**Advisory Committee on Biotechnology and 21st Century Agriculture (AC21)**

**Plenary Meeting**

**March 5-6, 2012**

**U.S. Access Board Conference Room**

**1331 F Street, NW, Suite 800, Washington, DC**

**Meeting Summary**

On March 5-6, 2012, the United States Department of Agriculture (USDA) convened a plenary session of the Advisory Committee on Biotechnology and 21st Century Agriculture (AC21). The meeting objectives were:

* To consider reports of the four AC21 working groups on the progress of their analyses relevant to the overall AC21 charge
* To listen to a panel discussion on crop stewardship measures in different agricultural sectors
* To explore areas of agreement among members
* To continue overall discussions on the Committee charge and planning subsequent work.

The AC21 includes representatives of industry, state, and federal government, nongovernmental organizations, and academic: Mr. Russell Redding, Ms. Isaura Andaluz, Ms. Laura Batcha, Dr. Daryl Buss, Mr. Leon Corzine, Ms. Melisa Hughes, Mr. Alan Kemper, Mr. Douglas Goehring, Dr. David Johnson, Mr. Paul Anderson, Mr. Michael Funk, Dr. Gregory Jaffe, Dr. Mary-Howell Martens, Mr. Jerome Slocum, Ms. Angela Olsen, Mr. Keith Kisling, Dr. Marty Matlock, Mr. Charles Benbrook, Dr. Josephine (Josette) Lewis, Mr. Lynn Clarkson, Mr. Barry Bushue, and Dr. Latresia Wilson. Mr. Russell Redding chaired the meeting. Mr. Robert Frederick from the Environmental Protection Agency attended as an *ex officio* member. Dr. Michael Schechtman participated in the two-day session as the AC21 Executive Secretary and Designated Federal Official (DFO).

A full transcript of the proceedings was prepared and will be available on the AC21 website at <http://usda.gov/wps/portal/usda/usdahome?contentid=AC21Main.xml&contentidonly=true> .

Below is a summary of the proceedings.

1. **Welcome and Opening Comments**

Dr. Michael Schechtman opened the proceedings at 9:00 a.m. by welcoming all members, *ex officio* representatives, and public in attendance to the third meeting of the committee since the committee was revived by Secretary Vilsack. . He noted that there would be a public comment period later in the day, that minutes and a transcript will be available within a few weeks, and that the press can engage after the meeting. He reiterated the charge given to the Committee by the Secretary at the previous plenary session, namely to address the following questions:

1. What types of compensation mechanisms, if any, would be appropriate to address economic losses by farmers in which the value of their crops is reduced by unintended presence of GE material(s)?
2. What would be necessary to implement such mechanisms? That is, what would be the eligibility standard for the loss and what tools and triggers ( e.g., tolerances, testing protocols, etc.) would be needed to verify and measure such losses and determine if claims are compensable?
3. In addition to the above, what other actions would be appropriate to bolster or facilitate coexistence among different agricultural production systems in the United States?

with the caveat that items 1 and 2 are to be completed before embarking on item 3.

Dr. Schechtman gave a history of the past meetings. At the first plenary session, four working groups were established on four topics:

1. Size and scope of risk
2. Potential compensation mechanisms
3. Tools and Standards to verify eligibility and losses
4. Who pays?

He noted that WGs consist of AC21 members and non-members.

Dr. Schechtman then listed and described the background documents provided to AC21 members and the public, including:

* The Federal Register notice announcing the meeting
* The AC21 Charter
* The AC21 Bylaws and Operating Procedures
* A package of biographical information on AC21 members
* A statement of the Secretary’s charge to the AC21
* A list of working group members
* Summaries from the previous AC21 plenary as well as summaries of working group meetings and informational webinars held since the previous plenary
* A paper on coexistence from a previous version of the AC21, which set out a definition for coexistence that the current committee has revised slightly to emphasize farmer choices

Dr. Schechtman noted the three objectives for this plenary, reviewed the two-day agenda for the committee, and closed by noting the difficulty and hard work of the Working Groups (WGs). He reminded members that WGs are meant to be fact finding, not negotiation. He noted that recommendations are for the full committee to decide, urged everyone to move beyond established positions to look for common ground, and informed the group the Deputy Secretary and the Secretary will be briefed soon after the meeting on the results of the next two days. He then turned the meeting back to Mr. Redding, the Chair.

Mr. Redding thanked the committee’s willingness to come together in the public’s interest. He noted the work of all the working groups and suggested that regardless of where committee members are in the thought process around compensation mechanisms, size, scope, tools and who pays, all have become better informed. He reiterated the Secretary’s charge and noted some current events, including a case against Monsanto around patent enforcement for unintended GE presence that was recently dismissed and the recent United States-EU organic equivalency agreement. He noted that shared responsibility and practice will be part of the solutions that will be delivered to the Secretary. He acknowledged the difficulty of the task, looked forward toward the deliberations, and expressed confidence in the committee. He asked AC21 members to listen to the reports from the working group summaries and categorize the statements according to whether you agree, disagree, or are not sure. He stressed the objective of building on past AC21 work and providing reasoned solutions for coexistence.

Dr. Schechtman updated the committee on the progress of reestablishing the National Genetic Resources Advisory Council. Committee members have been chosen, but they have not met yet.

1. **Summaries and discussions by the WGs**

Report from WG on Size and Scope of Risk

Dr. Josette Lewis reported as rapporteur for the WG and noted that the WG had met twice by conference call to talk about available data. She stressed the importance of understanding the context of the data that the WG evaluated. Data was sought from 13 seed improvement agencies at the State level and additional data was sought from the Biotechnology Industry Organization (BIO) and the American Seed Trade Association (ASTA) as well as from USDA/ERS (through Catherine Greene). Not much data was obtained from these sources, either because there was no additional data or because there was sensitivity about potential in loss of market confidence if data were disclosed. Data was received around unintended GE presence in non-GE and organic corn and soy based on data from the Organic Trade Association and from WG member Lynn Clarkson and an analysis developed by Mr. Clarkson on the market implications of that data. It represents a relatively small sample size. The data on soy was submitted through one seed company. Additionally, there was canola data based on an oral report on information from a Canadian exporter. None of the data directly reported on economic loss to farmers; rather it reported on unintended GE presence and sample rejections. Based on data provided by OTA and Mr. Clarkson’s analysis, from testing at a 0.9 % market threshold, non-GE soybean samples were rejected at a 0.25% rate, non-GE corn at a 3.5 %. The total cost of rejections was estimated to be less than $40 million per year, though that number was not based on actual loss data. From the one report the WG received on seed testing, the rate of unintended presence in soy was lower than for dent seed corn and for popcorn, it was almost negligible. In the case of Canadian canola, the report received said that the adoption and investment in identity preservation significantly reduced the rate of rejections from 10 -15% a few years ago to 0.5% now. Measures put in place included procedures for equipment cleanout, segregation, segregated production processes, handling of non-GE materials on separate days, crop rotations and buffers.

