Major Issues Affecting the U.S. Fats and Oils Industry

Presented by
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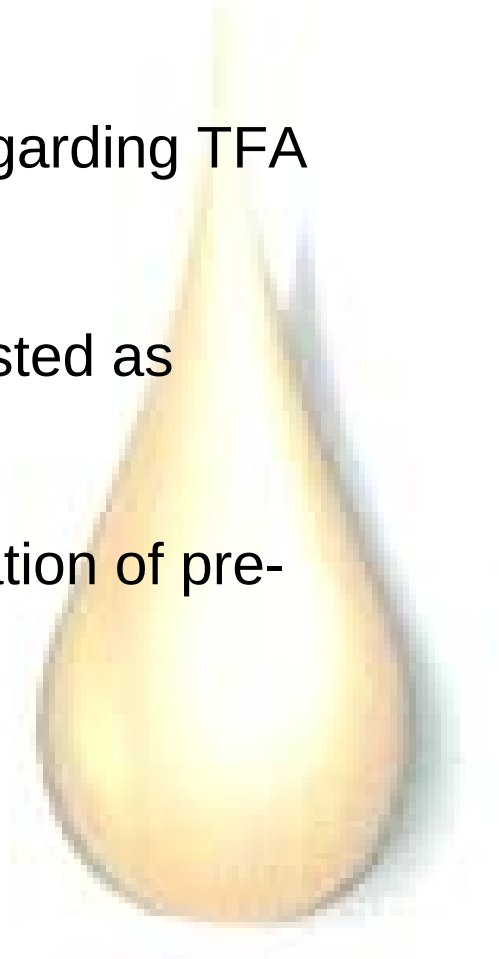
at the

5th Global Oils and Fats Business Forum
Las Vegas, NV
September 13-14, 2007

TRANS FAT

- FDA Regulation (effective 1-1-06)
  - Requires packaged foods to be labeled regarding TFA content
  - Less than 0.5 g TFA per serving may be listed as "0" grams per serving
  - Regulation stimulated significant reformulation of pre-packaged foods



TRANS FAT

(Continued)

- New York City Health Code
  - Requires spreads, cooking oils and shortenings used for spreads and frying in restaurants to contain less than 0.5 g TFA per serving (effective July 1, 2007)
  - Oils and shortenings used for deep frying yeast dough and cake batter and all other foods containing trans fats are affected by July 1, 2008
  - Code has caused reformulation of many foods served in restaurants across U.S. due to restaurant chains needing to have consistency in foods served in multiple states
  - 20 states have proposed TFA regulations
  - 25 municipalities have proposed ordinances or health codes
  - Over 25 school districts have proposed standards affecting TFA levels in ingredients or foods served

CITIES/COUNTIES HAVING PASSED REGULATORY INITIATIVES ON TFA

New York City, NY

Albany, NY

Brookline, MA

Philadelphia, PA

Montgomery County, MD

King County, WA (Seattle area)

TRANS FAT ALTERNATIVES

- Naturally stable oils or fats
- Trait-enhanced vegetable oils
- Blends of more stable oils with less stable oils
- Interesterification of blends
- Modification of processing methods
- Jells, emulsifiers and other texture-building agents

