

INTERESTERIFIED SOYBEAN OIL

February 15, 2017

QUALISOY[®]
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THE PHO SITUATION

- Partially hydrogenated oils (PHOs – source of trans fats) are no longer considered GRAS
 - “Banned” after June 18, 2018
 - Food industry has already reduced trans fat in foods by 86%
- Most common high stability, liquid oils now:
 - Conventional soybean and canola oil
 - Other natural oils – corn, peanut, cotton, sunflower
 - Imported palm/palm olein
- Gaining in popularity:
 - High oleic soybean
 - High oleic canola, sunflower, safflower
- Solid fat sources
 - Physical blend of fully hydrogenated oil with liquid oil
 - Blends of oils with palm oil
 - Interesterified soybean oil

INTERESTERIFIED SOYBEAN OIL

FATTY ACID PROFILE

	Conventional Liquid SBO	High Oleic Liquid SBO
Palmitic	11%	11%
Stearic	33%	33%
Oleic	16%	40%
Linoleic	33%	11%
Linolenic	4%	2%



FUNCTIONALITY TESTING: DOUGHNUT FRYING

Fry life

- EIE high oleic soy outperformed EIE conventional soy and the palm-soy blend shortening

Product appearance

- EIE high oleic soy outperformed EIE conventional soy and the palm-soy blend shortening

Texture change over time

- EIE high oleic soy exhibited less staleness than either EIE conventional soy and the palm-soy blend shortening

Oil weeping

- EIE high oleic soy exhibited less weeping than either EIE conventional soy and the palm-soy blend shortening

The EIE soy donut frying shortening came closest to emulating the performance of the traditional PHO donut frying shortening



FUNCTIONALITY TESTING: WHITE CAKE BATTER

- The finished baked cake was measured for dome peak height, dome edge height, and the dome peak height to dome edge ratio
- Dome height
 - Enzymatically interesterified (EIE) high oleic soy results were essentially identical as that of PHO shortening
 - EIE conventional soy showed similar height results as the palm-based shortening
- Edge height
 - EIE high oleic soy came closest to that of the PHO shortening
 - EIE conventional soy showed similar height results as the palm-based shortening

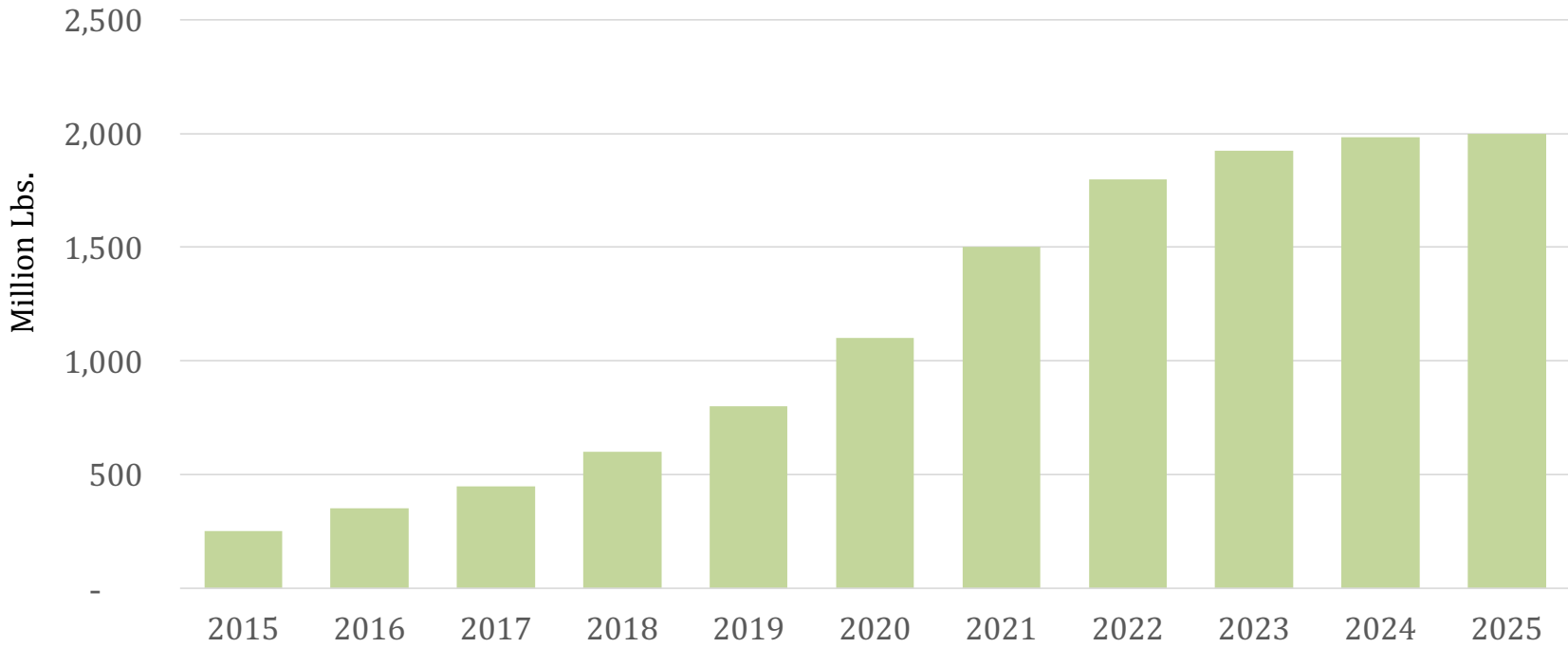


FUNCTIONALITY TESTING: BUTTERCREAM ICING

- Buttercream icing is the most common type of icing used in the bakery industry with quality typically measure by viscosity and specific gravity
- Icing viscosity
 - The viscosity of icing made from EIE high oleic soy was closest to that made with PHO shortening
- Icing specific gravity
 - The specific gravity of icing made with both EIE high oleic and EIE conventional soy was closer to that made with PHO
 - The specific gravity of icing made with a palm shortening was considerably lower than the soy icings



INTERESTERIFIED SOYBEAN OIL PRODUCTION





EIE Soybean Oil Suppliers

BUNGE




STRATAS
FOODS®

Active Food Company Outreach

confidential

- Weaver Popcorn
- CSM Bakery Solutions
- T Marzetti Company
- Dawn Foods
- Bay Valley Foods
- Treehouse Foods



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