Much of the WG’s discussion was about the context of the data and the range of perspectives. Crops like corn, soy, canola, are mostly GE, so the potential for unintended GE presence is high. Other crops could have different potentials for gene flow. For example, alfalfa risks might be higher or lower. There may be regional differences, there are high levels of GE presence for corn and soy in the Midwest, but other regions would have less risk. The introduction of functional traits (i.e., traits that change the functional properties of a commodity) changes what level of GE presence would be acceptable in commodities. Small farms will have a harder time with identity preservation. It was noted that data was gathered at the shipping or processing level and not at farm level; testing at farm level would be expensive. How does one interpret data at the level it was received? One cannot be sure if it is a result of gene flow or farmer error. Dr. Lewis noted that no other data is available, except for data that was referenced at the previous plenary session in the remarks from Dr. Nicholas Kalaitzandonakes and the comments around his presentation and that may sometime be accessible to the Committee.

In questions, one AC21 member asked for clarification on the losses that Lynn Clarkson estimated in the analyses he provided to the WG. Mr. Clarkson explained that the estimated losses reflected the predicted loss in premium above the commodity price. Another member noted that although the OTA data came through two member companies and an elevator supplier, it was gathered from 500 farms over 3 years, or 1500 data points. She indicated her impression that the OTA data was consistent with that gathered separately by Dr. Kalaitzandonakes, and expressed the desire to coordinate with him when his study becomes available.

Another AC21 member noted that his information suggested that he had heard similar projections about the extent of unintended GE presence, and his conclusion was that the scope and scale of it were manageable and the data, despite a lot of uncertainty, gives a firm enough foundation to move ahead. He wondered why the cost of field scale (farmer-level) testing was described as being high-cost, and asked for information about the basis for that conclusion. Mr. Clarkson responded by noting, first, the extreme sensitivity around clients knowing that unintended GE presence exists. In his analysis, he looked at the different data sources to see if they were consistent with each other. For his own samples, his company tests every load with strip tests and samples corn and soybeans under contract. He noted that since zero GE presence is not possible, the market has given us a 0.9% threshold. He made a rough calculation on the number of tests that would be needed based on a cost for the strip test and labor at $35 dollars/test and 700 bushels as a standard load. He also noted that he had heard that electrophoresis could alternatively be used as a test method but did not have cost estimates for it. One AC21 member suggested that the WG develop a vision for a systematic countrywide testing program. Another member noted that when biotech potatoes were produced commercially, they used to have to be tested on farm in the field, and those tests cost $300 each, an expensive requirement.

Another AC21 member noted that the previous week, USDA’s Office of the Inspector General released a report, now available online, which discussed the presence of biotech material in feed for organic livestock. It recommends that there be testing of 5% of operations for prohibited items, including GE materials. She noted required reporting by certified distributors and the need for organic milk producers to be aligned with consumer expectations. So she predicted increased scrutiny at the farm level.

Another AC21 member inquired if it was possible for Mr. Clarkson to tell from his own data where the unintended GE presence occurred in order to get better farm data and whether he has a set of protocols or best management practices for his contractors. He wondered whether the data were any different for commodity intended for food versus feed. He also expressed concern that the committee might move into the standard-setting arena, which he suggested was not in the committee’s charge. Mr. Clarkson indicated that his company checks samples before they arrive at their bins. His “guesstimate” was that roughly 90% of unintended GE presence comes from cross-pollination in the field. He discussed the observed difference in rejection rates in soy and corn. He noted that problems always arise in border rows, which diminish as you go into the field. He noted a rejection rate of roughly one out of 30 loads for non-GE corn and one out of every nine or ten loads for organic corn, likely because of smaller field sizes on average for organic farms. He reiterated that in the marketplace, the current requirement is for less than 0.9% GE presence. In the organic marketplace, the market has become concerned not only about organic production procedures but also about unintended GE presence. He offered the view that the market can function at the 0.9% requirement, but could not handle a lower number, and coexistence would not be possible if that were required.

A member asked about building in temporal differences in planting/flowering in requirements. Mr. Clarkson indicated that planting windows and differences in plant maturation make such requirements difficult. Another member reiterated that all farmers meet strict guidelines and protocols.

Report of the WG on Tools and Standards to Verify Eligibility and Losses

Dr. David Johnson was rapporteur for this working group. He indicated that the WG in its two meetings had gotten halfway through its work plan items and had addressed four questions, which were:

1. In general terms, what categories of eligibility standards would be needed for individuals who might seek compensation?
2. What are the options for these types of tools that could be implemented to verify that damage occurred and to ascertain the extent of loss?
3. Are there particular losses that should specifically not be covered?
4. Are there existing programs in USDA that might help to develop such standards or to monitor of assess losses? If so, which?

WG members recognized that merely intending to enter a certain market and being unable to derive the premium by that market because of unintended GE presence would not by itself be sufficient to justify compensation. Farmers would need to establish that they had some sort of plan that had been carried out or had utilized best practices to produce material that would meet that market’s requirements, and that the contract provisions that they were intending to meet were reasonable. Members recognized that losses that might need to be addressed could occur in organic, non-GE, or GE crops.

He indicated that WG members, in their analyses, thought that four types of requirements should in general be met to be eligible for compensation:

1. *Proof of intent to produce a crop or crop for a particular market.* WG members agreed on the need for verification of prior intent to produce a particular type of crop, which might be a pre-production contract, or organic certification, as well as verification of the starting seed.
2. *Proof of use of adequate farm practices.* Eligible farmers would also need to have grown their crop consistent with some set of rules/practices. There was discussion of the need for farmers to have used best practices or production standards in order to be eligible for compensation, plus, potentially, meeting other requirements. It was noted that outside of organic production, no comprehensive practice-based standard-setting program exists, so that setting best management practices for other types of production will be complex.
3. *Reasonableness of non-GE market requirements or contract requirements.* There was considerable discussion about whether the WG or the full committee would be discussing the setting of a threshold of some sort. There was considerable agreement that the WG would need to discuss potentially setting a level of unintended GE presence below which no contract would be judged to be reasonable, i.e., contracts for shipments requiring unintended GE levels below that amount would assume private risk and not be compensable under any compensation mechanism under consideration.
4. *Proof of economic loss.* WG members had noted that coverage of market losses would likely have the highest level of committee support. He mentioned that at a WG meeting, Dr. Schechtman, in response to a question, had offered the view that compensation was not intended to cover regular testing costs. Dr. Johnson noted that this proof might be provided by providing certification that an organic production plan was followed, providing a copy of a rejection stamp from an elevator, and providing information about the purchasing price not received at the elevator. He added that while it should be straightforward in principle to settle what was the agreed-on price, in practice it will be much trickier to agree on what were best management practices and what the farmer was expected to do to be eligible. He noted one member’s concern that questions will arise on some shipment rejections regarding differing test results on the same shipment (sometimes performed at origin and at destination) and technical issues will surely arise around methods and results interpretation and that further work may need to be done to verify the underlying reliability of testing and sampling methodologies. He described the most rigorous steps taken under the tightest biotech-sensitive program used by Mr. Clarkson’s company.

Dr. Johnson elaborated on some WG discussions about determining actual losses, describing cases where it might be straightforward and others where it might not be. WG members had noted the need to include additional transportation costs to move the seed to the second buyer in the calculations. The overall importance of unintended GE presence as one among the many factors that grain buyers need to consider was mentioned. One caution from the WG was noted, that prices must not be set so high in a contract that they would provide a disincentive to actually deliver the identity-preserved product (if compensation would cover the loss). Some WG members had offered the view that a mechanism might need to be set up to verify “reasonableness” of the contract pricing terms so as to discourage gaming the system. But WG members felt that in general, presuming “reasonable” prices set in both contracts, calculations could be made based on the price differential and transportation costs. It was noted that the seed market is somewhat different than the commodity market, however. Supply and demand for seed is typically well balanced in any given year. If a seed shipment was rejected by a GE-sensitive market, it might take time – even years – to develop a new market for the seed (which might be limited based on, for example, the particular growing zone for which the seed was adapted and variety restrictions as well). There was some question raised about whether there should be limitations raised as to which costs could be covered under a compensation mechanism, if one is established: this is an unresolved policy question. Several WG members felt, though, that for seed if any of these other costs were to be covered, there would need to be documentation provided of unsuccessful attempts to sell the seed while it was being stored.

