Dave Tegeder, United Soybean Board

**Sourcing Update of U.S. High Oleic Soybeans and Soybean Oil for International Customers**

Good morning. I'm Dave Tegeder, and thanks for inviting me to give you an update on sourcing high oleic soybeans and oil. During my discussion I'll be covering the following topics: A review of the current seed developers and their trait characteristics, sources of high oleic soybeans and oil, the importance of forward contracting, a look at the timeline involved with contract production, a review of the key items in negotiations, how we quantify the value of high oleic soy and it's pricing considerations, the sustainability and traceability opportunities, and finally, a summary of the key take aways from my discussion.

There currently are three different high oleic soybean traits in various stages of commercial development and availability. While they all have an oleic content in the mid-upper 70% range, there are slight variations in the rest of their fatty acid profiles, along with different seed technologies used in their development. Corteva Agriscience's Plenish trait marketed under the Pioneer seed brand was developed through biotechnology, and is the most widely grown and commercially available at this time.

Missouri Soy's trait called Soyleic is a non-GMO, but it has a slightly wider variance in its fatty acid profile. And Calyxt Calyno traits was developed through Genome technology. But that is only being targeted for use in the US domestic market.

So the soy industry has high oleic variety sudent to whichever attributes your customers value the most. Current suppliers of high oleic soy include the vertically integrated processor refiners, AGP, ADM, Bunge, CHS, and Perdue AgriBusiness. And high oleic oil is available in packaged product through Catania Oils, Stratas Foods, and Ventura Foods. Who both have either a 100% or blended with commodity soy oil. And both packaged in 35 pound containers. Similar to that used in the US food service industry.

You can also source samples of whole beans or oil directly from the trait developers. And regional (laughs) grade companies such as Brushvale Seed, Benson Hill, Clarkson Grain, DeLong, Landus, and Scourlar are all interested in pursing contract acreage programs to supply whole high oleic soybeans for international customers. Your local USSEC representative can help you contact the appropriate suppliers for your individual needs.

As I mentioned earlier, the majority of high oleic soy suppliers are currently offering the Plenish trait, as you can see by this list of suppliers and the various traits that they're marketing. If you're looking to purchase high oleic soy, it's important to understand that forward contracting is necessary to assure availability of your commercial volume needs. High oleic soy is still in early stages of commercialization, relative to commodity soy or other oil seeds.

The increasing demand we're seeing for high oleic soy has resulted in limited amounts of uncommitted supplies available for immediate sale and nearby shipment. Suppliers will certainly be able to provide you with samples and smaller amounts sufficient for lab pilot plant testing, but large commercial quantities will definitely need to be forward contracted in order for suppliers to coordinate the required production all the way back to the farm.

To give you a better understanding of why this is so important, I've mapped out the timeline for contract production that will supply the 2022 marketing year. In January of this year, seed companies finalized their plans for the total quantity of high oleic soy seed beans needed for next years crop, along with the appropriate maturity types needed for where they'll be grown. Remember, soybeans are sensitive to the length of the growing season, for variety suitable for Minnesota or Iowa need a m- to mature during a much shorter growing season relative to varieties developed for the more southern regions.

They're then planted the spring and will become the seed for next year's crop. By mid-summer, suppliers will be finalizing their plans for the amount of high oleic soy they would have available for 2022. Each supplier determines how many acres they need to contract for the 21 crop, and then they establish acreage targets with the respective seed companies from each geographical area where they want them grown.

In August, the seed companies begin their fall sales programs, and proceed to sign up farmers for the amount of high oleic acres they intend to contract for delivery to specific supplier locations. And it's important to remember that the majority of farmers by next year's seed needs, by the end of this calendar year. Next spring the 21 crop gets planted and harvested in the fall. This new crop provides either the whole high oleic soybeans or processed oil that will be available in 2022. So if you're seriously considering purchasing high oleic soy for 2022 usage, it's important that you start having discussions with US suppliers by the end of August.

I n- next like to quickly review the key items that you should clarify with high oleic soy suppliers during contract negotiations. Now this first point might seem pretty straight forward, but you should make sure which trait they're marketing. Is it Plenish or is it Soyleic? You'll always want to negotiate the specific fatty acid content to be included in the contract, such as the minimum amount of oleic acid or the maximum amount of linolenic acid. If you're purchasing a whole high oleic soybeans to crush, you should find out if the oil and protein content from those high oleic varieties will be the similar to that of commodity soybeans.

You also need to establish the type of testing methodology to be used for analyzing and certifying the fatty acid specifications. For whole soybeans, will it be done by NIR infrared technology? Also called NIR. Or by using wet chemistry? Uh, gas chromatography, or GC analysis. And for the oil, it's good to verify that GC analysis will be used. Just remember, there is no standard contract for high oleic soybeans or oil since each identity-persevered supply chain is unique and will establish their own detailed specifications.

Moving on to high oleic soy's value in the marketplace. In order to determine its value, you first need to understand the functional performance advantages that it has over other oils. So what are the benefits of high oleic soy? Well, for starters, it's a healthier oil with zero grams of trans fats per serving, 20% less saturated fats, and high and heart-healthy monounsaturated fat, similar to the amount found in olive oil. It has a high oxidative stability index, or OSI, which typically runs in the 25 to, ah, for 30-hour range, and is higher than either high oleic canola, sunflower oils, or palm olein.

