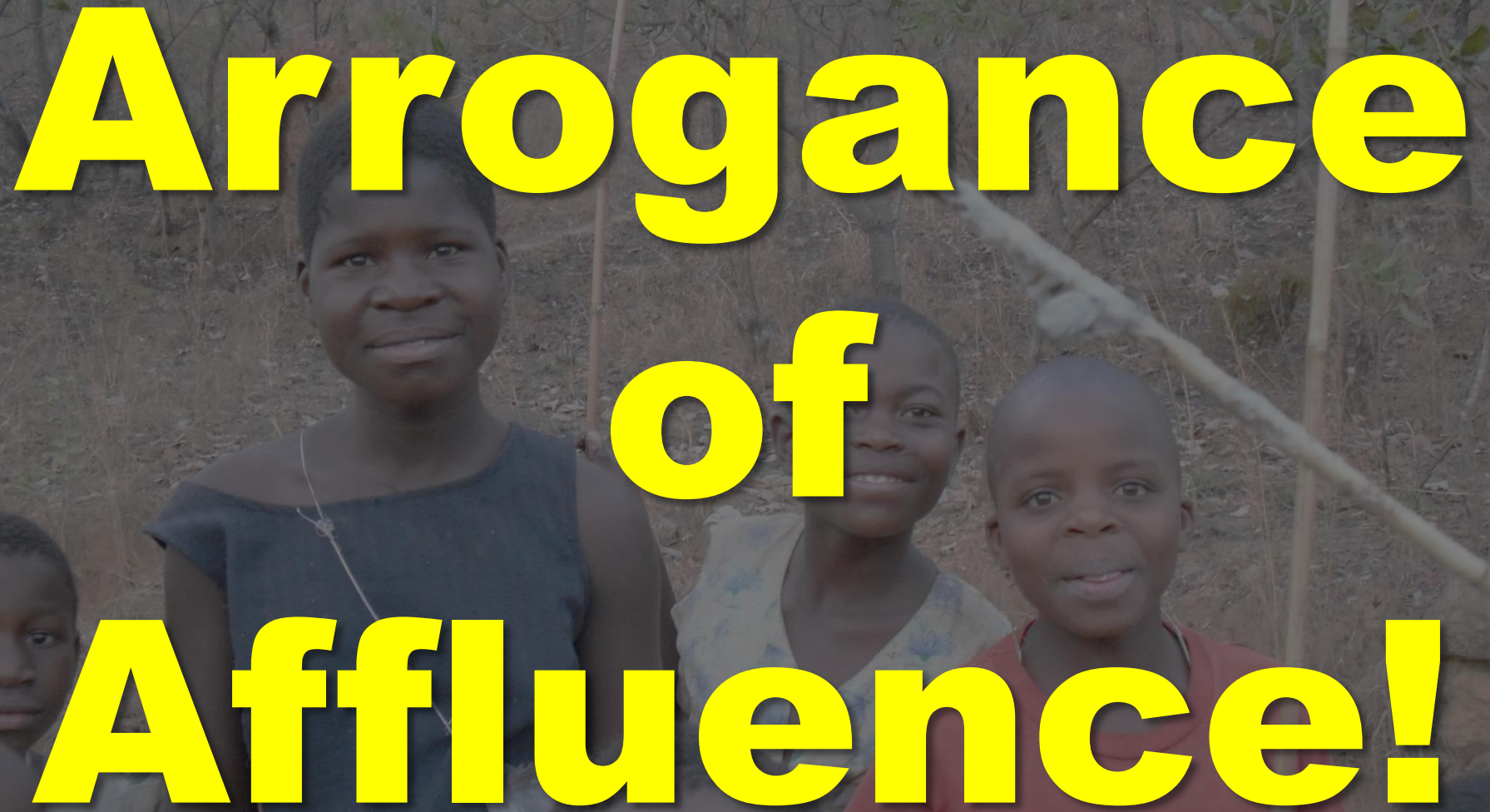
- **Affluence**
- **Abundance**
- **Obesity**

Africa



- **Poverty**
- **Scarcity**
- **Hunger**

**Arrogance
of
Affluence!**

A group of children, including a young girl in a dark blue top and a boy in a red t-shirt with an eagle logo, are shown in a rural, outdoor setting. The text 'Arrogance of Affluence!' is overlaid in large, bold, yellow letters.

Voluntary Label

1. Policy

2. Costs

3. Markets

4. Hunger

Bad Idea



Proposition

37

**Even in
California!**

GM Labels

- **Voluntary?**
- **Mandatory?**

Questions?



GE crops in North America



80% - 85% US **maize**
Of this, 75% double/triple stacked IR and HT (US & Canada 99%)

