

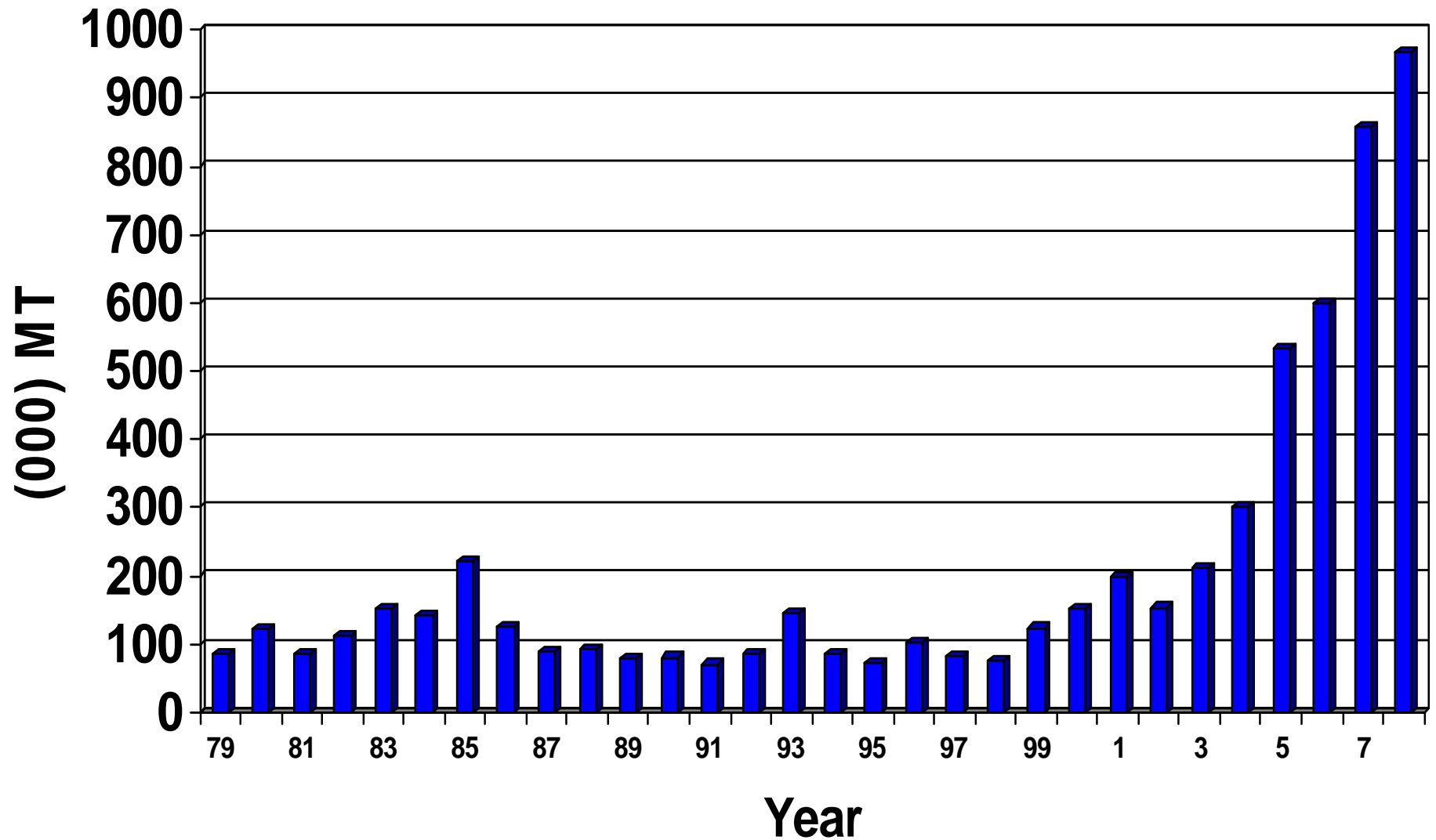


**IOI GROUP**  
Loders Croklaan

# Palm Oil Prospects in the US

Gerald McNeill

# Food Use of palm oil in USA



*USDA stats*

# "THE POISONING OF AMERICA!" Phil Sokolof: 1986



- Heart attack at age 41, blamed on saturated fats including coconut, palm and tallow
- \$15 million advertising campaign
- Joined by American Soybean Association

