

**Iowa Grain Quality Initiative  
Advisory Committee Meeting  
Meeting Minutes  
July 8, 2011**

**Present:** Randy Dunn, Ray Hansen, Connie Hardy, David Holm, Charles Hurburgh (moderator), Nick Huston, Randy Ives, Steve Johnson, Ed Kordick, John Lawrence, Dan Loy, Ryan Sauer, Curt Sindergard, Howard Shepherd, Tim Sullivan

Guests: Russ Sanders and Bob Kennedy, Pioneer Hi-Bred International

**Welcome and Announcements:** Charlie opened the meeting at 9:30am and reviewed the agenda. Committee members and guests introduced themselves.

**Update of the College of Agriculture/Agriculture and Natural Resources Extension:**

John Lawrence distributed the recent Stories publication featuring the College's entrepreneurship program and activities. John described the student entrepreneurship competition and some student innovations that have become part of everyday lives and agricultural applications.

The Curtiss Hall renovation has begun and is expected to proceed through year 2014.

ISU's new Vice President for Extension, Cathann Kress, began her duties on July 1. Dr. Kress grew up in Iowa and completed her undergraduate degree at ISU. She worked with Extension in Benton County, IA before joining the 4-H program for which she would later become the national coordinator. Prior to accepting her current position at ISU, Dr. Kress was with the US Dept. of Defense where she worked with families of military personnel.

**Budget update** – ISU managers planned for a 6% cut in state allocations and the actual cut was a little over 5%. President Geoffrey has asked managers to plan for an additional 1% cut to accommodate future budget cuts, probably federal. Where will these fall? To date, USDA formula funds (Extension) and competitive funds (AFRI) were each cut by 12%. ISU has been very successful in 2011 with a \$20 million grant for sustainable agriculture and a \$25million grant for biomass research. The researchers who received the grants were promised 5 years at the grant funding level, so this current USDA obligation will reduce the pool for new competitive grants.

**IGQI Projects 2012**

Charlie Hurburgh stated that, in FY2012, the Grain Quality Initiative will simplify its structure while retaining the priority areas of bioprocessing, quality/food safety management, and current issues in grain management. (Projects 1-3 below) FDA is a possible source of new money for project 2. FDA has not had experience with bulk materials, so new information and training is needed and ISU has expertise in this area. Project 3 will address recent and future events concerning grain storage and management. With new construction of large (250,000 bushel) bins for on-farm grain storage, there is a need to train farmers in managing large quantities of stored grain.

Charlie thinks industry will become a major sponsor of these projects as government funding decreases.

Project #1 <u>Bioprocessing Management</u>	Project #2 <u>QMS/FSQMS Food Safety</u>	Project #3 <u>Grain</u>
Processing inventory Fractionation materials Feed Soybean marketing	Food Center Training (FSMA)  QMS templates, etc. Traceability	Grains team Update  Current events

Though the Iowa legislature cut 6% from Extension 21 funds, John Lawrence contributed ANR funds to make up the difference for IGQI to keep the Extension allocation at about \$145,000 for FY2012.

*Discussion regarding food safety and traceability:*

Some grain handling companies are preparing to comply with new requirements under the new Food Safety legislation. Personnel at elevators that have already been visited by FDA officials were asked what had been hauled in their customers' trucks/wagons prior to the corn that was delivered at their facility. It was mentioned that some ethanol plants were asking their customers the same question. Charlie commented that the initial FDA visits will be centered on sanitation. The Cargill-Blair ethanol plant had asked customers to sign a form regarding gluten (probably asking if they had any grains delivered that would not pass approved GMO detection levels in Europe). Howard Shepherd explained that the European Union, through its certification process, is increasing activity related to food labeling. European customers for US ethanol allow special credits (for 30% of the ethanol produced) if the seller can show that the corn from which the ethanol was made was corn intended for ethanol production. The credits could be as high as 8 cents per gallon of ethanol. Biomass credits were even higher.

Howard Shepherd mentioned, too, that the inspection process will begin rapidly when the FDA gets funding, and approximately 800 new inspectors will be added. Most of the inspectors would likely have no agricultural background, but would have medical backgrounds. They will look for cleanliness, so elevator facilities will need to be free of trash, dead animals and birds, rotting grain, and other such materials that would be considered a violation and would trigger action. Also, having a HACCP plan is not equal to having a Food Safety Plan, but rather HACCP is a part of the Food Safety Plan. When Howard visited with FDA officials, he pointed out to FDA officials that Extension and State agencies across the country do not have funding to create the educational programs that would prepare companies for audits and inspections. FDA does not have yet have an educational center, so Howard offered that, if funding were available, IGQI would be capable and willing to develop educational materials that would be useful across many agricultural products. The January 2012 meeting will have a discussion about the new Food Safety legislation.

