



Breaking News on Food & Beverage Development - North America

## Biotech's big guns gear up for battle of 'next-generation' soybean oils

By Elaine Watson, 17-Jun-2011

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**The next generation of soybean oils will give the food industry a cost-effective and healthier alternative to partially hydrogenated vegetable oils (HVOs) with flavor and stability current alternatives cannot deliver, according to biotech giants Monsanto and DuPont.**

First to enter the ring is DuPont's Pioneer subsidiary with Plenish, a high oleic soybean boasting a fry-life two to three times longer than conventional soybean oil, superior stability to high oleic canola or sunflower oil, zero trans fat and less saturated fat.

Next to enter the fray is Monsanto with Vistive Gold, which also promises extended fry life and stability at high temperatures – along with a sharp reduction in saturated fat.

### Price competitive with high oleic canola

DuPont is a little further ahead, but both firms predict foods containing their new nutritionally enhanced but ultra-stable oils to hit the market around 2013/2014, pending regulatory approvals.

Initially, the new soybean oils would be price competitive with high oleic canola oil, but should become cheaper in the long-term as volumes increased, predicted Richard Galloway, a consultant at Qualisoy, a collaborative soybean industry initiative to bring new traits to market.

DuPont senior research manager Susan Knowlton said firms had tried a variety of alternatives to HVOs from high oleic canola and sunflower oil to palm oil, low linolenic soy, corn and other oils.

However, many did not deliver on the flavor or stability front, required changes to recipes or manufacturing processes, or involved an unwelcome increase in saturated fat (eg. in the case of palm) claimed Knowlton, who was speaking to FoodNavigator-USA.com at the IFT show in New Orleans this week.

*"Many companies say they are just not satisfied with the performance."*

### DuPont: This is not a tweak...

Plenish had a very different fatty acid profile to standard soybean oil, said Knowlton: *"We've gone from 22 percent oleic acid [a monounsaturated fatty acid] to 75-80 percent. That's not a tweak, that's where you get people asking, why even call it soybean oil!"*

Tests had shown firms could make significant cost savings both due to its longer fry life but also owing to lower maintenance costs because of reduced polymer build up in fryers, she said.

In packaged goods, manufacturers could also clean up labels by removing preservatives such as TBHQ in applications such as nutritional bars by using Plenish oil because of its superior stability, she said.

Tests combining Plenish oil with harder fat stock for bakery shortening applications also showed encouraging results enabling manufacturers to reduce saturated fat, she added.

### Monsanto: Vistive Gold has lower sat fat than Plenish...

Meanwhile, food manufacturers were also seeing promising results from tests of oil from Monsanto's new Vistive Gold soybeans, claimed Monsanto's director of food applications Richard Wilkes.

*"Vistive Gold soybeans are in phase four - the final phase - of our R&D pipeline, and are presently under evaluation by food companies. We anticipate they will be available for planting in the next two to three years, pending regulatory approvals."*

Vistive Gold oil, which has 60 percent less saturated fat than conventional soybean oil, 85 percent less saturated fat than palm oil and 70 percent less saturated fat than fry shortening, would compete with Plenish, said Wilkes. But the two oils had different qualities.

*"We have lower saturated fat than Plenish, but it may be that some food manufacturers choose Plenish for other benefits. It may be that they will see Vistive Gold and Plenish as interchangeable, although we obviously hope they prefer Vistive Gold!"*

He added: *"We successfully completed FDA notification for GRAS and the biotech consultation. USDA deregulation of the seed comes next, probably in 2012, but it could be earlier."*

Crops of both bean varieties should be available in large quantities in 2014.

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