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# The Fall of Palm Oil

**Palm oil, coconut oil and tallow eliminated from retail foods and fast food chains (McDonalds)**

**Replaced by partially hydrogenated vegetable oil**

**The food label “Nutrition Facts” panel was born – showed content of saturated fat but *not* trans fat**

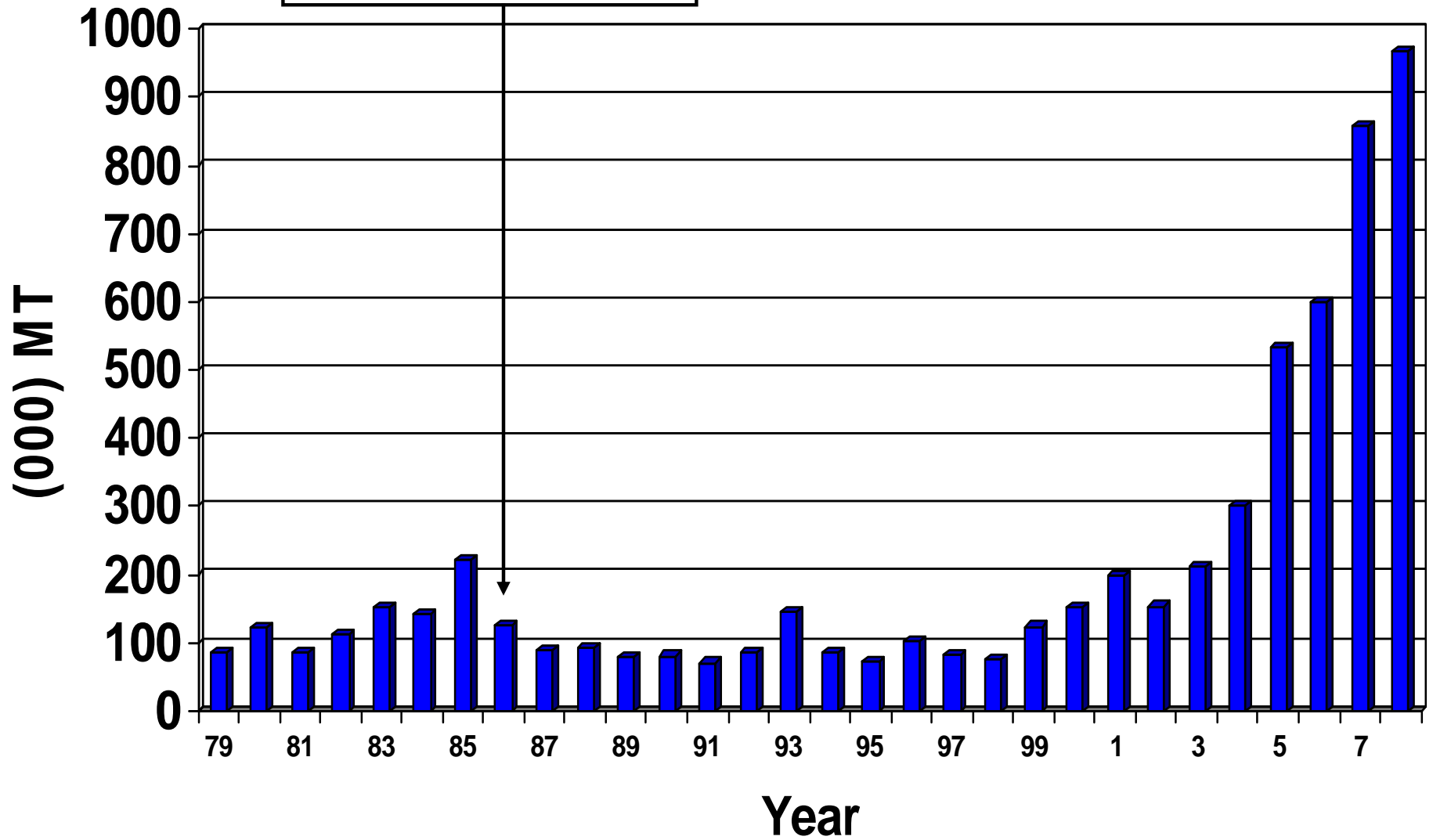
## **Endorsement by CSPI**

**“You're better off choosing products made with hydrogenated soybean, corn, or cottonseed oil than those containing butter, lard, beef fat, or palm, palm kernel, or coconut oil“**  
***Nutrition Action Newsletter, Mar 1988***



*Media Frenzy - “poisonous” Saturated Fat*

*Poisoning of America campaign*



*USDA stats*



# The Rise of Palm Oil

**Landmark nutrition study by Mensink and Katan (1990) – trans fat may be worse than saturated fat because it lowers HDL (good) cholesterol**

**CSPI condemns trans fat**

**Petitions FDA to include trans fat on the nutrition facts panel (1994)**

**2003 – FDA announces trans labeling regulation effective Jan 1 2006**

**Petition FDA to revoke GRAS status of hydrogenated vegetable oil (2004)**



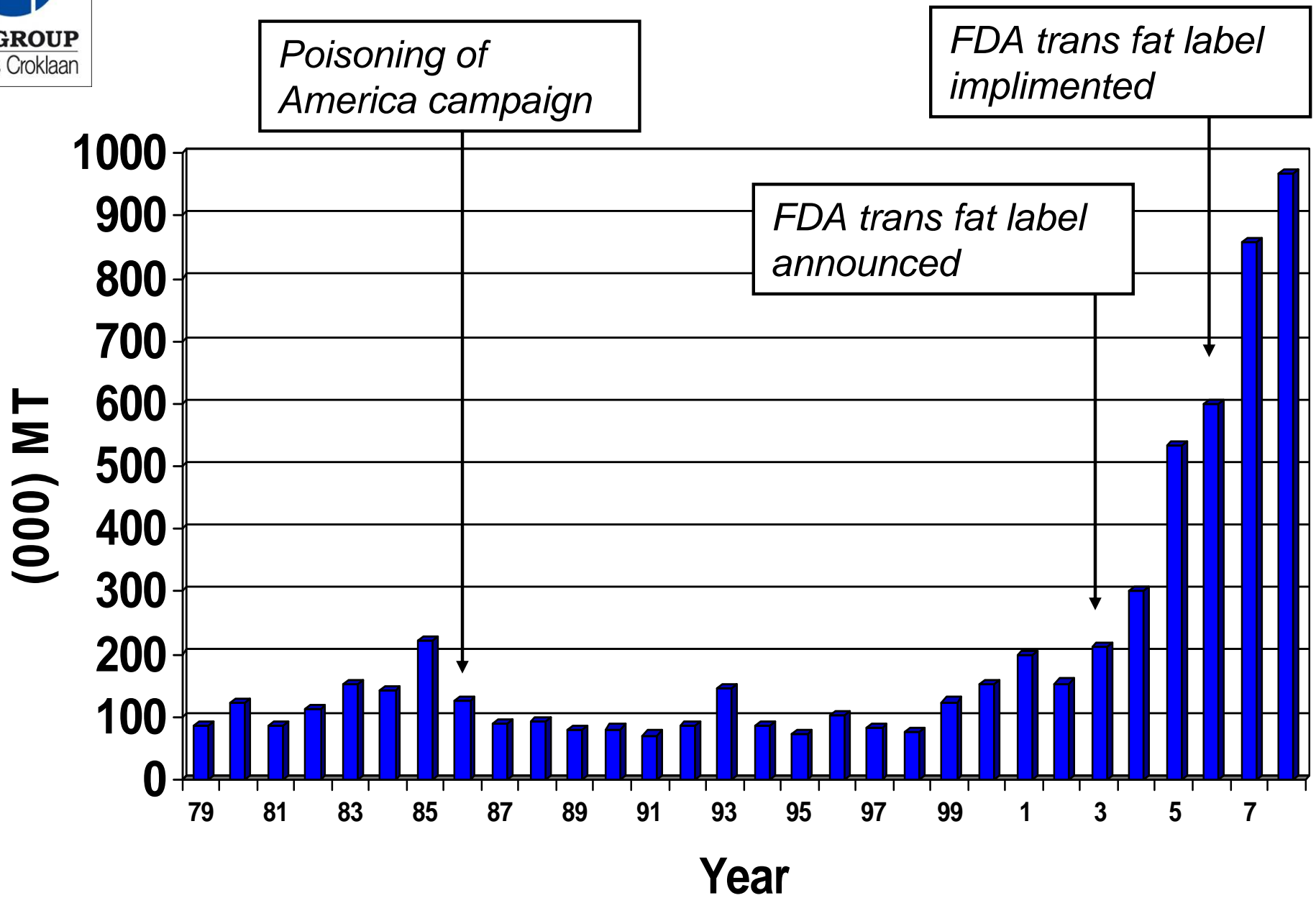
*Media Frenzy - "hidden" Trans Fat*



# The New Nutrition Facts Panel

<b>Nutrition Facts</b>	
Serving Size 3 Cookies (34g)	
Servings per container About 15	
<b>Amount per Serving</b>	
<b>Calories 170</b>	<b>Calories from fat 60</b>
	<b>%Daily Value</b>
<b>Total Fat 7g</b>	<b>11%</b>
Saturated Fat 1.5g	<b>8%</b>
<b>Cholesterol 0mg</b>	<b>0%</b>
<b>Sodium 125mg</b>	<b>5%</b>
<b>Total Carbohydrate 24g</b>	<b>8%</b>
Dietary Fiber Less than 1g	<b>3%</b>
Sugars 12g	
<b>Protein 2g</b>	