Dr. Johnson also described the WG’s discussions on potential limitations in the scope of loss coverage. WG members felt that other regular costs of doing business should be excluded, as well as any costs addressed under any other type of insurance. In other to decide on whether a contract was reasonable, some WG members had suggested that “best practice for contracts” might need to be established, indicating, for example that contracts would need to be in writing, with a price certain, etc. WG members had also thought that it would not be unreasonable to set a maximum payout level for any individual claim. Contracts might need to be examined as a whole, not only to see the maximum level of unintended GE allowed, but also for its general parameters to make sure that the contract does not provide implicit disincentives to meet its terms. However, there was sentiment that a rough idea about reasonableness could be gotten from examining posted prices, and (for the case of organic products) seeing whether established organic production standards were met. WG members also felt that, having been rejected because of unintended GE presence, a farmer should not be able to then use the crop on-farm and claim a loss. Rather, documentation of a sale at reduced price should be required. In terms of rejected seed, members recognized that there might need to be a time limit on the amount of time a seed could be held (both because the seed may have a finite viability and because compensation should not be extended indefinitely). Time limits might vary from crop to crop and from commodity to seed.

Dr. Johnson noted that, in considering existing USDA programs that might develop such standards or to monitor or assess losses, the WG had identified that the Economic Research Service and the Agricultural Marketing Service have price information, the Animal and Health Inspection Service does regulatory approvals, and the Agricultural Research Service has scientific expertise on testing, which could help on quantifying the amount of unintended GE presence and identifying the source of contamination for an individual incident. He also noted that in the case of alfalfa production, producers are coming together to solve production problems: there are now two AP-sensitive grower opportunity zones for alfalfa seed production, one in the Oregon/Idaho and one in Wyoming.

In discussion, one AC21 member inquired why WG members thought that farmers should not be compensated for a loss if they decided to use a rejected crop on farm for feed. Dr. Johnson replied that it was out of a desire to prevent farmers from gaming the system. Another member inquired about the rationale for a maximum payout. Dr. Johnson suggested that a farmer could be brought into question if he/she repeatedly made compensation claims. Another AC21 member noted the existence of maximum claims under crop insurance. One WG member cautioned that the challenge will not be in cases where the system works perfectly, but for the outliers who, she thought, would actually be the majority of the cases.

One AC21 member offered the view that having a valid certificate and demonstrating verifiable stewardship practices could be firm areas of agreement. Proof of loss, however, would need to be not overly burdensome. She offered caution, though, on setting a contract trigger for a threshold since how to handle new crops is not clear. Another AC21 member asked whether establishing proof of intent and use of best management practices would be the best way to approach eligibility. In response, Dr. Johnson noted the desire of WG members to put in place mechanisms that would avoid the court system. Another WG member added that there had been substantial debate by the WG on the subject of best practices, and that the WG felt there was a need for best practices for coexistence because of the breadth of the needed approach.

Another WG member also stressed that he felt that the WG came to important areas of agreement, including setting a responsible standard for unintended GE presence of 0.9% in contracts for whole grains and recognizing that such a standard could not be applied in cases of functional GE traits, like amylase corn. In response to this, Dr. Schechtman noted that it is not the function of working groups to come to agreements for the AC21, but rather to organize information or develop analyses of information for the full committee to consider. The Chair also reminded the Committee that WG 1 (Size and Scope of Risk) was not in agreement as to whether the risks identified merited the establishment of a compensation mechanism. He did, however, reinforce the importance of the use of best management practices in establishing intent and loss. Another AC21 member encouraged the institutionalization of best management practices throughout agriculture as a part of the solution to the overall problem. One other AC21 member also noted the role of USDA in providing market clarity, testing protocols, and best management practices in general.

One AC21 member reminded the Committee that the standards for compensable non-GE or organic claims might be very different if GE traits that affect functionality of the commodity were considered. He also expressed the opinion that to make a compensation system work, a “number”—a trigger for potentially compensable contracts—was needed. Another member, however, expressed the view that setting such a number was beyond the role of the committee, perhaps outside the role of government, and should be left to private contractual arrangements. In particular, he thought that adopting the market standard of 0.9% would not work. Other members noted that choosing a number would not be setting a standard for the meaning of “organic,” but would rather be a standard among several related to eligibility for compensation. It would identify contracts for which society would not bear any cost in case of economic loss, and would provide a range for compensation eligibility. Two members cautioned, however, that others not on the AC21 might use any number set in other ways.

Another WG member noted the importance of factoring in biotech characteristics along with other quality factors in making decisions as a grain buyer. One other AC21 member cautioned that the setting of these standards went beyond USDA’s market responsibilities, and should be left to markets and contracts.

Report from WG on Potential Compensation Mechanisms

Jerome Slocum acted as rapporteur for the WG. He noted that the WG had met four times and that the work had been a struggle because of the difficulty of separating the discussion from the “who pays?” discussion. Knowing who is to pay is critical to evaluating potential impacts of each mechanism. Three possible types of compensation mechanism have been discussed: crop insurance, risk retention groups, and a compensation fund.

The plan of work identified 11 areas for the working group to compare among the three mechanisms, and the WG has worked through the comparisons in 7 of those areas. In terms of considering impacts on conflicts, the WG identified both pre- and post- incident conflict. Cost and benefits are to farmers and developers. Crop insurance would be paid for, at least in part, by farmers. There was a belief among WG members that if technology developers did not participate in the mechanism itself, there would be no incentive for development of upstream technologies and practices to prevent risk. A risk retention group approach was thought of as less attractive by a number of WG members (but not all). WG members felt that any properly designed system would reduce litigation. Crop insurance would reduce litigation but not rule it out completely.

Mr. Slocum noted that, in terms of impacts on trade relations, establishing such a compensation mechanism may send one of two signals—either that we are not confident in our stewardship system or that we have confidence in our system. If technology developers were to pay for a compensation fund then, importantly, those who participate would still need to have some “skin in the game.” For the discussion on pollen flow and how to prove negligence, WG members recognized that such proof might be difficult. WG members agreed that if there were a decision on who pays, it would give clarity as to which mechanism makes the most sense.

In follow-up discussion, one member noted that the organic industry can currently utilize crop insurance, and wondered if there were any statistics on its use. One WG member replied that the U.S Production Survey developed by USDA’s National Agricultural Statistics Service indicates that it is used at a lower rate for organic crops than others, but that the survey addresses all specialty crops. The Chair noted that in much of insurance for organic farms and specialty crops, while individual policies for each crop might be preferred in principle, in practice what works is whole farm policy for insurance. One complication is the tremendous variability in price during a season, making it difficult to set the insured price. He noted that USDA has spent a lot of time on insurance products for specialty crops. Another WG member noted that Amish and Mennonites, who are major organic producers in the Eastern United States, do not buy crop insurance. Mr. Slocum expressed the view that crop insurance is the least likely mechanism to be used. A compensation fund would be “cleanest” to implement, but who pays for it would be important. Another WG member noted that USDA’s Risk Management Agency does not have the ability to deal with the types of losses under discussion, but in contrast a risk retention group approach would be a purely private tool. An AC21 member noted that the Farm Bill currently under discussion in Congress would provide room to have options on the table.