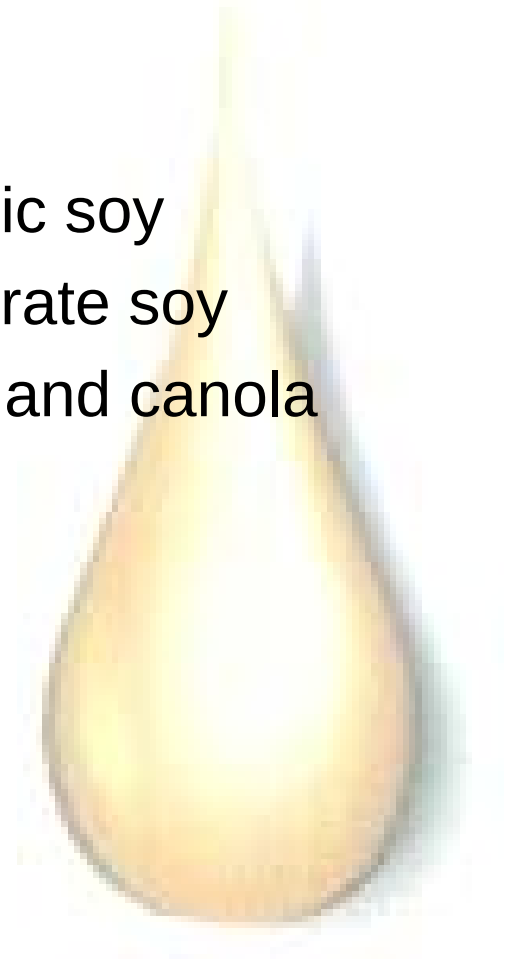
NATURALLY STABLE OILS

- Palm
- Palm kernel
- Coconut
- Cottonseed
- Corn

- Peanut
- Rice Bran
- High oleic sunflower
- Low linolenic soy
- High oleic canola

TRAIT-ENHANCED OILSEED VARIETIES AVAILABILITY

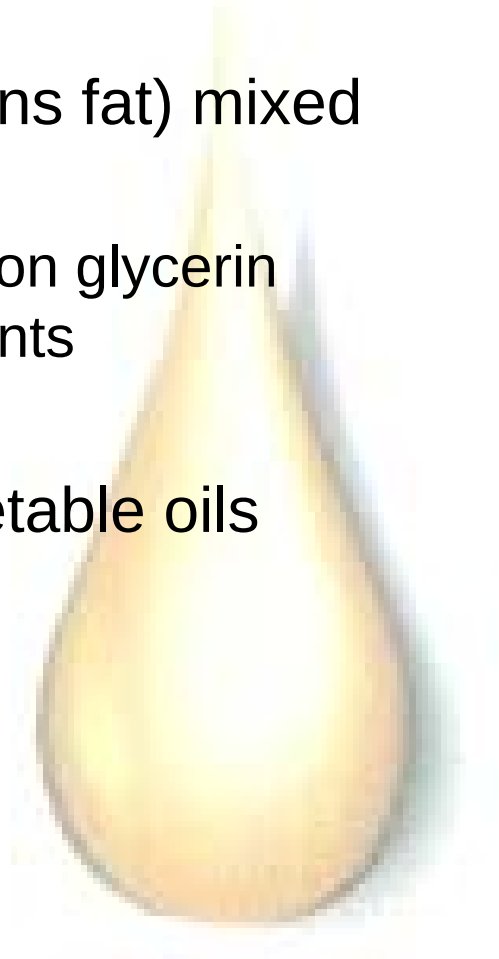
Current	Future
Low linolenic soy	Mid and high oleic soy
High oleic canola	Low lin, low saturate soy
	High stearic soy and canola



BLENDS OF MORE STABLE OILS WITH LESS STABLE OILS

- 15% fully hydrogenated hardstock (no trans fat) mixed with 85% unhydrogenated liquid oil.
  - Interesterification to rearrange fatty acids on glycerin molecules in blends to customize melt points

- Blend of palm oil fractions and other vegetable oils (canola, soy, cottonseed)

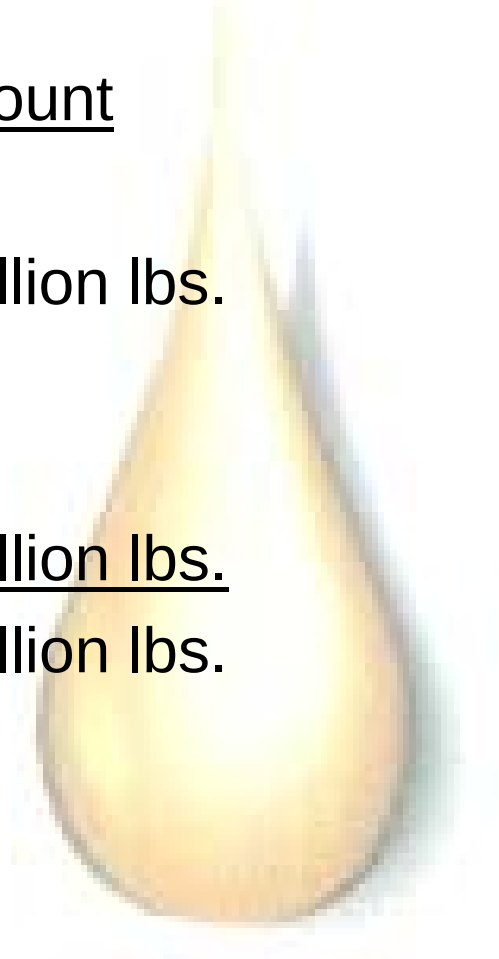


MODIFICATION OF HYDROGENATION PROCESS TO REDUCE TRANS FAT FORMATION

- Time length of process
- Temperature level
- Pressure
- Catalyst (platinum)

PARTIALLY HYDROGENATED OILS IN U.S. SUBJECT TO REPLACEMENT

Application	Amount
Food Service	
(deep frying, baking, spray)	4 billion lbs.
Food Processor	
(baking, snack foods)	4 billion lbs.
	8 billion lbs.