INGREDIENTS: ENRICHED FLOUR (WHEAT FLOUR, NIACIN, SUGAR, PARTIALLY HYDROGENATED SOYBEAN OIL, HIGH FRUCTOSE CORN SYRUP, COCOA, CORNSTARCH, SALT, BAKING SODA, SOY LECITHIN, NATURAL AND ARTIFICIAL FLAVOR, WHEAT STARCH, CARAMEL COLOR,



*USDA stats*





# Replacing partially hydrogenated vegetable oil

## *Barriers to palm oil usage*

- **Public perception – “Poisoning of America”**
- **Nutrition – high in saturated fats**
- **Functionality – single natural product**



# Public perception – “Poisoning of America”

## *Consumer Research on Palm Oil*

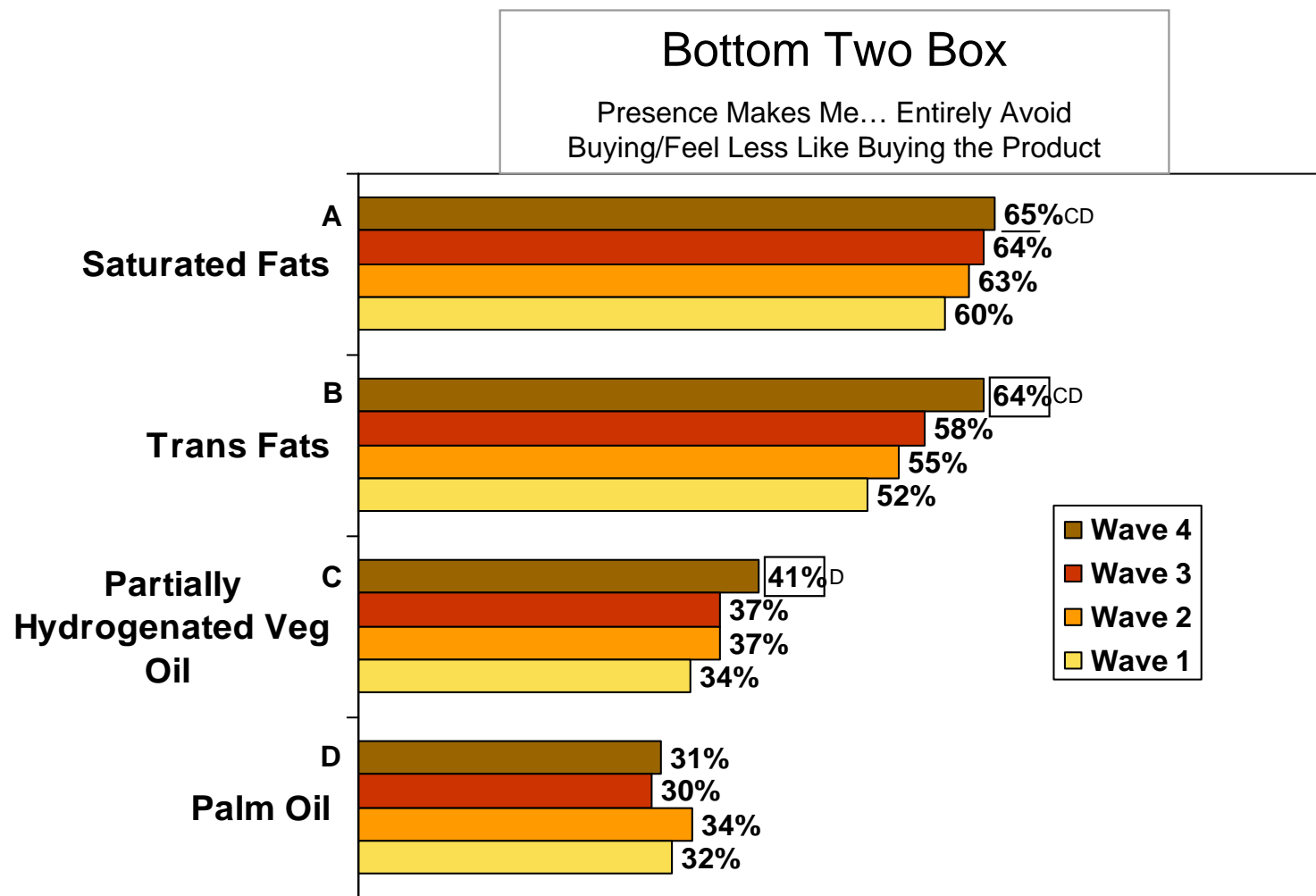
- **Internet wave**
- **ca. 1000 subjects – heads of household**
- **4 surveys over 3 years (2003 – 2006)**



## Ingredients' affect on negative purchase interest

Saturated Fats, Trans Fats and Partially Hydrogenated Vegetable Oil negative purchase levels are significantly higher in 2006 (Wave 4) than 2003 (Wave 1). In 2006, there is no statistical difference between avoiding Trans Fats and Saturated Fats; both are leading turn offs.

Avoidance of Palm Oil has not changed significantly over the years. In 2006, just under a third of consumers report it deters them from purchasing; a significantly lower level of avoidance than for the other 3 ingredients.



Q3. When you find the ingredient (listed below) on a label or package of a food product, would it encourage you to buy that product – or discourage you from buying it? This is, would the presence of that ingredient make you want to buy the product – or would you avoid buying the product that had that ingredient in it? (Select one for each)