One AC21 member inquired why agricultural mediation as a mechanism, which had been among the potential compensation mechanisms previously, was removed. Mr. Slocum responded that WG members thought it wasn’t a compensation mechanism per se but was a useful tool.

Readout from WG on Who pays?

Leon Corzine acted as rapporteur for the WG and noted that the group had met twice. He noted linkages to the size and scope and the mechanisms groups. The WG had set out to identify principles to help inform a decision by USDA on who should pay for a compensation mechanism if it is decided one is needed, but the group vacillated on those principles. He noted a desire to put together a list of principles that are principles of substance, but said that the group is still vetting candidate principles, parking the “if any” phrase in the AC21’s charge from the Secretary. He noted that there had been considerable discussion on the nature of contracts and added value contracts, and compared contracts for non-GE or organic to contracts for white or blue corn which have visual markers. He noted the importance of meeting those contractual agreements and noted that the buyer is the one who pays for risks. He was not sure that the WG would ever be able to reach agreement on a list of principles.

He noted that the WG had discussed analogies with other mechanisms used in other situations, such as those involving land use and mining issues, but in those issues safety, health, and the environment are involved and in that way those situations are different from the situations the committee is discussing. He mentioned the issue of impacts of new traits and GE products and noted that such introductions would not change the risks for non-GE producers of corn and soy because market penetration of GE varieties will not change, and the new traits would replace old ones. He noted conversations the WG had had about requirements in Arizona regarding the need to keep white and blue cotton separate and keeping regulated GE products separate from others. He noted that the WG is looking at other examples where the government may step in to preserve markets. He mentioned that a compiled list of potential guiding principles is in the last meeting summary, but there is not agreement on many yet. He noted that the WG’s discussions had strayed into areas that other WGs were discussing, but that the WG would try to move ahead on the principles in parallel with the work of the other WGs.

The Chair asked whether the principles would actually guide a decision on who would pay, and Mr. Corzine said they would but also referred to guidance on the standardization of contracts. He also reiterated that guiding principles were unlikely to be agreed upon. Another WG member noted that a major focus of the discussions so far had been on who bears market risks and whether that party benefits in that market. In her view, the WG had not concentrated on who pays. The focus was on how is the market working and whether it was working for all parties and if not, how to design a compensation mechanism to do so.

Another AC21 member, thanking the WG for its efforts, noted the importance of contracts and, specifically, reasonable ones. She inquired whether there was general agreement on this. She offered the view that adopting tools and standards related to proof of intent and the requirement of reasonableness could help bring clarity to the work of the other groups. She indicated, though, that she was still trying to wrestle with the concept of reasonableness of contracts. An AC21 member indicated that she did not support the notion that the market “has to work for everyone” in practice. The recommendations have to relate to the scope of the problem. The “macro” question is, are there enough choices for enough people? If that is not the question, she added, the discussion would be about the use of government dollars. Additionally, she noted that there are many players post-farm that also drive this discussion, including grain traders, etc., and they should also be involved in thinking through who should pay and the conversation around potential compensation mechanisms. Mr. Corzine noted that not every farmer can grow everything. A key question is what consumers would be willing to pay for farmers’ choices.

An AC21 member noted that when all parties have “skin in the game” then all parties would pay more. Another AC21 member noted, though, that some standards or requirements are set by markets or public expectations without understanding the challenges of production agriculture. This creates difficulties. Another AC21 member noted that there are some who would like to see a compensation approach that is highly punitive toward GE farmers. If this were the case, developers would be unlikely to get on board. He noted that the Secretary had pointed out that this divisiveness is eroding American agriculture on real food safety issues. In his view, the AC21 should be able to have meaningful conversations as to what can be compensated, and that out of those conversations a not unreasonable conclusion would be that compensation should come from those who have benefited the most out of agricultural biotechnology, the agricultural biotech industry itself. In his view, all the discussions are linked, but deciding on what triggers compensation is central. Another AC21 member responded that the notion that the biotech industry has benefitted the most was not quite correct, noting that organic agriculture is also quite profitable, and that small biotechnology companies have large regulatory costs to bear. Acknowledging that small farms are important, she indicated that consideration had to be given to the impacts on small biotech companies as well.

One AC21 member questioned the idea that the AC21 should affirm that some individual farmer choices could be labeled as non-feasible, saying that this would imply that coexistence can’t work. In response, another member acknowledged the importance of diversity in agriculture but reiterated that individuals do not have all the choices all the time. Another member offered the view that the biotech industry has brought diversity to farmers. A focus for what the committee should be considering is which contracts are compensable upon a loss. Rather than focus on cost-sharing, the focus should be on contracts and not compensating those who sign stupid ones. Another member supported this idea. Another member spoke to his experience in coexisting with neighbors who use different production methods, but stressed the role of the current contract system in leading to a diverse marketplace.

An AC21 member stressed that markets had been lost because of unintended GE presence, and noted that the future advent of drought tolerant GE corn varieties would pose great hardships for the farmers she represents in the Southwest. Another AC21 member noted that in the text of the Organic Act, the intent was not to ban the presence of GE materials. One member expressed the view that biotechnology companies have taken large risks and have been successful because farmers want those products. He objected to the assertion that those companies need to share their profits. Another member offered the view that a compensation system would in the end make everyone pay, and noted that sometimes conventional and GE farmers bear losses when pests (especially weeds) and pathogens are not adequately controlled on organic farms nearby.

The Chair thanked the Committee for a great discussion. He reminded the AC21 that the purpose of the Committee was not to discuss what types of agriculture have a right to exist: all have that right and agriculture as a whole loses when the discussion moves in that direction.

LUNCH

1. **Panel Discussions**

The AC21 listened to a panel discussion on how the commercial sector is addressing unintended presence now and managing risk. Dr. Schechtman provided the following four questions for panel members to address, noting that some questions would be more relevant to some panel members than others:

1. What steps do you take to safeguard the purity of production?
2. What steps do you take to safeguard the purity of your neighbor’s crops?
3. What policies as a company/organization do you have in place to ensure the quality of products derived from your seed?
4. What policies do you mandate/encourage farmers to use to limit pollen flow?

The panel consisted of the following 5 individuals:

**David Johnson**, Cal/West Seeds (AC21 member)

**Don Cameron**, Terranova Ranch, Helm, CA

**Chris Holdgreve**, Excellence Through Stewardship, Washington, DC

**Robin Brekken**, Robin Brekken Farms, Crookston, MN

**Charles Brown**, Brownseed Genetics, Bay City, WI (by telephone).

Note: Two of the panelists, Dr. Johnson and Mr. Brown, gave power point presentations and those presentations will be posted on the AC21 web site.

**David Johnson** noted that Cal/West is a California cooperative focused on providing improved alfalfa seed to major hay producing regions (though they work on a number of other grasses as well). They work on genetically engineering improved yield and stress tolerance and operate in many countries around the world. They also provide seed for those growing for unintended GE presence-sensitive markets and produce both foundation and registered seed.