LOW LINOLENIC SOY ACREAGE/ OIL PRODUCTION ESTIMATES (2006)

Seed Developer	Acres	Oil (M lbs.)
Pioneer (Treus™)	200,000	100
Monsanto (Vistive™)	500,000	250
Iowa State (Asoyia™)	40,000	20
		370

LOW LINOLENIC SOY ACREAGE/ OIL PRODUCTION ESTIMATES (2007)

Seed Developer	Acres	Oil (M lbs.)
Pioneer (Treus™)	250,000	125
Monsanto (Vistive™)	1,500,000	750
Iowa State (Asoyia™)	50,000	25
		900

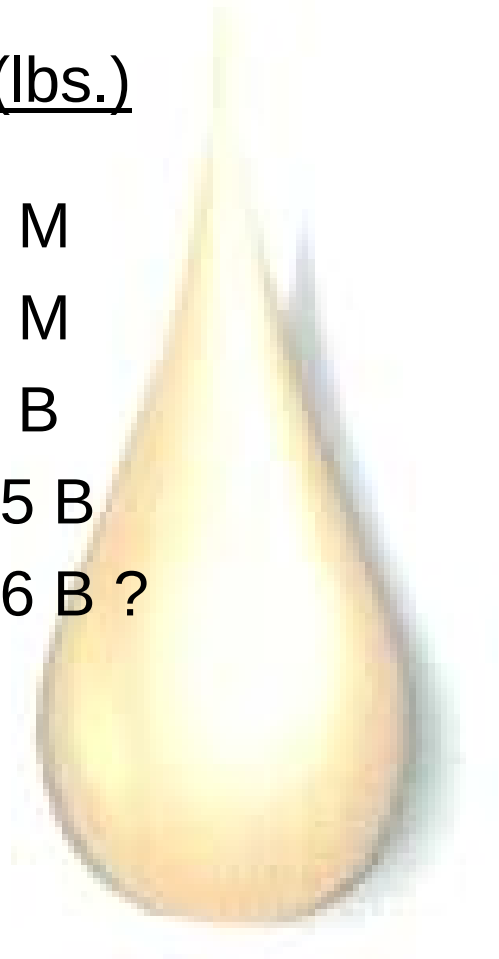
LOW LINOLEIC SOY ACREAGE/ OIL PRODUCTION ESTIMATES (2008)

- Target:* 3 million acres soybeans (all varieties)
  1.5 billion pounds of oil

* Estimates subject to demand and level of contractual agreements with soybean farmers.

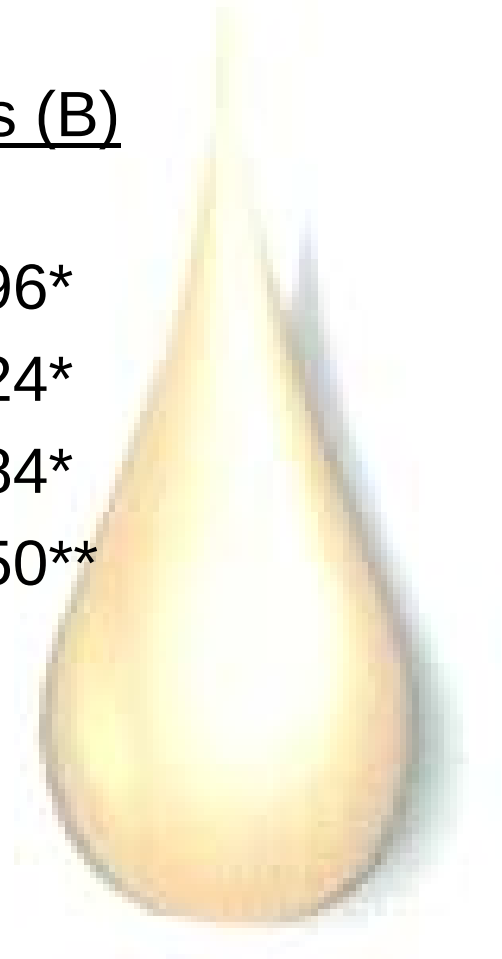
CANADIAN HIGH OLEIC CANOLA ACREAGE/ OIL PRODUCTION ESTIMATES

	Acres (M)	Oil (lbs.)
2004	1.0	624 M
2005	1.5	936 M
2006	1.6	1.0 B
2007	2.0	1.25 B
2008	2.5 ?	1.56 B ?