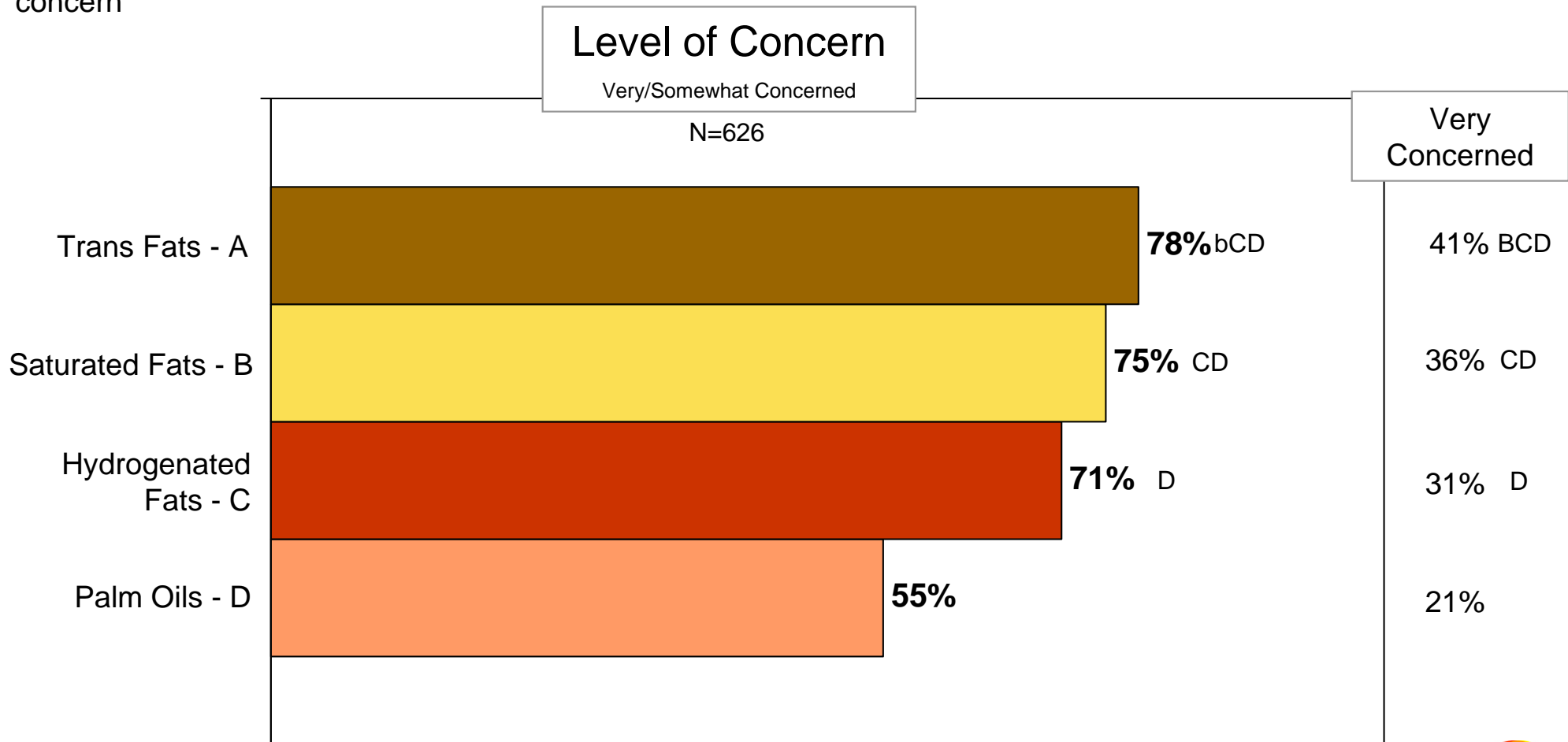
A/B/C = Upper case tested with 95% confidence. a/b/c = Lower case tested with 90% confidence.

Boxes = Wave 4 and Wave 1 tested with 95% confidence. Underline = Wave 4 and Wave 1 tested with 90% confidence.

# Participants educated about sats, trans, Palm oil and Hydro-oil

In full knowledge of what these terms mean – more like the knowledge environment that we can expect when the FDA action goes into place – trans fats take the lead in consumer concerns...although saturated fats and hydrogenated fats are right up there as well

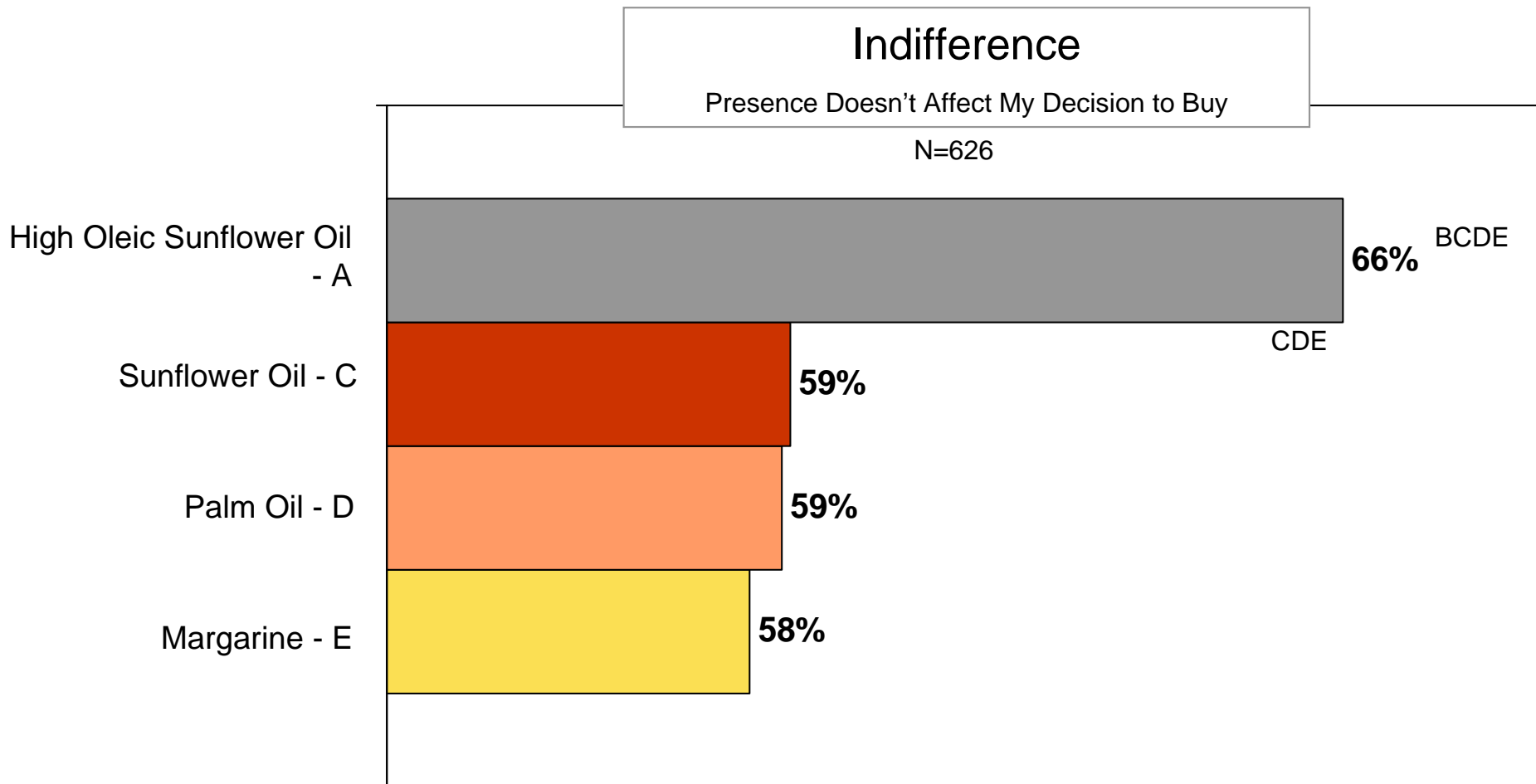
Palm oil, confirming data reported before the survey explanation, still shows much lower levels of consumer concern



Q7. How concerned are you about the effects of each of the following in your diet? Very concerned/Somewhat concerned/Neither concerned nor unconcerned/Not very concerned/ Not at all concerned.