**Marketing strategies of high oleic and low linolenic soybeans  
Presenters – Russ Sanders and Bob Kennedy, Pioneer**

Presentation available at <http://www.extension.iastate.edu/Grain/Topics/advisorycouncil.htm>

Charlie Hurburgh introduced the presenters and framed the topic. In the past, grains and oilseeds with specialty traits have run into problems because the costs of marketing have outweighed the benefits of the special traits, except in niche markets. How do we introduce soybeans with an improved oil profile into the food market without incurring large IP costs and stalling the program, even though in the long run, the specialty beans may become a commodity?

Charlie showed a slide that compared fatty acid profiles of common vegetable oils, pointing out that the variability in oils poses a marketing problem for a commodity system.

Russ Sanders continued by saying that the soybean industry has faced significant erosion in the vegetable oil market. Biotechnology has produced a soybean with traits that *consumers* like, rather than just agronomic traits that are of benefit to producers. In Plenish soybeans, oleic acid content is three times that of conventional soybean oil, making it more similar to olive oil than to conventional soybean oil. Health benefits associated with the Plenish soybeans are of intense interest, even though they are biotech. Russ stated that he believes the next food labeling requirement will be for saturated fats. Assembly of the supply chain is critical to successful adoption and distribution of the new oil.

Plenish soybeans also have reduced linolenic acid, thereby improving functionality and stability. The hydrogenation process, still used to improve stability in soybean oil, was previously applied to 50% of soybean oil before *trans fats* were recognized as contributing to health problems. In Plenish soybeans, oleic acid content was increased at the expense of linoleic and linolenic acid. Nutritionists have regarded soybean oil as a major source of linoleic acid in human diets, so the large decrease in linoleic acid in high-oleic soybeans may be a concern from a health standpoint until nutritionists identify other sources.

Conventional soybean oil had 80% of the US market share in vegetable oils. In 2010, soybean oil's market share decreased to 62%, although biodiesel has provided a market. It is estimated that high oleic soy will represent 6-15 billion pounds out of the 300 billion pound global market for fats and oils.

Building high volume, low cost, reliable supply chains will be essential to successfully market high oleic soybeans. Each member of the supply chain must make a commitment to it. The oil premium range targeted for Plenish soybean to achieve market penetration oil is 4-8 cents per pound.

Bob Kennedy presented the Bunge-Dupont program for low linolenic soybeans to illustrate how the seed genetics company, farmer, elevator and processor work together to grow, deliver, process and sell soybean oil with a specialty trait. This system can serve as a model to introduce high oleic soybeans.

Bob coordinates the low linolenic program with the elevators. Pioneer's MarketPoint website is the internet-based contracting site that allows individual growers to form contracts with a participating elevator. The elevators register under MarketPoint and coordinate with their local growers. Currently, most specialty soybeans are delivered to the elevator, even though farmers are putting up new storage (for corn). Five cents is paid to an elevator that will accept low linolenic beans outside of harvest season and 10 cents is paid for accepting beans during harvest. The processors would want an offsetting contract with the farmer for Plenish (or other) specialty soybeans to assure delivery.

*Discussion:*

Does biodiesel favor the high oleic profile? Yes, but will food outbid this oil? The biodiesel market might not know how to value this.

Could an investment of 50+cents per bushel to achieve improved functionality pay off when hydrogenation costs about 5cents per pound?

Technology investments total about \$100 million per trait, the majority of which is spent on regulatory issues.

Canola processing has doubled in Canada, and canola carries a 17-cent premium over conventional soy oil. Palm oil premium is about 6 cents per pound. Plenish target premium is 4-8cents per pound.

A 10-cent-per-pound premium results in \$1.10 per bushel at \$7/bu soybeans and a 60-cent premium to the grower. Today, that would nearly double.

Elevators need a dedicated storage and dump pit in order to maintain efficiency and guarantee that the product is pure.

Growers will want to be assured there is no yield penalty, that they will not have to store the beans on farm, and they can be delivered in the normal course of business. Centralizing delivery in certain growing areas will be important. More producers are using semi-trailer trucks, so distances are not as much of an issue as with tractor-and-wagon hauling. Micro-markets that grow around the processors are an important dynamic.

Could a processor be a bottleneck in this system? Maybe, but if the product is not offered everywhere at first, the bottleneck could be avoided..