U. S. PALM OIL IMPORTS

Year (Calendar)	Metric Tons	Pounds (B)
2004	271,185	0.596*
2005	420,209	0.924*
2006	629,455	1.384*
2007	750,000 ?	1.650**

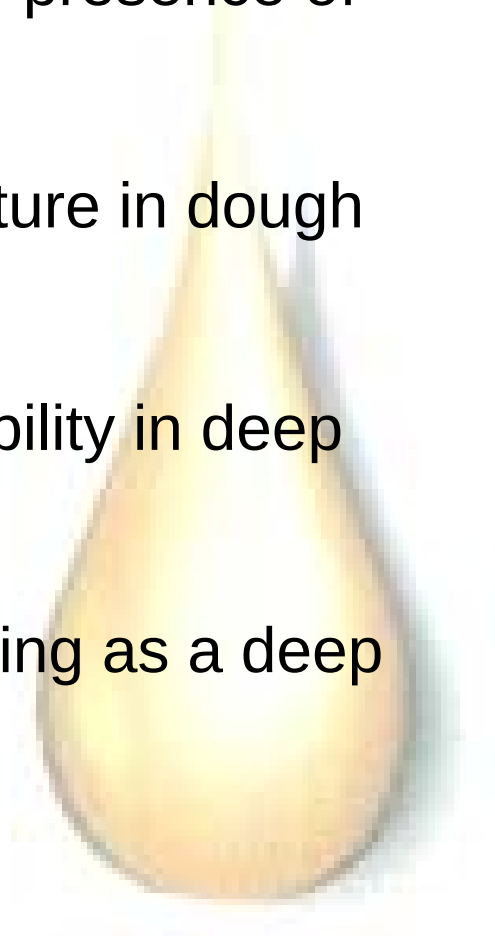


* 10% non-edible use (e.g., oleochemical)

** 30% non-edible use (e.g., oleochemical, biodiesel)

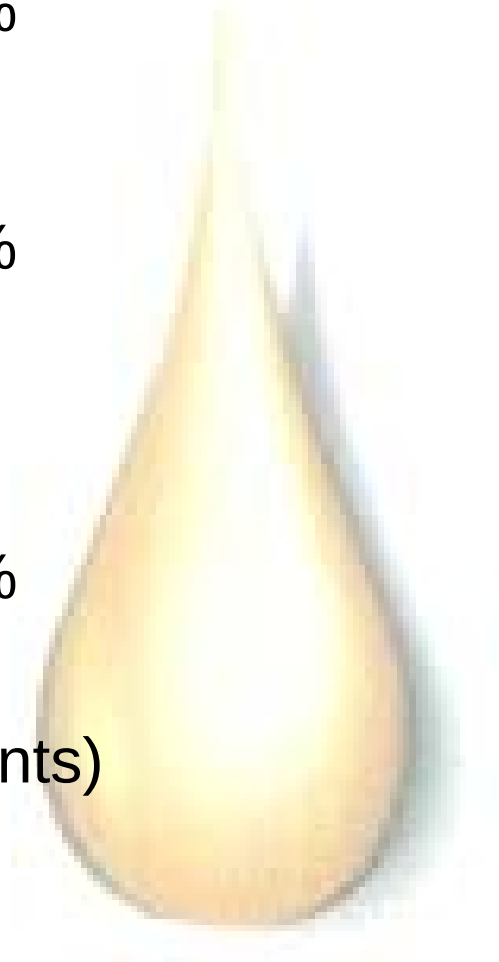
PALM OIL AS A TRANS FAT ALTERNATIVE

- Smooth texture in shortening facilitated by presence of small B' crystals in palm Oil
- High solid fat content provides for firm texture in dough and crispy texture in cookies
- High resistance to oxidation facilitates stability in deep frying applications
- Low propensity for foaming and polymerizing as a deep frying oil
- May be blended with other vegetable oils