Capital letters reflect stat testing at a 95% confidence interval; lower case letters at a 90% confidence interval.

Q3. When you find the ingredient (listed below) on a label or package of a food product, would it encourage you to buy that product – or discourage you from buying? That is, would the presence of that ingredient make you want to buy the product – or would you avoid buying the product that had that ingredient in it? Definitely want to buy/Somewhat likely to buy/doesn't affect my decision to buy/Feel a bit less like buying/Entirely avoid buying.



Consumers report highest levels of indifference to simple oils including palm oil

# Comparison of Trans Fat Solutions

Palm oil preferred trans solution  
 'Interesterified Soybean Oil' least popular.

A  
Label 1

Nutrition Facts	
Serving Size 3 Cookies (34g)	
Servings per container About 15	
Amount per Serving	
<b>Calories 170</b>	<b>Calories from fat 60</b>
%Daily Value	
Total Fat 7g	11%
Saturated Fat 3.5g	18%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 125mg	5%
Total Carbohydrate 24g	8%
Dietary Fiber Less than 1g	3%
Sugars 12g	
Protein 2g	

**INGREDIENTS:** ENRICHED FLOUR (WHEAT FLOUR, NIACIN, SUGAR, PARTIALLY HYDROGENATED SOYBEAN OIL, HIGH FRUCTOSE CORN SYRUP, COCOA, CORNSTARCH, SALT, BAKING SODA, SOY LECITHIN, NATURAL AND ARTIFICIAL FLAVOR, WHEAT STARCH, CARAMEL COLOR, BUTTERFAT (FROM MILK).

35%

B  
Label 2

Nutrition Facts	
Serving Size 3 Cookies (34g)	
Servings per container About 15	
Amount per Serving	
<b>Calories 170</b>	<b>Calories from fat 60</b>
%Daily Value	
Total Fat 7g	11%
Saturated Fat 3.5g	18%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 125mg	5%
Total Carbohydrate 24g	8%
Dietary Fiber Less than 1g	3%
Sugars 12g	
Protein 2g	

**INGREDIENTS:** ENRICHED FLOUR (WHEAT FLOUR, NIACIN, SUGAR, INTERESTERIFIED SOYBEAN OIL, HIGH FRUCTOSE CORN SYRUP, COCOA, CORNSTARCH, SALT, BAKING SODA, SOY LECITHIN, NATURAL AND ARTIFICIAL FLAVOR, WHEAT STARCH, CARAMEL COLOR, BUTTERFAT (FROM MILK).

22%

C  
Label 3

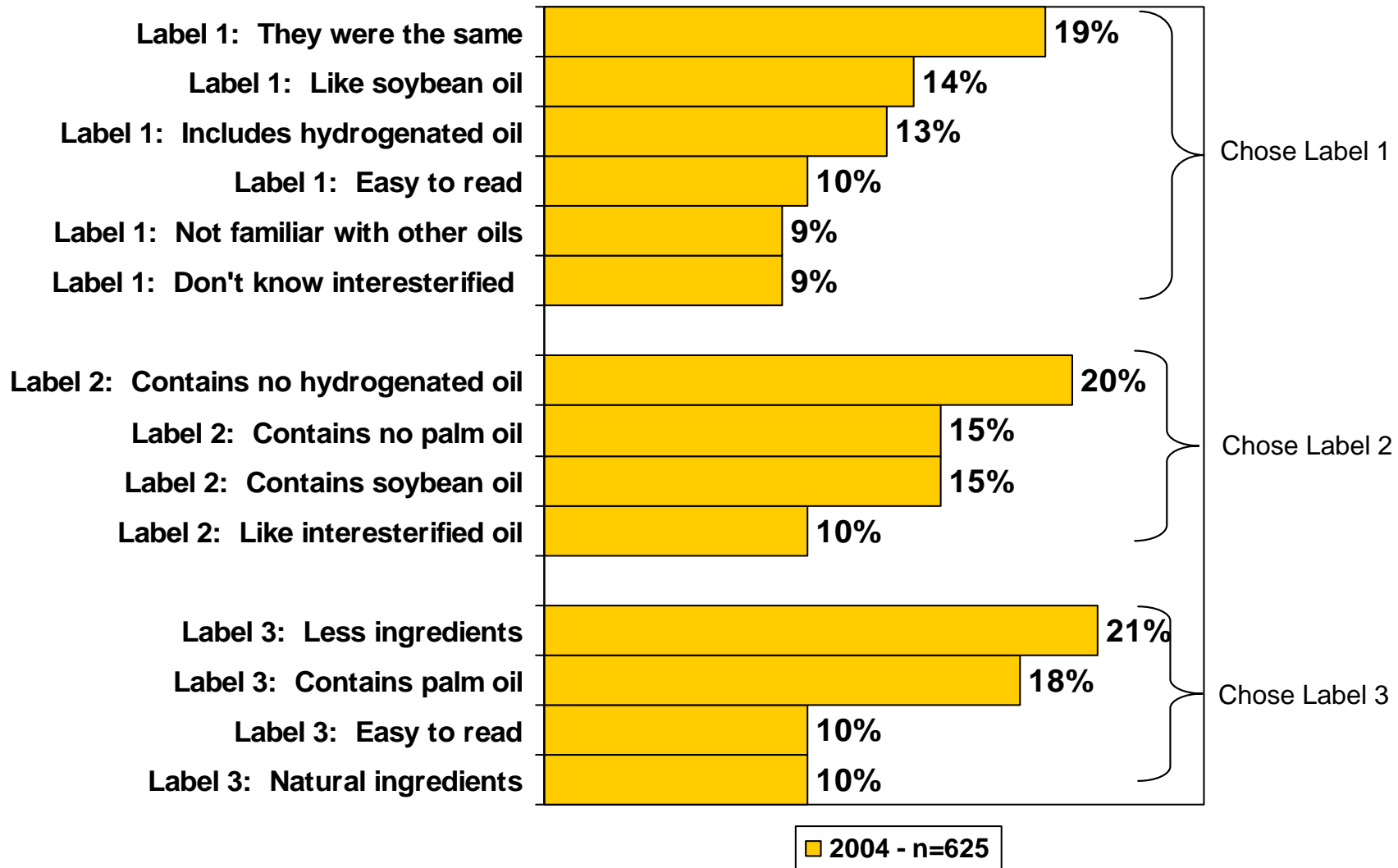
Nutrition Facts	
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Amount per Serving	
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Sodium 125mg	5%
Total Carbohydrate 24g	8%
Dietary Fiber Less than 1g	3%
Sugars 12g	
Protein 2g	

**INGREDIENTS:** ENRICHED FLOUR (WHEAT FLOUR, NIACIN, SUGAR, PALM OIL, HIGH FRUCTOSE CORN SYRUP, COCOA, CORNSTARCH, SALT, BAKING SODA, SOY LECITHIN, NATURAL AND ARTIFICIAL FLAVOR, WHEAT STARCH, CARAMEL COLOR, BUTTERFAT (FROM MILK).