Is the expression of the specialty trait stable both in the north and south? Yes, but linolenic expression can be somewhat variable.

Long-term issue is: What will continued erosion in the soybean oil market do to the marketing of the high oleic beans? We have 64 processors in the USA. What happens to capacity of these plants if their market share drops to 60%?

Food processors look at small costs per pound to make or break a deal with certain oils. How did palm oil get back into our market when it is so high in saturated fat? Mainly because we can no longer hydrogenate and palm oil filled the need. If the next regulatory labeling is with sat fat, then palm oil will go. Processors love the idea of a soy platform because supply comes from a large growing space.

How many players can be in the market at the same time? Can the elevator manage high and low trait levels and/or several brands of seed with existing bins and still be able to blend? Fatty acids can be tested with NIR. Gathering of traceability will information from the farmer will better assure the elevator that the farmer has not blended beans.

Comparing an anonymous food system with a food system with enhanced traceability in the global market, how would contamination with Plenish or Vistive Gold affect a commodity product? Ten percent leakage into the commodity stream will make a difference, but it is usually an improvement. Intermingling is more of an issue when one load is 25% oleic and the other is 75% oleic. The processor will allow for a slightly lower oleic level to accommodate some contamination with other beans.

How is the seed being presented to producers? Pioneer has 4,000 sales people in the USA. They like to sell what the farmer wants to buy, so the sales force might need extra urging. Are the sales people aware of the volumes needed for the processors?

What can ISU and IGQI do to help this work? We can bring broad member constituencies into the chain and move commodity handlers to more advanced thinking as we engage grower associations, elevators, processors, users.

Could we put together a proposal for QualiSoy to help illuminate the quality improvements that could increase the market share of the soybean oil? This could help develop a long term commitment by users to buy it as we now have a product that can compete favorably in the food market. Has Qualisoy already calculated a “missed opportunity” value ?

**Lunch Break (Hickory Park buffet catering)**

## **Presentation and discussion – International Center for Grain Operations and Processing**

Leaders: Charlie Hurburgh and John Lawrence.

Presentation available at <http://www.extension.iastate.edu/Grain/Topics/advisorycouncil.htm>

Charlie Hurburgh presented the current plan for the International Center for Grain Operations and Processing (ICGOP). Initially, the Center was conceived as a partnership between Kansas State University and the Grain Elevator and Processing Society (GEAPS) to provide undergraduate and continuing education for managers and operators in the grain industry.

More recently, Iowa State University was encouraged by Iowa grain industry leaders to be an equal partner in the Center, with each university providing the expertise and facilities that exist at their locations. Industry sponsors have pledged funds and in-kind support for added training facilities and, if needed, added personnel. The recent inclusion of practical problem-solving activities for industry will add a focus on management and decision-making.

Each major trade organization has a foundation, so the path for funds will be a consortium of industry foundations, distributed to the universities for education and problem-solving efforts. A food safety focus could be integrated into the Center, which could expand the ownership of the project. The governance board would include industry sponsors within the organization, and the outputs would be education and fee-for-service activities. Decisions on organizational structure should be made by December 2011. Other universities could come in as partners, but may also be included on a project-by-project basis.

### *Discussion:*

Randy Dunn offered support for the idea and confirmed that training is needed, which might also include better control of energy use. Very few new employees have agricultural background. Dave Holm mentioned that new training of regulatory personnel (OSHA and FDA) will be needed. New employees need to know how to repair equipment and do preventive maintenance. Curt Sindergard suggested that this training could be offered to farmers to help in managing grain for food safety and optimum condition. Some of this training could also be offered through bin and equipment companies. Howard Shepherd said that equipment and monitoring companies are seeking independent evaluation of new technologies, and this evaluation data could be used in sales materials.

John Lawrence compared the Farm Credit School, which trains regulatory personnel, to one of the educational program offerings of the ICGOP. Dave Holm suggested that the initial focus of activities needs to be narrowed and then various other activities could be added.

It was suggested that community colleges would be a good place to deliver the classes, but some people think that community colleges would not attract the participants. However, sometimes community colleges would be a source for employees if they offered more detailed training. Specific courses could be offered in Iowa (probably at ISU) in short modules of 2-3 days. Would employees be willing to travel to Manhattan, KS for training?

We agreed that some definition is needed of the types of training to be offered, and we also agreed that education could have an impact on certification by FDA and OSHA.

### **Adjournment**

Meeting adjourn at 2:30pm. The next meeting is planned for Friday, January 6, 2012.

Respectfully submitted,

Connie Hardy

Extension Value Added Agriculture Program