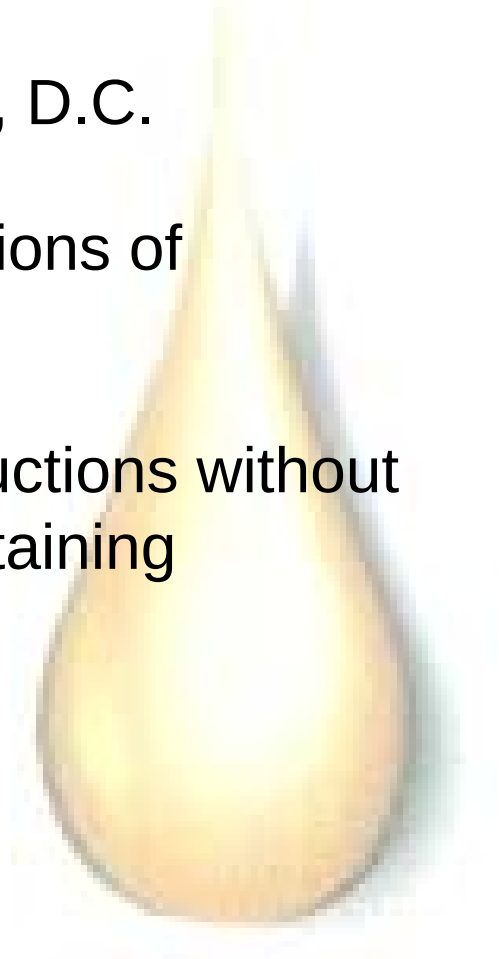
MAJOR FOOD USES OF PALM OIL IN THE U.S.

- Bakery shortening 55-65%
  (cookies, pies, cakes)
- Frying shortening 20-25%
  (donuts, french fried
  potatoes, ramen noodles)
- Specialty products 10-15%
  (icings, emulsified shortening,
  confections, cocoa butter equivalents)
- Margarines and spreads 5-10%



AMERICAN HEART ASSOCIATION (AHA) TRANS FAT CONFERENCE

- Held October 10-11, 2006, in Washington, D.C.
- OBJECTIVE: Discuss status and implications of reducing TFA in U.S. diet
- PRIMARY CONCERN: Achieve TFA reductions without increasing saturated fat intake while maintaining functionality and consumer acceptance



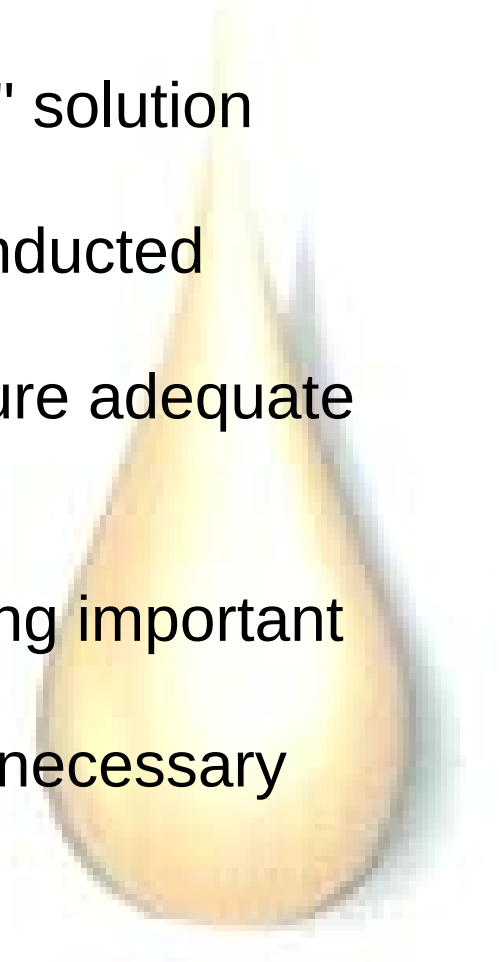
AHA TRANS FAT CONFERENCE

(Continued)

- Attended by industry, academia, government, consumers
- Prsentations made on TFA history in health, fatty acid technology, TFA alternatives, and food applications

CONSIDERATIONS OF FOOD MANUFACTURERS IN CHOOSING TFA ALTERNATIVES

- Awareness that there is no single "drop in" solution
- Extensive consumer testing should be conducted
- Supply chain should be positioned to ensure adequate supplies
- Transportation, storage, packaging, labeling important
- Compliance with regulatory requirements necessary



