



Soy Solutions for Emerging Market Needs

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5th Global Oils and Fats Business Forum

September 13-14, 2007

Soybean Competitiveness



- Soybean oil innovations are coming to market
- QUALISOY is a critical platform for success
 - Aids in gaining acceptance of new traits by the entire value chain



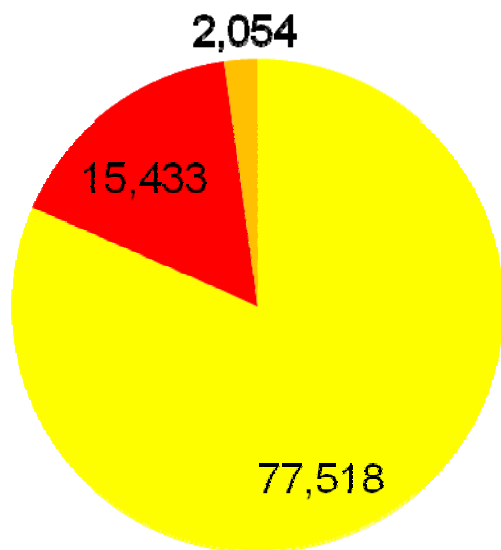
Why This Effort?

- Many more North American acres suited to soybeans than other oilseeds
 - More acres available for specialty traits
 - Competitive pricing
 - Volume availability
- Key attribute - neutral flavor profile
 - High degree of flexibility
- Future – Changing market needs



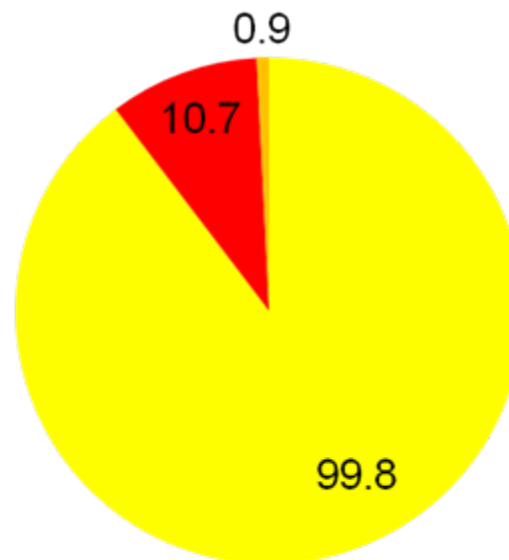
North American Oilseeds

Acreage



■ Soybeans ■ Canola
■ Oil Sunflowers

Seed production



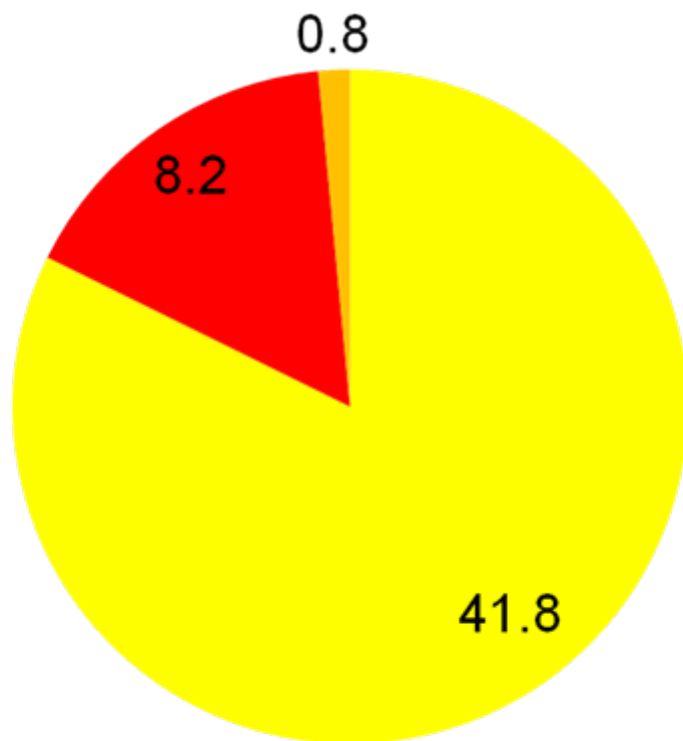
■ Soybeans ■ Canola
■ Oil Sunflowers



North American Vegetable Oils



Billion Pounds



■ Soybeans ■ Canola ■ Oil Sunflowers



Presentation Outline

- Industry addressing marketplace needs
- Today's topics for new traits:
 - Product applications
 - Oil composition
 - Supply timelines
 - Functionality



The Present and Future for Soybean Oils



What is QUALISOY™?