In response to question 1) above, he noted that alfalfa breeder seed is produced under nets and is checked for the presence of the GE glyphosate tolerance trait. Fields for foundation seed are located in areas where no glyphosate tolerant (Roundup Ready©) alfalfa is known to exist. He noted that the National Alfalfa and Forage Alliance (NAFA), an industry organization, has posted documents on management practices for coexistence at www.alfafa.org.

In response to question 2) above, he noted that Cal/West is not currently producing any GE alfalfa seed. There is a national pinning map for identifying locations where different types of alfalfa seed are to be planted, in conjunction with seed certification standards. Roundup Ready alfalfa may only be grown in 11 States. Grower opportunity zones are used to some extent to designate where GE alfalfa is being planted. There are two opportunity zones where more than 80% of growers have agreed not to plant GE alfalfa, one on the Idaho-Oregon border and another in Wyoming. There are GE alfalfa opportunity zones as well. The Imperial Valley in California is a GE alfalfa- free zone. The alfalfa industry as a whole has been working on procedures and policies to allow coexistence to work.

In response to question 3) above, he noted that Cal/West uses NAFA Best Management practices for its seed production is a participant in USDA-APHIS’ Biotechnology Quality Management System program, and is ISO 9000-certified. They have developed a quality manual and a set of standard operating procedures to follow.

In response to question 4) above, he reiterated that Cal/West is not currently producing GE alfalfa seed. He noted that there is no practical way to prevent pollen flow per se. He noted his company’s linkage to the Association of Official Seed Certifying Agencies (AOSCA) and recommendations they sometimes provide on how to improve industry best practices.

**Don Cameron** noted that he farms GE, organic and conventional crops. In response to question 1) above, he noted that he grows a multitude of seed crops, some of which self-pollinate, but others of which, including some crucifers, require buffer zones of as much as 1.5 miles. He is able to grow GE Roundup Ready alfalfa side by side with non-GE alfalfa with a 20 foot border, using different farming schedules to prevent pollen flow, harvesting on a regular 28 to 30 day schedule, and cutting and baling each crop before moving on to the next crop. He also grows organic cotton and GE cotton with a 30 yard separation, because the crops are largely self-pollinating, and is able to sell these crops to Europe and Japan with no problems. He is also able to grow specialty white corn separated from sweet corn using buffer rows, distance, and staggered planting dates to maintain purity. With appropriate planting time separation, the two crops can be grown 30 inches apart. Doing this successfully requires that you know the biology of the plant.

In response to question 2) above, he noted constant communication among his neighbors via phone and Email, and in local coffee shops. He noted as an example that he is near a region that grows alfalfa for seed. Growers and buyers in that area discussed the issue and decided not to grow GE Roundup Ready alfalfa for that season because there were not enough available contracts to produce it. The growers will likely decide otherwise in the future, but they have worked their plans out without government intervention.

In response to question 3) above, he noted that there are standing procedures in place to produce the highest quality seed. Identity preservation best practices are used, including using only unopened bags of seed (i.e., no seed saving) and rigorous cleaning of planting and harvesting equipment, etc..

In response to question 4) above, he noted that policies he employs are often mandated to him by his buyers. Knowing the biology enables him to decide whether for a particular contract he can assume the associated risk. He acknowledged that he can’t grow every crop he might wish to grow because some require separation distances that he can’t accommodate. He noted that he and others were “doing coexistence” before it was mandated and expressed the view that farmers should be able to plant conventional, biotech, and other crops with proper management.

**Robin Brekken** indicated that he farms on a 3,000 acre organic farm, certified in 2001, with about half planted to corn and half to forage (with a little seed production, mostly small grains) to supply the local dairy industry. He indicated that not all the questions posed were relevant for his operation. He said that his bottom line is that if he can start with clean seed, the rest is on him, and his focus is on quality. He acknowledged the need to be careful with cross-pollinating crops like corn, so that communication with his neighbors is a necessity. He needs to know about his neighbors’ planting intentions and to tell them his own. In addition, it is critical for him to know what his buyers want. He noted that he had recently received a letter from a supplier that stated they were not able to provide him with appropriate GE-free seed. He noted that where he farms is a significant sugar beet production area, but he is not concerned about that because GE sugar beets will not cross-pollinate his crops. He also noted that in Minnesota parallel production of organic and GE crops on the same farm is not allowed.

**Chris Holdgreve** described the Excellence through Stewardship (ETS) program, an industry-developed initiative to advance the use of best practices throughout the lifecycle of GE products from gene discovery to product discontinuation. It is intended to be global in scope and intended to be implementable regardless of the size of the program. We have partners that are global and very small. Because ETS programs were developed with this diversity in mind, any entity that joins commits to the entire process. It is not intended to replace government regulations but to complement them. An organization must sign onto practices before they join, there are numerous guides that have been developed for participants, on topics such as stewardship, product integrity, product launch, discontinuation, and incident response management. The guides are available on the ETS website. All participants must agree to a third-party ETS audit. The company works with the auditor to go through the ETS process, and has authorized over 120 audits around the world thus far. ETS is an industry, involving 13 companies thus far, but its development has involved conversations with others across the value chain. Ideally, he said, ETS would like to get additional companies involved as well. Contracts involving ETS participants incorporate quality management and best management practices.

**Charles Brown** spoke of his company, a small supplier of non-GE and GE corn seed. His production of GE seed is farmed out to another location to process.

In response to question 1) above, he noted that his company has embarked on the development of the “Purity Plus Production Standard” for high probability of success in non-GE seed production, involving rigorous isolation and maintenance of seed quality, seed purity, and phenotype. Purity requires a 3rd party validation at every step. Working with AOSCA, there will be a new seed tag which he referred to gold standard for purity in non-GE production. He described the rigorous isolation and phenotypic standards that are applied, e.g., for phenotype no more than 0.1% off-type; conditioned inbred seed no more than 0.2% of off-color or off-textured kernels. For pure seed the minimum genetic purity value is 99.5%. The major cost in producing such high-quality seed is the cost of isolation. He has calculated that he needs 3000 sufficiently isolated acres for organic corn seed production, and he is able to produce what is needed. His company bags each ear to control pollen. He noted that it takes 6 generations to produce seed and indicated that there are steps that seed companies must take to maintain purity.

In response to question 2) above, he again cited the Purity Plus Production Standard, as well as participating in international discussions. He also expressed support for a market-based approach, what he referred to as “pull-through with market incentives.”

He also wondered whether USDA’s Farm Service Agency might be enlisted to help develop coexistence zones to treat isolated production areas as a resource that should be managed. He suggested that it might not be too difficult to accomplish what was necessary by planning around the type of crop, timing, etc.

In the discussion with the Committee following the presentations, these were some of the significant exchanges:

*Is communication with neighbors a requirement?* Generally, it is done by farmers but is farmer-and industry-driven, not government-driven. One producer on the panel noted that he had never been specifically asked to communicate with neighbors. Another seed producer noted that he requires his contracting growers to communicate with neighbors.

*If organic farmers are not also growing biotech crops, is that because of rules prohibiting it?* One panelist noted that in Minnesota, there are rules banning parallel production of organic with anything else (except buffer rows). This is presumably to prevent farmers from succumbing to the lure of higher premiums for organic products even if they were grown outside organic specifications. Others noted that parallel production is allowed elsewhere in the U.S. But for organic production on farms where parallel production is allowed, there is much paperwork and recordkeeping needed for the organic products.