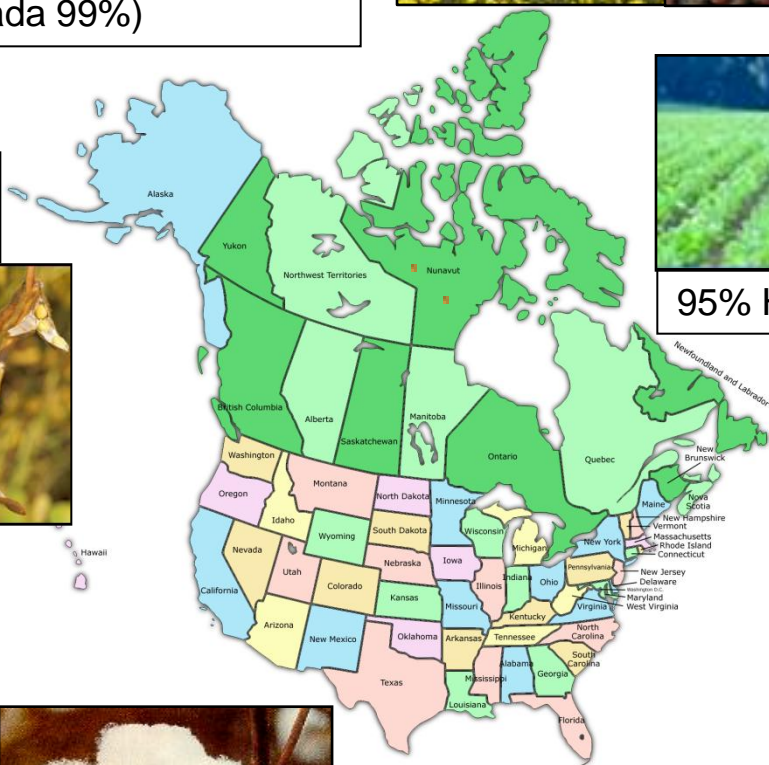


86% - 93% HT
Canola in Canada
(US 95% & Canada 83%)

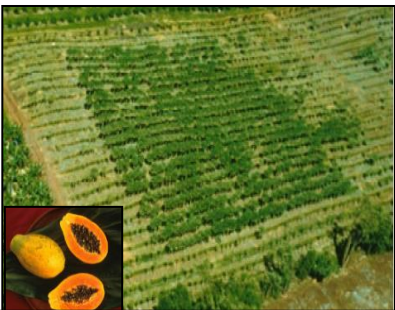
HT **Soybean** (US 92% & Canada 73%)



95% HT Sugar beet in US and Canada



VR Squash



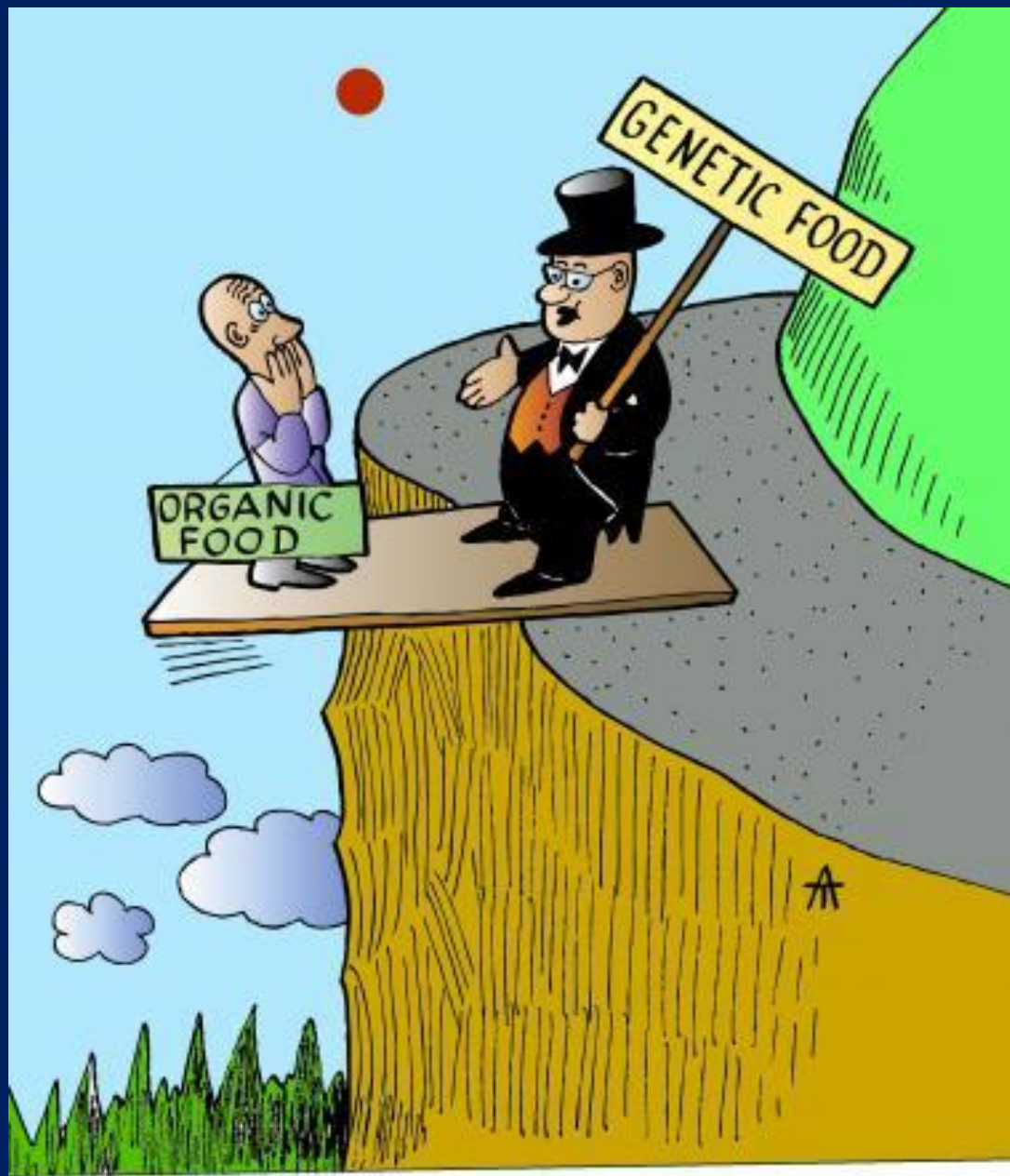
VR Papaya – saves the industry in the US



90% US IR **Cotton**
Of this, 75% double stacked



HT Alfalfa



“ How optimistic are you about the future? ”