43%

# Top Reasons for Label Choices

Open End Response



Q2. Why did you say that?



# Public perception – “Poisoning of America”

## ***Consumer Research Conclusions***

- **“Poisoning of America” campaign forgotten**
- **Consumers resistant to chemical processing**
- **Palm oil perceived as natural**







## Nutrition – high in saturated fats

- **Letter from 11 senators to head of FDA and Health and Human Services (2004)**

**“We are concerned by reports that some food manufacturers may replace trans fats with other fats and oils, such as palm oil, that are high in saturated fats and thus may be almost as conducive to heart disease as partially hydrogenated oils.”**



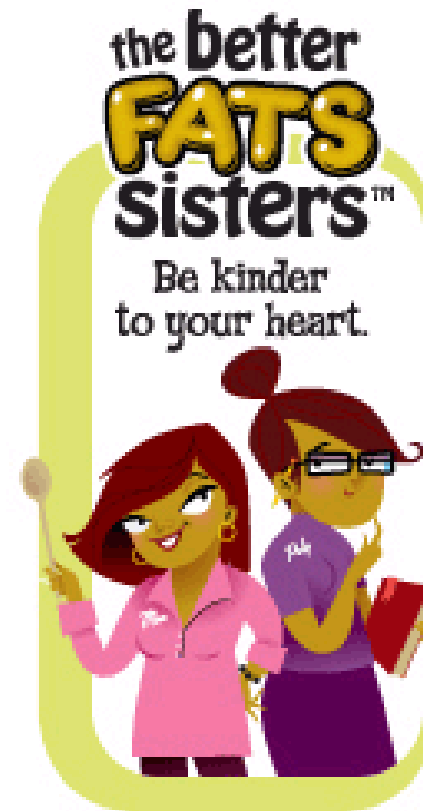
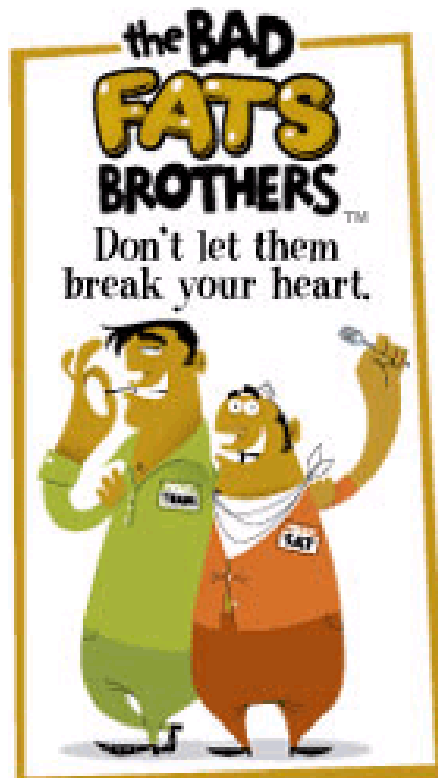
## Nutrition – high in saturated fats

### American Heart Association (AHA)

- **Reduced recommendation for saturated fat intake from 10% of diet to 7% of diet (2005)**
- **AHA Trans Fat Conference (2006): Theme: “How to reduce trans fat in foods without increasing saturated fat”**
- **Created new AHA website dedicated to dietary saturated fat reduction (2007)**

# Nutrition – high in saturated fats

From AHA Website





Nutrition – high in saturated fats

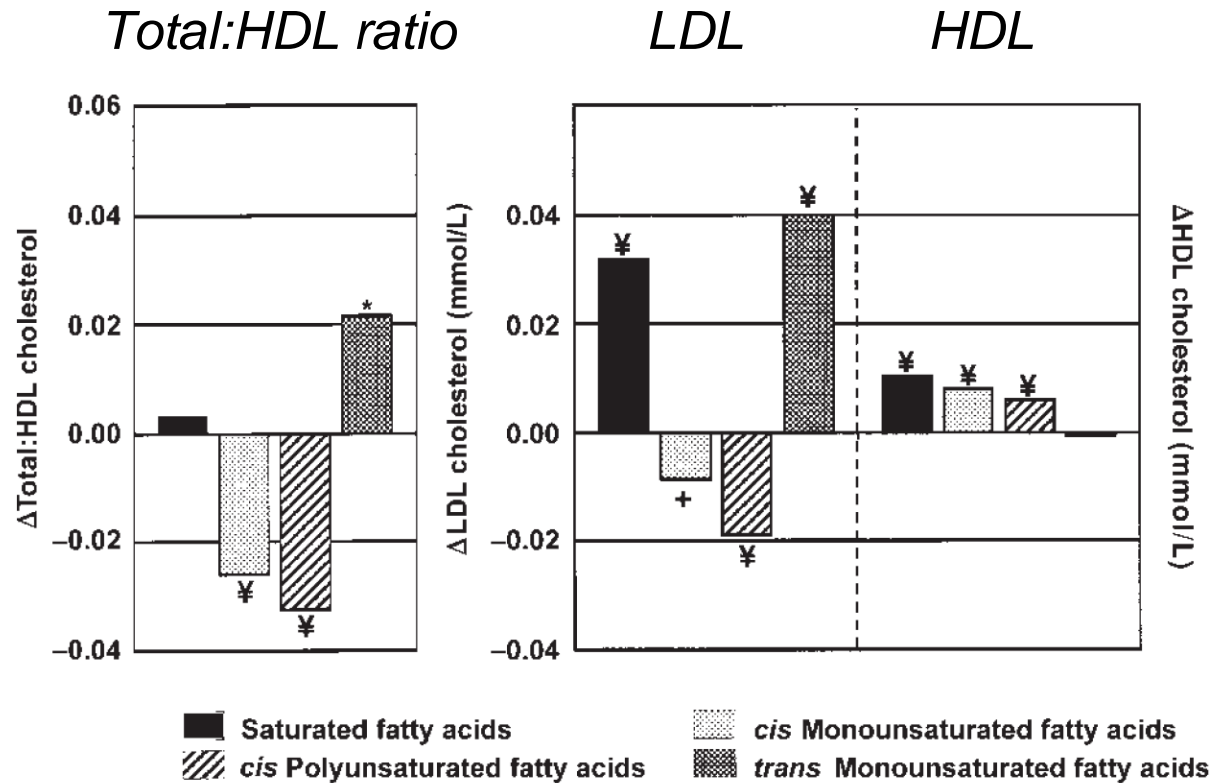
***Program to Promote Recent Scientific Data on Saturated fats***