It has a two to three times longer Fry Life, which translates into fewer oil changes, annual oil cost savings, and less packaging material to dispose of afterwards. It has a higher smoke point, which we typically see approximately 10 degrees higher than that of commodity soy or the other high oleic oils. Easier cleaning: Reduced polymerization on cooking surfaces leads to less gummy build up on fryers, equipment, and kitchen surfaces.

It has a cleaner, lighter flavor. Because the oil is so stable, there is less of a residual oil flavor which allows the inherent flavor of the food to be tested, not that of the oil being used. This also provides an excellent opportunity to blend with other oils, should there be a preference for a specific flavor.

For packaged foods, we see a three times longer shelf life when compared to conventional soy. And a trend we're seeing today in the US food s- market is consumers wanting products with simpler more easily understood ingredient labels, and having no artificial preservatives. High oleic soybean oils excellent oxidative stability allows a food manufacturer to not have to use synthetic antioxidants such as TBHQ, or EDTA in order to achieve the shelf life for its finish products.

The next few slides I'll be discussing the current high oleic soy premiums we're currently seeing in the US market. For this year's crop, suppliers are paying farmers between $.40 and $.80 per bushel to contract high oleic soybeans. So at 11.4 pounds of oil per bushel, this translates into roughly $0.350 to $.0700 per pound of the resulting oils' price.

Now the soy oil in- uh, industry expects to see the grower premiums decline, obviously, as a volume increases. When you account for the processor or exporter costs for segregating the high oleic beans or oil, in addition to their marketing costs which should also decline overtime, we ultimately see the current US market oil premium for high oleic soy around $.10 to $.15 per pound over that of commodity soybean oil.

And I should point out, this is s- assuming that high oleic soybean varieties yielded equivalent to that of commodity soybean varieties. So let's run through a high oleic soy pricing example. And for this example, I am not using any commodity basis, just to keep it simple. You'll have to remember, in the real world, those levels would have to be added into the calculation. When we add together the grower premium, the royalty back to the trait developer, and elevator handling fees, the resulting high oleic premium on whole soybeans is around $.75 per bushel, in addition to any commodity basis.

For high oleic soy oil, the premium would be around $.15 per pound in addition to commodity basis. You would then add the net basis to the respective future's prices. And in for this I'm using $9 beans and $.28 oil. So the resulting high oleic cash price would be 9.75 for whole beans, or $.43 for the soybean oil. Converting that to per metric ton, you can see we can a $358 a ton price for the high oleic whole soybeans, or roughly $948 per metric ton for the oil.

And, of course, if you're buying high oleic soybean oil from a processor refiner, they, in turn, are in the b- business of making a profit. So purchasing high oleic soybeans to crush at your own facility will usually result in a lower overall high oleic premium. In this example, I'll convert the whole high oleic soybean premium I used previously into a resulting oil basis. Starting with the $.75 per bushel for the high oleic premium on whole beans, equates to about $28 per metric ton.

So once again, when we use a 19% oil content, which would give you roughly 419 pounds of oil, this would equate to $.0650 per pound on the oil, or $145 per metric ton, uh, as the high oleic soy premium for the oil. So as you can see, if you can crush and refine, the cheaper route will usually be to purchase high oleic beans.

Today's consumers often want to know whether the food they eat was produced in a sustainable manner. This is easily satisfied since high oleic soybeans are also included in the US soybean industry's sustainable assurance protocol. US soybean growers are committed to be stewards of the land they farm, and use a variety of sustainable practices to reduce soil erosion, energy use, and greenhouse gas emissions, while improving water efficiency and overall quality, and also while increasing the soil's carbon.

These practices allow for Independently audited programs that verify US soybeans are produced in the most sustainable manner. The improved frying and shelf life benefits of high oleic soy allows for an even better sustainability advantage over competitive oils when you calculate in the total reduced oil used in the fryers, less packaging, and the reduced amount of food that's discarded because it had gone bad.

Many consumers also want to know where the food ingredients originate from, and who grew them, and where they were grown. The closed loop identities on preserved supply chains and production contracts used with individual farmers allows high oleic soy suppliers to offer a very compelling traceability story that can be used in end-user marketing.

So, to recap, here are the key points to remember when sourcing high oleic soy products. There are several different high oleic soy traits that are currently being commercialized. In addition, there are various supply chains to consider as a possible source depending upon your needs for either, oil or whole beans. Each supplier will have ... will be unique in both the trait that they are marketing, and the specific contractual terms that they will offer. Forward contracting is essential, and you will need to be in discussions with your suppliers by the end of the summer for your 2022 commercial volumes.

And remember, there is no standard contract for purchasing high oleic soy, requiring negotiation with individual suppliers. High oleic soybean oil brings tangible benefits to both food service suppliers and food manufacturers that more than offsets its premium. And most importantly, US grown high oleic soybean oil is the most affordable high stability oil available from the North American market. And finally, you're USSEC staff and consultants are ready to help you establish su- supplier contacts, and advise on any supply chain issues.

You can find additional high oleic soy information on the www.QUALISOY.com website. In addition, we have developed a sourcing guide, uh, that is available from your local USSEC representative. And finally, I developed a QR code in case you so wish to scan that would directly download my, uh, contact information into your smartphone. So with that I will conclude my presentation. Thank you, and I look forward to answering any questions during the panel discussion.