



# SOYLEIC High Oleic SOYBEANS



## Improved Dairy Cow Milkfat Yield with HO Soybeans

### What is a High Oleic Soybean?

U.S. High Oleic Soybeans have oil that typically contains **75 percent or greater oleic acid (Omega-9/monounsaturated fat), less than 3 percent linolenic acid, and 12 percent or less saturated fats.** Typically, soybean oil has a 23 percent oleic, 8 percent linolenic acid, and 15 percent saturates content. The improved fatty acid profile provides an oil with **superior heat and oxidative stability.** High Oleic Soybeans have comparable oil and protein content to commodity soybeans which produces a soybean meal with the same composition of protein and amino acids.



### Benefits of Feeding High Oleic Soy in Dairy Rations

#### Recent Penn State Feeding Study\* comparing normal to High Oleic extruded and roasted soybeans

- Fed at both 5% and 10% of the diet
- Soybean type and level had no effect on overall milk yield
- High Oleic Soybeans resulted in 0.17 units higher milk fat concentration and 0.2 pounds higher milk fat yield.
- Increasing roasted soybeans from 5% to 10% of the cows' diets increased milk fat 0.2 units
- Improved milkfat composition
  - Increased heart-healthy monounsaturated (oleic) fat content
  - Significant decrease in trans fatty acids (17% reduction)



#### Increase explained by a decrease in diet-induced milk fat depression.

- Polyunsaturated fatty acids are toxic to rumen microbes and disrupt normal rumen function, leading to production of bioactive fatty acids that cause milk depression.

#### Studies at both Penn State and the University of Wisconsin demonstrated that High Oleic Soybeans were lower risk for causing diet-induced milk fat depression.

\*<https://news.psu.edu/story/612034/2020/03/17/research/high-oleic-acid-soybeans-offer-benefits-dairy-cows-farmers-research>

*“And because price, agronomics, fat and protein concentration are equivalent, there are few downsides to growing or feeding High Oleic Soybeans.”*

- Kevin Harvatine, Associate Professor of Nutritional Physiology, Penn State College of Agricultural Sciences

### Leading the Way

SOYLEIC™, a true non-GMO high oleic soybean trait, was developed through partnerships between the **University of Missouri, the U.S. Department of Agriculture, Missouri**

**Soybean Merchandising Council, and the United Soybean Board.**



### More Information

Interested in growing SOYLEIC® soybeans or dairy feeding benefits? Contact us via the web site below to get information about seed partners in your region along with the recent dairy feeding studies.

[www.SOYLEIC.com](http://www.SOYLEIC.com)



SOYLEIC.com  
(573) 635-3819



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## Typical Fatty Acid Profile, Protein & Oil Content

	<b>Oleic</b> <i>(Monounsaturated)</i>	<b>Linoleic</b> <i>(Polyunsaturated)</i>	<b>Linolenic</b> <i>(Polyunsaturated)</i>	<b>Saturates</b> <i>(Palmitic &amp; Stearic)</i>	<b>Protein</b>	<b>Oil</b>
<b>SOYLEIC™</b>	Greater than 75%	Less than 8%	Less than 3%	Less than 12%	36%	18%
<b>Commodity Soy</b>	24%	53%	8%	15%	34%	19% <sup>1</sup>

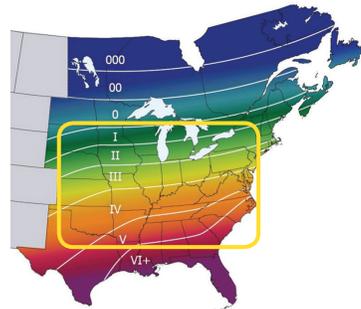
<sup>1</sup> U.S. 2010-2019 Average, Source: Quality of the U.S. Soybean Crop: 2020, Univ. of MN

## 2021 SOYLEIC™ Commercially Available Varieties

Seed Company	Brand Name	Variety	Relative Maturity	Fatty Acid Composition			13% Moisture		Hilum	Approx. Seeds/lb.	Approx. Seeds/kg
				Oleic	Linolenic	Saturates	Protein	Oil			
Benson Hill™	eMERGE®	e12H902	1.2	78.3%	1.8%	10.8%	37.6%	19.1%	Yellow	3,200	1,451
Brushvate Seeds™	Brushvate Seeds™	BS1282	1.2	78.0%	1.7%	10.8%	37.1%	16.9%	Yellow	2,600	1,179
Benson Hill™	eMERGE®	e13H988	1.3	78.5%	1.8%	10.7%	37.3%	19.1%	Yellow	3,100	1,406
University of Missouri	SOYLEIC™	SA17-2742 HOLL	2.8	79.2%	0.9%	11.9%	35.8%	18.0%	Buff	2,850	1,293
Benson Hill™	eMERGE®	e34H608S	3.6	79.0%	2.3%	11.4%	37.0%	19.1%	Black	2,800	1,270
Benson Hill™	eMERGE®	e37H937S	3.7	79.7%	0.9%	11.2%	36.6%	18.1%	Black	2,800	1,270
University of Missouri	SOYLEIC™	SA17-8882 HOLL	4.0	79.9%	2.3%	11.2%	35.5%	17.1%	Black	2,920	1,324
Benson Hill™	eMERGE®	e45H907	4.5	79.4%	0.8%	10.8%	35.4%	18.8%	Black	2,700	1,225
Benson Hill™	eMERGE®	e46H616	4.7	79.0%	2.3%	11.4%	37.8%	18.0%	Black	2,700	1,225
University of Missouri	SOYLEIC™	S15-17812 HOLL	4.8	84.2%	2.9%	10.2%	36.5%	19.0%	Buff	3,700	1,678
Benson Hill™	eMERGE®	e51H969S	5.2	82.5%	0.8%	9.7%	36.9%	18.5%	Black	2,700	1,225
				<b>Average: 79.8%</b>	<b>1.7%</b>	<b>10.9%</b>	<b>36.7%</b>	<b>18.3%</b>			

### Soybean maturity zones

The relative maturity range of commercially available SOYLEIC™ varieties allows for contract production across most of the U.S. soybean-growing region.



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