- **Literature review**
- **Symposia at trade shows**
- **Expert panels**
- **Promote to industry, nutrition community**

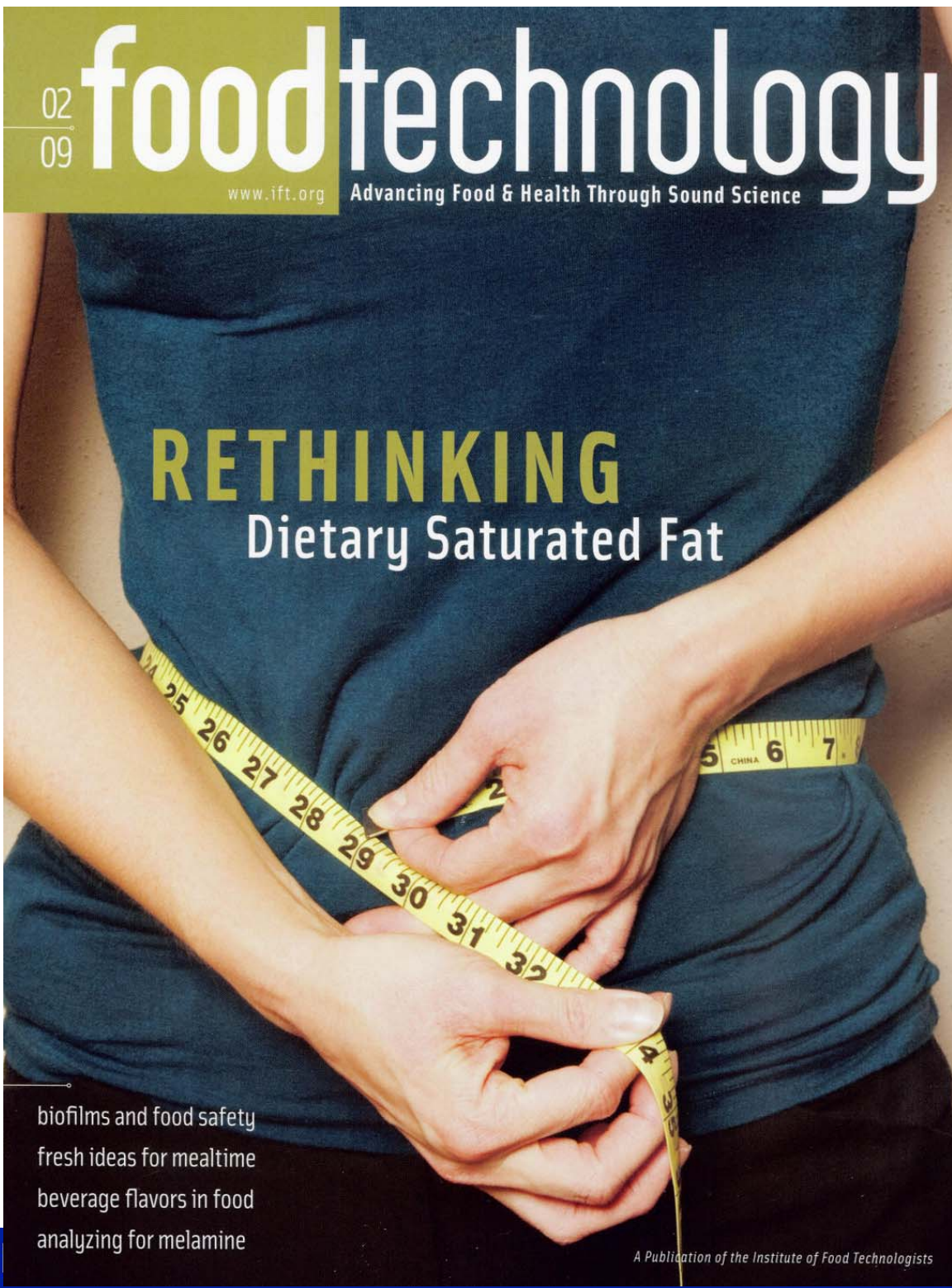
# Saturates and Cholesterol

## (meta-analysis of 60 studies)

Mensink *et al.*, Maastricht University *Am J Clin Nutr* 2003;77:1146–55



*1g of trans fat is equivalent to 7g of saturated fat*



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# RETHINKING

## Dietary Saturated Fat

biofilms and food safety  
fresh ideas for mealtime  
beverage flavors in food  
analyzing for melamine

Loders Croklaan

*A Publication of the Institute of Food Technologists*

The Choice for Palm



## Nutrition – high in saturated fats

### ***Saturated fat conclusions***

- **Growing body of evidence that saturated fat is not as bad as was previously believed**
- **Saturated fat has little effect on risk of heart disease**
- **Trans fat is 7 times worse than saturated fat**
- **Saturated fat is a suitable alternative to trans fat**