- Collaborative effort of entire soybean industry value chain
- Assists with R&D decision making
- Assists with marketing healthier and more environmentally friendly soybeans and soy products



QUALISOY™

The logo for QUALISOY™ is centered in the lower half of the slide. It features a large, stylized green 'Q' on the left, which incorporates a small green soybean plant with two leaves. To the right of the 'Q', the word 'QUALISOY' is written in a large, black, serif font, with a small 'TM' trademark symbol at the end.

QUALISOY Board of Directors



- Unique industry platform representing:





SOYBEAN INDUSTRY TRAIT PIPELINE



High-Stearic

Low-Phytate/
High-Energy

Low-Saturate

Increased Oleic

Increased Oil and Protein

Increased Omega-3

Combinators

Enhanced Soybean Oil Traits



Soybean Trait	Targeted Application
Low-Linolenic	Some snack foods; basic frying
Increased Oleic	Baking; extended use, heavy-frying
Low-Saturate	Heart-healthy dressings & spreads; low-fat products; light-frying
Increased Omega-3	Salad dressings; vegetable marinades; spreads
High-Stearic	Baking; heavy frying

First Out of the R&D Pipeline: Low-Linolenic Soybean Oil

Oil Composition
Supply Timelines

Low-Linolenic Soybean Oil



- Maximum 3% linolenic vs. traditional 8%
 - Improved shelf life
 - Light-duty frying
- Originally introduced in 1990s
 - Collaboration of Iowa State University and Pioneer Hi-Bred International, Inc
- Improved through breeding sponsored by USB and coordinated by ARS
 - Improved agronomics
 - Consistently under 3% linolenic



Low-Linolenic Supply

2005-2006

154,000 acres
60 million lbs. oil

2006-2007

730,000 acres
285 million lbs. oil

2007-2008
estimated

1.9 million acres
900 million lbs. oil

2008-2009
projected

3 to 3.5 million acres
1.3 billion lbs. oil



Formulating with Low-Linolenic



- Virtually all light hydrogenation applications
 - Cookies, crackers, biscuits
 - Lighter-duty frying
- Extends shelf life
- Resists oxidative breakdown



What's Next? Increased Oleic Soybean Oil

Oil Composition
Supply Timelines

Mid-Oleic Soybean Oil



- Mid-oleic soybean oil
 - Minimum 50% oleic
 - Maximum 3% linolenic
 - Likely low saturates
- Improved oxidative stability
 - Heavier duty frying
 - Excellent shelf life characteristics
- Supply goal: 2010-2011



High-Oleic Soybean Oil



- High-oleic soybean oil
 - 70–80% oleic
- Exceptional oxidative stability
- Numerous blending opportunities
 - Blend with low-linolenic or commodity soybean
 - Allows for full spectrum of oleic content
- Supply goal: 2011-2012



And Next?

Low-Saturate
High-Stearic
Increased Omega-3



Low-Saturate Soybean Oil



- Probably in combination with mid-oleic
- ~7% total saturated fatty acids
- Stability of mid-oleic
- Low in saturated fats for improved heart health
- Supply goal: as early as 2010



High-Stearic Soybean Oil



- High-stearic soybean oil
 - ~25% stearic fatty acid
 - 75-90 IV
- Naturally creamy
 - Numerous bakery applications
 - Produces flaky pastries
 - Shortening-like mouth feel
- Supply goal: 2011-2013



Increased Omega-3

- Omega-3 polyunsaturated fatty acids
 - Soybean oil is a good natural source
 - Essential for human health
 - Reduce inflammation
 - Help prevent certain chronic diseases
 - Heart disease, arthritis, etc.
- Elevated levels of omega-3 fatty acid
 - Up to 10X the omega-3 content
- Supply goal: 2012



Commitment

- The entire soybean industry
 - Research
 - Seed
 - Farmers
 - Processors
 - Refiners
- The food industry
 - Functionality
 - Healthfulness



Thank you!



Questions?

Visit us at:

www.soyconnection.com

www.qualisoy.com