*Are seed testing results required prior to planting of non-GE seed? What proportion of seed lots are rejected by farmers?* The answer seems to vary from farmer to farmer and from crop to crop, in part depending on how long GE varieties of the crop have been in commercial production.

*For producing high-purity non-GE corn seed, how much temporal difference in flowering does there have to be between two corn fields to not have cross pollination?* A rule of thumb is two weeks, but another week is usually added to account for weather and delays.

*Are buyers of organic feed for livestock asking for GE testing and are the associated costs something producers are willing to bear?* Selling to large coops may necessitate buyer testing but smaller purchasers have not required it. Plus individual producers would be unlikely to be able to accommodate the costs for testing individual fields, which may be small.

*Are there government incentives or mandates that would improve your contracts with your buyers?* One panel member suggested that grower education programs might help. Another indicated that incentives for producing clean seed would be the starting point. Another suggested that the establishment of coexistence zones and improved systems of mapping where crops are being planted, probably by working with USDA’s Farm Service Agency.

*How much will Mr. Brown’s system for producing Purity Plus seed add to the bag price?* The goal is to add no more than $5 per bag of seed.

One AC21 member summarized what she had heard in the panel as indicating that industry is leading the development of best practices, and that it is an important question on how USDA can facilitate these efforts. She reaffirmed the suggestions that grower education and grower opportunity zones might be areas for which USDA could provide assistance.

1. Public Comments

The AC21 Chair noted that public comments are provided as stipulated under the Federal Advisory Committee Act. Comments are to be no longer than 5 minutes in length and are not intended as dialogues between commenters and members of the committee.

Note: The complete versions of each of the public comments will be posted on the Committee web page and are also included in the meeting transcript. The comments did not all come in sequence during the designated public comment period, but rather one of the five comments occurred late in the comment period, after committee discussion had turned to other matters. For ease of discussion, they are all summarized in this section.

**Richard Bonanno**, MA Farm Bureau noted he is a farmer from Methuen, MA, that he had followed the conversation around coexistence and compensation for 25 years, and that he is a volunteer leader and president of the MA Farm Bureau Federation. On the question of what is government’s role in the science and marketability of GE crops, he noted that commercialized GE plants are deregulated crops that have been proven safe. He suggested that the linkage between GE crops and “pesticides” through EPA’s actions to regulate certain crops as “plant pesticides” or “plant-incorporated protectants” soured the organic community on biotechnology. He suggested that coexistence is not new and not a unique consideration for GE crops. In his view, good production practices and neighborly relationships are effective practices and coexistence is not the formidable challenge that opponents of GE claim. In his view, imposition of coexistence requirements is not consistent with history and would discount local, workable solutions. With respect to protecting the interests of farmers and maintaining dynamic markets, he suggested that the standards for GE content in organic regulations protect farmers and imposing a compensation mechanism would be unnecessary meddling in the marketplace.

**Mark Darrington** identified himself as a farmer from Declo, ID and former chair of the National Association of Wheat Growers-US Wheat Associates Joint Biotech Committee. He suggested that the AC-21’s work should be based on science and that his organizations support science-based regulation. He described the fact that he grows multiple crops and the need to meet tight specifications for quality. He indicated that he makes choices to accept the financial risks associated with growing particular crops according to specified standards and manages his business to accommodate the risks. He noted that not every crop is suitable for every environment or every growing area, and that there are many risks to farmers that are more economically significant than the presence of GE material in a non-GE shipment. In his view, it is not acceptable to have a federally mandated compensation mechanism for a small group of organic farmers without significant proof of economic loss. He noted that testing is a costly mechanism and implementing a testing plus compensation system could create an incentive for poor management practices. He expressed the view that coexistence should instead be solved on a neighbor to neighbor basis. If the AC21 were to recommend compensation, then organic growers would be getting compensated twice, already having been compensated by a higher price for their products. Compensation being considered would be for private contract risk not for risks to health or safety. He noted an example of a French fry plant in his area which had a problem with golf balls in potato shipments, and questioned whether, by analogy to the AC21’s work, taxes on golf ball sales or golf courses would be appropriate.

**Colin O’Neil** from The Center for Food Safety offered the view that any scheme to address unintended GE presence should address the root causes of such presence and focus on prevention rather than simply on compensation. He suggested that compensation mechanisms should not pass on costs to farmers who are already dealing with the associated costs of the problem, and that instead, a compensation fund financed by the GE patent holders should be considered, administered by USDA’s Risk Management Agency or its Farm Service Agency. He also noted that new GE crops, such as corn resistant to the herbicides 2,4-D or dicamba will increase risks of crop injury and create new liability concerns. He also suggested that enforcement of mandatory gene-containment measures must be enforced either by USDA or an independent third party, and must be accompanied by penalties for non-compliance.

**Genna Reed** from Food and Water Watch exhorted the AC21 to examine the entire financial burden associated with unintended GE presence, including not only the discrete economic loss, but also other factors such as costs of preventative measures, market access, loss of consumer confidence, etc.. She noted that years of investment go into gaining organic certification, making loss of markets devastating for organic farmers. She suggested that GE patent holders should pay for economic losses and other costs. The compensation system should ensure rapid payments to farmers, as a slow, faulty compensation mechanism could push farmers out of business. She recommended that USDA place a moratorium on new GE crop approvals until a compensation mechanism is decided upon and noted particular concern about pending USDA review of 2,4-D resistant corn, noting pesticide drift and human health issues.

**Nicholas Maravell**, an organic farmer who farms in Montgomery and Frederick Counties in Maryland, noted that he has worked on research projects with USDA’s Agricultural Research Service and with the University of Maryland and the Maryland Department of Agriculture. He noted that part of his operation is an unofficial GE- free zone because it is on the margins of public land. Other portions of his operations are surrounded by GE crops. He noted the difficulty in producing organic crops due to weather and the decisions of neighbors. He asked of the AC21 whether there are zoning laws that can be employed to preserve GE-free zones. He noted that loss of one non-GE seed crop can damage a long and carefully tended reputation and asked how such a loss could be compensated. He recommended USDA attention to ensure the availability of public crop varieties, through increased attention to public plant and animal breeding. He noted the inadequacy of available information about GE content in products and processes and suggested that USDA might maintain a database of such information to help identify sources of unintended GE presence. Finally, he raised the possibility of compensation for system-wide damages, such as, he suggested, might occur if widespread insect resistance to the Bt insecticides arose as a consequence of widespread use of Bt in GE crops such as corn.

The Chair thanked all the members of the public who had provided comments.

1. **Continuation of the morning discussion after public comments**

One AC21 member, reflecting on the panel discussion, acknowledged that following best farming practices can be extremely helpful, but suggested that all farmers may not be working together and that therefore, financial incentives are still relevant. Since some GE crops are under development that may affect small growers, he raised the question of how

to mandate the use of best management practices to ensure that farmers follow them. Another member agreed in general, but suggested that the point was how to improve practices and engage farmers to use best management practices, either with incentives or otherwise.

There was discussion about requirements for the planting of non-GE refuges and about compensation for farmers whose fields were near plantings of pharmaceutical-producing GE corn. One member suggested that grower opportunity zones might be implemented to prevent problems for individuals selling identity-preserved crops. Members also discussed the wording of GE stewardship requirements, and it was noted that the requirements focus on preserving the value of the GE crop and place responsibility on the person being compensated for that value. The requirements do not focus on relations between neighbors, though all acknowledge the importance of neighbor-to neighbor communications.

