SOYBEAN OIL IN U.S. NUTRITION:
Past, Present & Future

School Nutrition Association
Houston, TX
June 20, 2017

Frank J. Flider
Objectives

- Overview of edible oils & fats usage and trends over the past century
- History of the soybean oil industry in the U.S.
- Role and benefits of soybean oil in nutrition
- Future soybean offerings and features
United Soybean Board

The 73 farmer-directors of USB oversee the investments of the soy checkoff to maximize opportunities for all U.S. soybean farmers. These volunteers invest and leverage checkoff funds to increase the value of U.S. soy meal and oil, to ensure U.S. soybean farmers and their customers have the freedom and infrastructure to operate, and to meet the needs of U.S. soy customers. As stipulated in the federal Soybean Promotion, Research and Consumer Information Act, the USDA Agricultural Marketing Service has oversight responsibilities for USB and the soy checkoff.
QUALISOY

• Collaborative industry-wide initiative to provide highly functional / improved soybean oils for the food industry
  • U.S. grown trans free fat solutions
  • Supporting U.S. agriculture

• All sectors of the soybean industry represented

• Ensures U.S. market competitiveness
  • We don’t sell anything
  • We work for U.S. soybean farmers, processors and the food industry
What Is Vegetable Oil?

- Any oil produced from a plant source
- 85% are all soybean oil
- 15% blends of soybean oil with corn, cottonseed, sunflower, or canola
- Consumer awareness of the fact that most vegetable oil is soybean oil has doubled since 2012
Soybean Oil Has A Positive Reputation

- United Soybean Board (USB) partnered with a large Midwest grocer with 230+ stores, a leading Hispanic foods company and a global consumer foods company to promote U.S. grown soybean oil.
- Sales increased by 27%
- According to a mid-size Midwest grocer with nearly 100 stores, 83% of shoppers said that knowing most vegetable oil is 100% soybean oil will influence their future cooking oil purchases
Consumer Preferences in Fat Consumption Over Time
AN AMERICAN SOYBEAN OIL TIMELINE

• **1912** – 708,000 LB imported to produce margarine
• **1914** – 1.6 mm LB used to produce shortenings – “lard substitutes”
• **1918** – Used to produce salad & cooking oils “vegetable oil blends”
• **1910’s** – Soybean production begins in NC, TX and Corn Belt
• **1922** - A.E. Staley of Decatur, IL begins soybean oil processing
• **1930’s** – Dust Bowl droughts reduce hog & cotton production
• **1930’s** – USDA Research Services make breakthrough in soybean oil processing
• **1938** – U.S. becomes net exporter of soybean oil
• **1947** – Soybean oil production exceeds butter production
• **1953** – Soybean oil surpasses lard as U.S.’s #1 edible oil or fat
U.S. Edible Vegetable Oil Consumption

- Soy, 55%
- Canola, 16%
- Palm, 10%
- Corn, 11%
- Coconut, 3%
- Cottonseed, 2%
- Olive, 2%
- Sunflower, 1%
- All others, 1%

SOURCE: U.S. Department of Agriculture, Economic Research Service
Soybean Oil: Nutritionally Balanced & Versatile

- Contains no trans- fats and high in poly and monounsaturated fatty acids
  - 62% polyunsaturates
  - 23% monounsaturates
- Principal source of vegetable-based omega-3’s in the diet
- Source of Vitamin E
- Blends well with other fats and oils
- Clean flavor and undetectable aroma
Ideal for Health-Conscious Consumers

- 62% of health-conscious consumers view soybean oil as healthy*
- **Unsaturates** – lower total and LDL cholesterol when replacing saturated fats. One serving of soybean oil contains 3 grams of monounsaturated and 8 grams of polyunsaturated fatty acids
- **Saturates** – One serving of soybean oil contains only 2 grams of saturates
- **Trans Fats** – Produced during partial hydrogenation, soybean oil is free of trans fats
- **Omega-3′s** - non-fish source and principal source in the U.S. diet. Affect overall cardiovascular health, reducing blood pressure and preventing heart disease
- **Vitamin E** – fat-soluble antioxidant vitamin prevents cell damage that may lead to diseases such as cancer and heart disease. Principal commercial source of Vitamin E in the U.S. diet

*2016 Consumer Attitudes About Nutrition Study, United Soybean Board
Effects of Different Fats on LDL-C (mg/dl) in Diets of 18 Young Men

Cocoa butter: 113
Dairy butter: 103
Olive oil: 92
Soybean oil: 83

Crossover design, 26 d, 1 mo wo. Diets provided 37% of calories as fat, 81% from test fat. SO is different from CB and DB. Metabolism 42: 121, 1993
Soy Myths & Facts

- Soy oil is not allergenic
- Isoflavones found in soy do not affect hormone levels in men or women
- Clinical studies show that soy does not affect thyroid function
- Studies show that soy intake is associated with lower risks of breast and prostate cancer
- www.soyconnection.com
High Oleic Soybean Oil: The Soy Oil of the Future

Innovation in every pod
High Oleic Soybean Oil Is Here Now

- High oleic soybean oil was commercialized in 2012
- High in monounsaturated fat: 72 – 75% oleic acid*
- 0 g trans fat
- Low in saturated fat: 6%*
- Superior high-heat stability
- Neutral flavor profile
- Extended shelf life for baked goods and snack foods
- Excellent blending oil for hard-stock oils

* As compared to conventional soybean oil
Commitment to High Oleic Soybean Oil

• $60 million over five years to expand seed production of high oleic varieties, functionality research and market promotion
• Farmer-to-farmer endorsements and testimonials
• Support processor to farmer contracting
• Ample acreage = competitive pricing
• Security of supply
HIGH OLEIC SOYBEANS ARE ON PACE TO BE AMERICA’S FOURTH LARGEST ROW CROP IN ACREAGE BY 2023
Desirable Attributes of High Oleic Soybean Oil

- Higher heat stability for par frying and deep frying
- Higher oxidative stability
- Improves frying and baking performance with less polymerization
- Provides longer fry life for the foodservice industry
- Longer product shelf life without sacrificing flavor
- Can be combined with fully hydrogenated hard fats to produce zero trans margarines and shortenings
Fryer Performance And Maintenance

High Oleic Soybean Oil Day 24

<5% polymerization on surface of fryer

Conventional Soybean Oil Day 24

>90% polymerization on surface of fryer
Secure Available Supply

**High oleic soybean oil**
- Ultimately, the food industry’s most reliable high stability liquid vegetable oil
- Abundant, domestic supplies in the near future

**Interesterified high oleic soybean oil**
- Flexibility in specifications and functionality of PHO
- Without the trans fat

**Both products**
- Domestically produced
- From a highly sustainable agricultural crop
- Fluid, transparent market easily hedged
THANK YOU!

QUESTIONS?