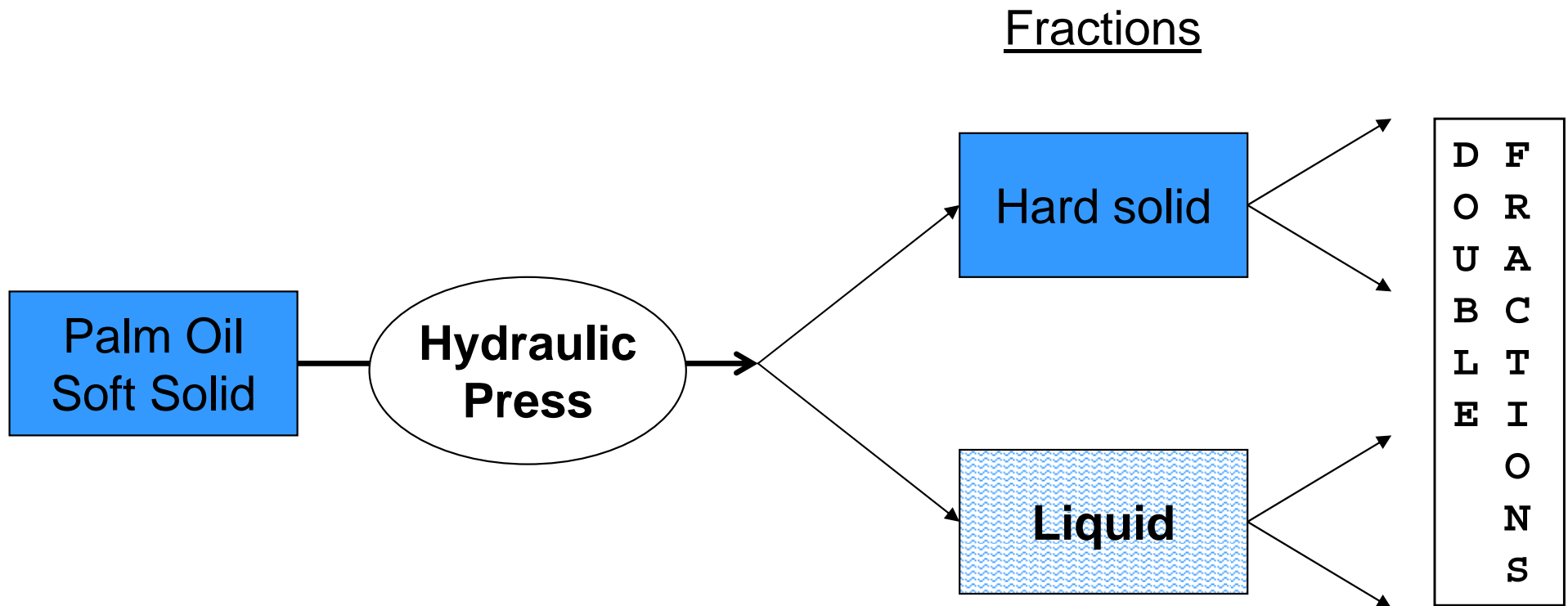


## Functionality – single natural product

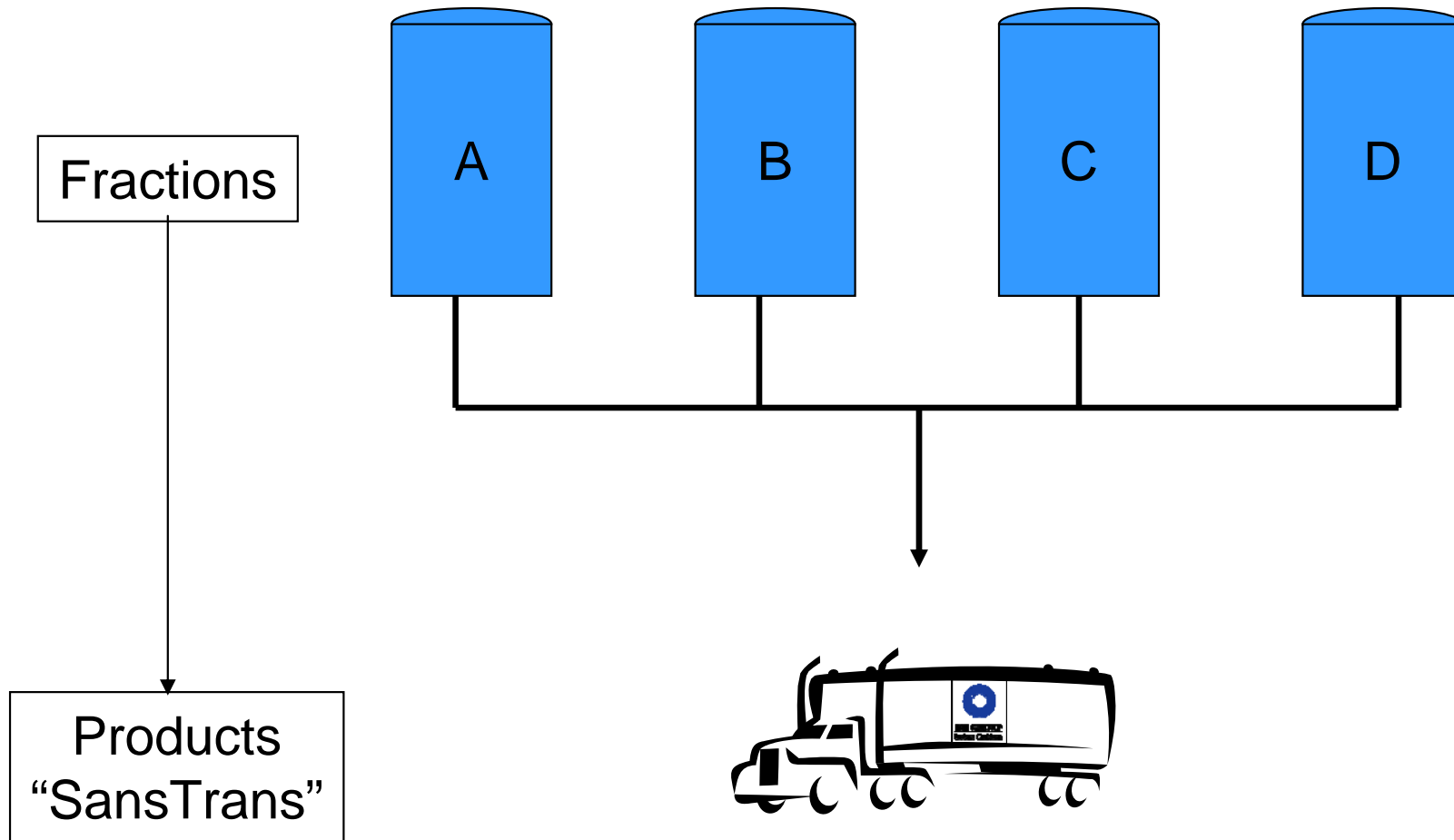
- **Many variants of partially hydrogenated vegetable oil developed**
- **Palm oil is single natural product**
- **Solution – fractionation**



# Palm oil versatility: Fractionation



# Palm oil versatility: Blending





# Reduced Saturated Fat Products

Palm Fractions

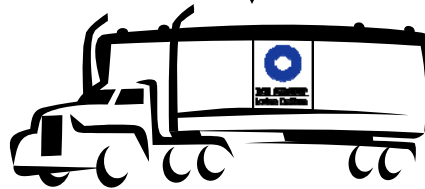


Polyunsaturated  
Oils



High Stability  
Solid Texture

Poor Texture & Stability  
Low saturates



Reduced Saturates  
Good Stability & Texture



## Who is already using Palm Oil ?....

<u>Manufacturer</u>	<u>Brand</u>	<u>Product</u>
ConAgra	Orville Redenbacher	Microwave Popcorn
Flowers Bakeries	Various	Doughnuts and Honey Buns
General Mills	Grands	Refrigerated Biscuits
George Weston	Entenmanns	Cookies, Cakes
Kellogg	Cheezit	Crackers
Kraft	Oreo	Cookies
McKee	Little Debbie	Snack Cakes
Peperidge Farm	Various	Cookies, Cakes
Ralcorp	Various	Cookies
SaraLee	Various	Pies, Cakes
Schwans	Edwards	Pies, Cakes
Toms Foods	Various	Pies, Cakes
Utz	Various	Crackers
Whitewave	International Delight	Creamer





# Palm Oil USA Future Prospects

- **Food Service - trans fat ban in restaurants in many cities and State of California**





## Palm Oil USA

- **Food Service - trans fat ban in restaurants in many cities and State of California**
- **National ban on trans fat? CSPI and American Medical Association**
- **Supermarket Chains – Walmart eliminates trans fat**
- **Economic Downturn – less food service; more prepared foods; lower cost**

***Palm Oil will Remain an Integral Part of US Food Supply***