One AC21 member suggested that the Committee consider recommending 0.9% GE presence as a possible trigger for eligibility for compensation, recognizing that multiple compensatory mechanisms might need to be considered, and additionally suggested that everyone should be required to contribute for compensation. He added, however, that enabling farmers to start with seed of high purity would probably be more important than a compensation mechanism, and with such seed, problems can be contained. He noted the concerns of many that agriculture will accommodate incrementally higher and higher levels of contamination. He acknowledged the narrow charge from the Secretary, but urged the AC21 to acknowledge seed purity as a core of its recommendations. Dr. Schechtman noted general agreement on the importance of clean seed, but reminded the Committee that another advisory committee is being reformed to address the issue and the issue belongs with that group.

Another member stressed the importance of following best practices, but questioned the appropriateness of regulatory intervention rather than government facilitation in addressing the issues. She thought that industry would like to hear more about possible mechanisms to improve the purity of seed. Another member also questioned the appropriateness of implementing a compensation mechanism as a way forward and raised the use of preventative measures instead. There was a discussion regarding buffer requirements for organic producers, which are site-specific and are limited to the organic producer, not his neighbors. One member commented that no management system will solve the problem of bad neighbors. Another member noted that the problems under discussion will only get more difficult with time, citing increasing demands, pending deregulations for GE products, and the United States-European Union equivalence agreement under which the two entities agreed to share information on methods to prevent “GE contamination.” She also noted the possibility that consumers could weigh in more strongly on the issue of mandatory labeling for GE products.

One AC21 member suggested that the AC21 report to the Secretary could contain a prologue discussing the importance of pure seed as well as the seeming coalescence in domestic and international marketing around 0.9% GE presence as a standard for non-GE and organic materials. He suggested that this context-setting might get the committee out of the need for setting a particular GE threshold. The Chair asked whether these two items might begin a list of agreed-upon assumptions. Another AC21 member suggested that rather than calling them assumptions, they would be part of a description of the current data that exists.

The Chair suggested that for an evening assignment, members should think about what other elements might be part of an agreed-upon framework on which to construct the committee’s report to the Secretary. An AC21 member suggested that the need for good seed and the use of best practices would be a good starting point. She took issue, however, with the assertion that the situation will only get worse, cautioning against fear mongering, and noting that the Canadian canola industry and the U.S. alfalfa industry have both been able to find paths forward. She noted the excellence through stewardship program and applauded the agreement with the EU on organic equivalence, noting, however, that the use of the term “contamination” in the agreement in reference to GE materials that may be unintentionally present in organic products was in her view inappropriate. She added that the marketplace is a difficult place to compete in for all players, including GE producers and developers, and especially smaller GE technology companies.

Another member agreed, noting also developments with Gene Use Restriction Technologies (GURTS). He questioned the use of assumptions without adequate factual basis. He noted higher non-GE thresholds in Japan and worried that any threshold USDA recommended would become a starting point for others to go beyond. In response, another member reiterated that 0.9% is the de facto market standard. To change would be a hardship. He added that the most effective way to change a bad neighbor’s behavior is through his pocketbook. He noted that for the most part GE crops dominate the landscape: Iowa growers do not have to follow best practices unless there happens to be a non-GE grower in the vicinity, so the impacts of requiring best management practices could be relatively small.

Another AC21 member noted that the projection of potential damages of $40 million dollars is relatively small but could grow considerably with traits such as high-amylase GE corn, which could cause harm to a wider group of neighbors. In such a situation, one neighbor would be in effect making decisions that would affect both his crop and his neighbor’s crops. He suggested that the AC21 needs to address situations where one farmer’s decisions place limitations on what a neighbor can put on his own farm.

Another member noted that expecting increased complexity in the future is neither good nor bad. He suggested that the preamble to the report provide context, focusing on building confidence in U.S. products, preserving decisions by producers on best management practices, protecting the range of technological innovators for agriculture, setting an expectation of minimum performance criteria, and avoidance of pollen drift. Another member suggested that the phrase, “An ounce of prevention is worth a pound of cure” be included in the preamble.

One member reiterated the deep-seated concern over the potential loss of pure germplasm. He noted the real concerns over crops with functional traits such as high amylase corn and suggested that recommending grower opportunity zones might be a possible solution. He also offered the suggestion that the AC21 offer recommendations to the Secretary under two scenarios, one under which there was agreement that efforts would move forward to ensure the availability of seed of high purity, and a second without such an agreement, and that the committee examine the resulting costs under each scenario.

An AC21 member noted that USDA is funding research on a number of promising ideas, including traits that might prevent the introduction of unwanted pollen. He noted that wheat geneticists are involved in these efforts. Another member, while acknowledging that not all farmers are aware of appropriate best management practices, wondered whether it would be reasonable to expect that anyone producing crops for a premium identity-preserved market would be willing to share their premiums with others who might cooperate with them.

Several members reiterated various concerns, regarding impacts on small biotechnology companies, the need for clean seed, and the need to effectively preserve farmer choice. The Chair thanked members for their efforts and asked them to continue to think about areas of agreement rather than disagreement.

**DAY 2**

The Chair opened the second day’s discussions by noting the information provided to the committee by the previous day’s panel discussion and outlining the immediate task of beginning to frame a blueprint for the AC21’s report to the Secretary. Reiterating themes from the previous day, he noted the topics of seed purity, prevention of pollen drift, best management practices and communication. He noted the importance of industry efforts, including those of technology providers and suggested that from their perspective, the problem is manageable. He both recognized the *de facto* marketplace non-GE standard of 0.9% and acknowledged the sensitivities around referring to a specific number. He suggested that use of a specific number in the context of eligibility exclusion might provide a way forward to frame discussions about compensation. He noted agreement that documentation and a management plan are important to be able to determine if standards were met if a loss is claimed and general agreement on the importance of grower education. He suggested that there is additional work that the WGs will need to complete, such as the 4 remaining items out of the 8 items listed in the WG 3 work plan. He noted the theme that compensation mechanisms should not be punitive, and that more than one mechanism might be concurrently applied. He suggested that it might not be most productive for the AC21 to revisit its discussion on potential guiding principles for the “who pays” decision, but suggested that it might be a shared responsibility if there is a payment or compensation mechanism. He stressed that after having the good knowledge base provided by the WG reports it was time to identify areas of agreement and get a better sense from members on their reactions to potential core elements of a report. Without naïvely assuming that consensus would be reached, he expressed the hope that a majority opinion would be identified. He asked members to ease up on avenues of discussion that could make the AC21’s efforts unproductive.

One committee member noted previous efforts by a group gathered together by the Secretary to discuss alfalfa coexistence and noted the Secretary’s appreciation for the explanation provided by the group as to why agreement was not possible. He offered the view that the committee was at the stage in its process where it might be assumed that silence denotes agreement, but that members now need to put their cards on the table. The Chair, in response, noted the importance of considering both potential regulatory and voluntary roles. He noted that in the absence of a strong regulatory presence there might be demands placed on industry instead. He noted the importance of education at the fence row, and suggested that compensation schemes might be a response to inadequate fence-row level conversations.