"KEY FINDINGS" OF CONFERENCE

- TFA reduction is a complex issue

  (Considerations: health effects, availability, research and development investments, supply chain management, operational modifications, consumer acceptance, cost)

- Food reformulation should not increase saturate content

- Food supply changes can produce public health improvements

- Effective communications throughout supply chain necessary

AHA "FACE THE FACTS" CAMPAIGN

(Launched 4-10-07)

www.AmericanHeart.org/FaceTheFats

OBJECTIVE:

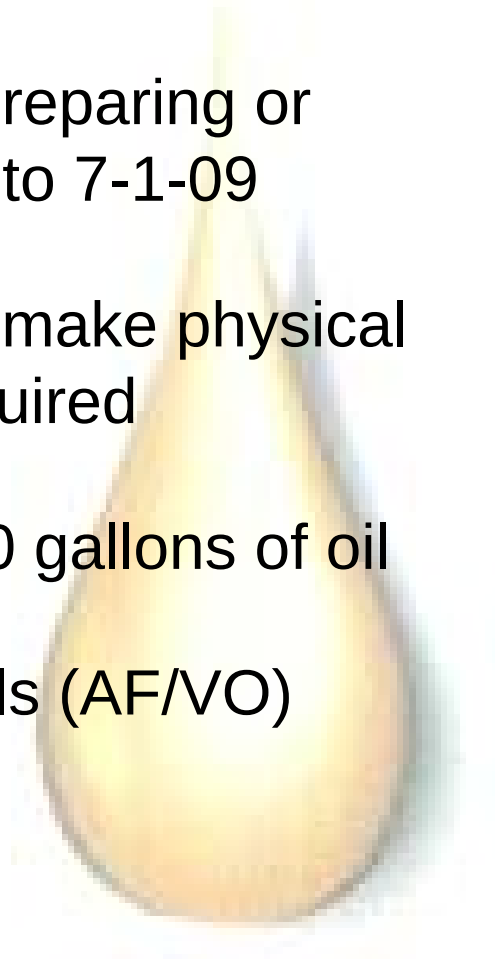
- Educate consumers to reduce TFA in their diet while avoiding increased saturated fat intake

WEBSITE FEATURES:

- Bad Fats Brothers ("Sat" and "Trans")
  - Mnemonic characters personify "bad fats" in diet
- My Fats Translator
  - Personalized calculator to assess individual diets
- Celebrity chef Alton Brown recipes
  - Display of recipes low in trans and saturated fats

EPA's SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) RULE

- SPCC rule amended to extend dates for preparing or amending and implementing SPCC plans to 7-1-09
- Extension allows facility operators time to make physical changes and upgrade SPCC plans as required
- Applies to all facilities storing at least 1320 gallons of oil
- Proposed rule for animal fats/vegetable oils (AF/VO) anticipated by Fall, 2007



ISSUES ANTICIPATED TO BE ADDRESSED IN SPECIFIC AF/VO RULE

- Integrity testing of storage tanks
- Secondary containment of oil spills
- Definition of oil "mixtures"
- Maximum oil storage thresholds

DEPARTMENT OF HOMELAND SECURITY (DHS) CHEMICAL SECURITY RULE

- DHS issued interim final rule on 4-2-07
- Rule establishes risk-based performance standards for security of chemical facilities
- Requires vulnerability assessments and site security plans
- DHS evaluating "chemicals of interest:"
  (e.g., chlorine, ammonia, propane, hydrogen)

COCONUTS AS ALLERGENIC TREE NUTS

- FDA updated food allergen guidance section of website in late 2006 to include 19 examples of allergenic "tree nuts"
- Coconuts and shea nuts included in list
- The Food Allergen Labeling and Consumer Protection Act (FALCPA) requires the labeling of 8 major food allergens (e.g., tree nuts, soya, peanuts)
- Food industry coalition requested removal of 10 of the 19 "tree nuts" from the example list (including coconut and shea nuts)

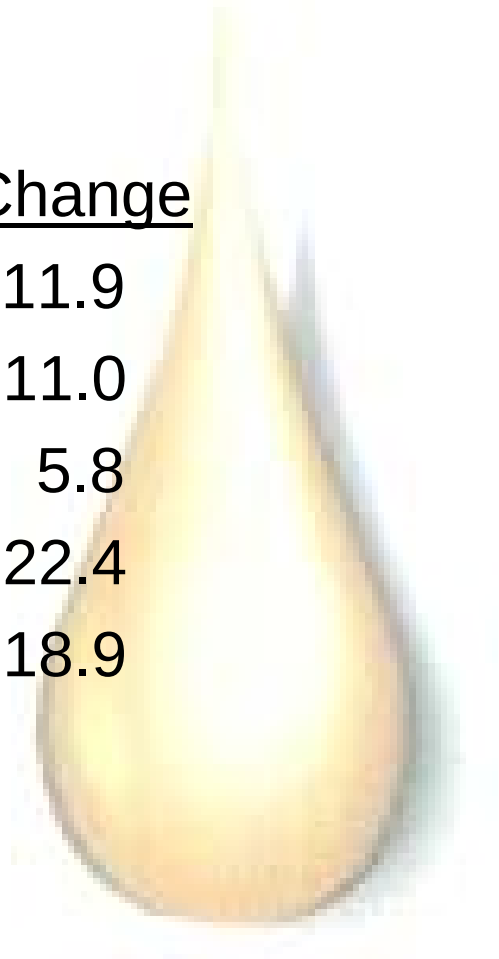
RENEWABLE FUEL EFFECTS ON EDIBLE OIL PRODUCTION

- Renewable Fuels Policy Act of 2005 requires 7.5 billion gallons of renewable fuel production by 2012
- Senate energy bill requires 36 billion gallons by 2022
- Federal mandate + federal tax credits + state mandaates + other incentives have stimulated significant renewable fuels production
- Ethanol capacity within 18 months = >12 billion gallons
- Biodiesel capacity within 18 months = 1 billion gallons

RENEWABLE FUEL IMPACT ON OILSEED AND OTHER CROP PLANTINGS - 2007

Crop	2007 Acres (M)	2006 Acres (M)	% Change
Corn	92.90	81.80	+ 11.9
Soybeans	64.10	72.00	- 11.0
Wheat	60.50	57.20	+ 5.8
Cotton	11.60	14.25	- 22.4
Rice	2.74	3.38	- 18.9

Source: FSA, ERS, USDA



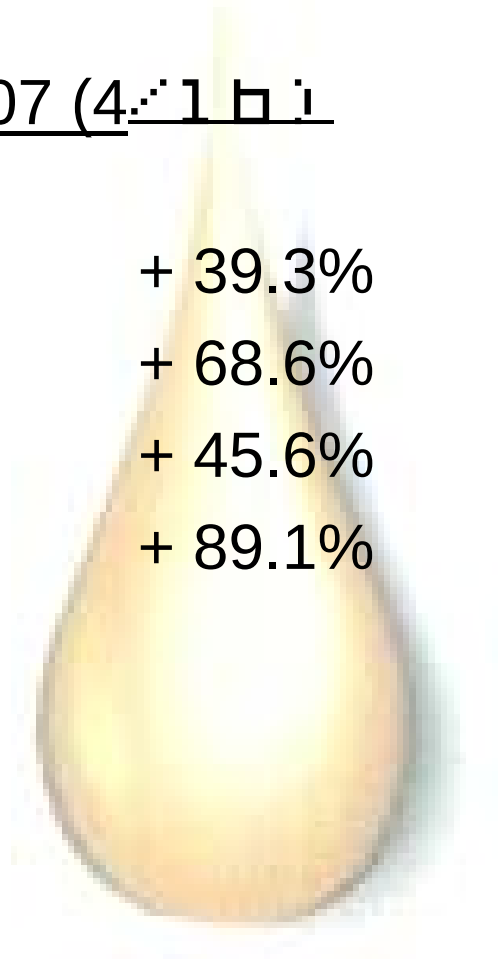
FACTORS AFFECTING OILSEED/OIL AVAILABILITY

- Biofuels
- Energy (petroleum, electricity)
- Transportation
- Weather
- Storage

SELECT OIL/FAT CASH PRICES: 2007 vs. 2006

Oil/Fat	2006 (4⋰1ㅁi	2007 (4⋰1ㅁi	% Change
Soybean (crude)	25.33	35.29	+ 39.3%
Palm (RBD)	24.75	41.75	+ 68.6%
Corn	25.75	37.50	+ 45.6%
Edible tallow	18.50	35.00	+ 89.1%

Comparisons made 7-26-07



THANKS FOR YOUR ATTENTION

QUESTIONS?