One AC21 member noted that he had been thinking about the potential report the previous evening and had drafted a few sentences for members’ consideration as framing statements, which were:

This report of the AC21 is based on the premise that American agriculture production practices are diverse in nature and the need for enhancing coexistence between all sectors of agriculture has never been greater. We recognize that the very foundation of all forms of modern agriculture today and in the future is based on the need for the purest of seed. We understand that voluntary innovation and incentives greatly outweigh any possible regulations or mandates that governments can impose. We would encourage farmers on the local level to have an ongoing dialogue on coexistence and we encourage them to create a coexistence zone wherever possible if needed. Grower written contracts where needed should be transparent and have clarity on the issues at least of the following: verification of grower practices; the percentage of advantageous presence alone; point of delivery; time of delivery; and compensation.

One member, noting the importance of understanding efforts that have delivered positive results, asked for further information about the case of Canadian canola management for unintended GE presence. The WG member who had gotten information about the Canadian canola situation reiterated that there are about 15-18,000 acres of canola and 700,000 acres of non-GE canola. Initially they saw a 15% rejection rate at the market tolerance of 0.9% GE but, working on equipment cleaning, trucking, segregation, and dedicated processing days, now rejections are negligible. This took them 3 growing seasons to accomplish, demonstrating what can be done with clean seed and good practices. For some open-pollinated crops it may be a little harder and may be more easily accomplished on large farms rather than smaller farms.

Another member agreed that discussing what has worked is important, and noted that the previous day’s panel participants talked about good seed, about education, and about their own responsibility, but did not talk about government compensation. He noted that the simple presence of GE material is not equivalent to an economic loss. He indicated his preference for discussing appropriate agricultural practices, remembering that they may be site-specific, and noted that he could not support any form of mandatory compensation. Another AC21 member also expressed appreciation for the information provided on canola management in Canada and supported having the committee focus on prevention over punitive measures. She inquired whether the formation of a best practices task group might be recommended to USDA and whether there might be some educational grant to fund it.

Another member, while agreeing that prevention is important and that the government should be gathering best practices and making them available to farmers, noted that such a focus was not the charge given to the committee. He offered the following ideas to help frame the report:

* The GE products in the marketplace are legal products so no fault should be assigned and there should be no punitive aspects. There should be the assumption that everyone is acting in good faith.
* On benefits and risks, there are a lot of benefits from coexistence so we should not try to identify who gets the most benefit. The same is true for risks. There are risks to farmers, big and small, and technology companies as well.
* All U.S. citizens benefit from agriculture—there are diverse food choices, there are export markets, we have strong rural communities. Everyone is involved in making coexistence work.
* As to the extent of the problem, a problem exists. Clearly there are unintended GE products out there. We can differ on extent of the problem and whether it is getting better or worse.

He noted that the committee did not yet have clear answers about a compensation tool but could recommend, based on information gathered so far, that a pilot program be set up with U.S. taxpayer funds built on the concept everyone is involved and benefits. This would not cost much money, he suggested. He challenged WG 4 members to forget about the “who pays?” question and think about the three compensation mechanisms through this lens. Another member expressed provisional support for many of these ideas as well as for the work of WG 2, but reiterated the view that prevention is central, and that, rather than wanting a compensation fund to be established, affected farmers want the problem to go away. She questioned whether all members were considering prevention and containment in the same way. She added that while she did not support the idea of a taxpayer-subsidized fund because taxpayers are already paying for agriculture, she liked the idea of a pilot program. Regarding the need for a specific “trigger number,” she noted the need to be clear on what the trigger will do. She also suggested that trait specific triggers may be needed in some instances.

Regarding trait-specific triggers and management practices, another AC21 member noted that there is a website on functional characteristics on which are outlined appropriate practices, e.g., for borders, equipment, GPS marking of the designated routes on which the grain will travel, etc. that the AC21 may wish to explore. He added that he would not accept using 0.9% as a “trigger number,” noting his view that data are inadequate to justify it and that setting such a number will have international impacts.

The Chair asked whether there was agreement that an exclusion number could be set below which the mechanism would not operate. Dr. Schechtman added that if such a number informed a compensation mechanism for non-functional traits, contracts that are below that number would be excluded based on a reasonableness threshold. Another member added that people would still be free to sign contracts that are unreasonable but they could not be included under the compensation fund. If people took cases to court for economic losses in such cases, a judge might say that the burden switches to them. A member replied that, given

the vast array of products, geographies, and seeds, the central elements need to be the contract and the management practices agreed to in that contract. The premium derived is a function of the risk assumed, so that setting a specific trigger number is unwarranted.

The Chair followed up by asking members whether there was agreement with the idea of establishing a reasonableness standard, even without setting a specific number. Another member supported much of the previous points outlined above, stressing education but disagreeing with a mandatory compensation program, and wanting additional follow-up on the pilot program idea. Another AC21 member, who produces organic corn, noted that she uses

best practices and strategies all the time and that the fundamental issue is containment. She indicated that she did not like setting a 0.9% contract trigger, because doing so would hurt organic farmers more than others, and that setting up compensation procedures would not be easy. As a grain buyer, however, setting a 0.9% trigger would be useful. She expressed lack of understanding as to why there should not be more efforts on her neighbor’s part to “keep their genes to themselves”.

Another member expressed concerns that anytime a value is established it will be used against producers in the market. He noted that all seed producers, organic or not, have particular markets they are trying to maintain. He offered the view that if the committee recommended the creation of a compensation or indemnity fund, it would be a mechanism established to benefit one segment of agriculture and could lead to class action law suits. He noted the greater burdens (often in the form of border requirements) and greater rewards attached to organic agriculture and noted that the rest of agriculture does not share in those premiums. He noted that other farmers sometimes suffer in terms of weeds and disease as a result of being located near organic farming operations. The Chair then reminded members to focus on the terms of the charge from Secretary Vilsack and the committee’s obligation to respond to that charge.

An AC21 member noted that, while he likes the pilot project scenario, shrinking budgets for the commodity title in the Farm Bill mean that there is no extra money in it for these purposes.

Another member offered support for the Chair’s admonition to focus on the committee’s charge. He noted that the charge did not ask the committee to look at the implementation of the compensation mechanisms. He offered that the committee could develop an overview and critique of them, and that it may need to indicate that a reasonable tolerance should be established based on markets and crops, but that the committee should know when to stop and go no further.

The Chair returned to the question of whether the committee could support the principle of reasonableness as one trigger for any potential compensation. He also noted the importance of maintaining the proper tone and civility. Dr. Schechtman rephrased the question to ask whether, if there is a compensation mechanism, there should be some mechanism for exclusion of some losses based on the terms required under the contract. He noted that this rephrasing was an attempt to get away from the “trigger” idea. Several members agreed that such a mechanism should exist. One member suggested that the concept had to incorporate “bandwidth,” i.e., there should be both floor and ceiling levels set. Another member questioned setting a 0.9% standard and raised the question of whether the phrase “if any” in reference to establishing a compensation mechanism had been adequately addressed. She asserted that the committee had not yet seen adequate ties to evidence of actual economic harm to justify establishing a compensation system.

One member inquired whether a single standard for “unreasonableness” across all circumstances and crops was what was envisioned whether, based on circumstances, there could be multiple exclusions. The Chair reiterated that he was asking for a sense of the committee’s views on the general concept of exclusion and the idea of reasonableness. Another member suggested that rather than setting an exclusion, there might be a requirement that the level they entered into in a contract is a reasonable level. Different producers might be compensated if they could not meet various contractual levels for certain reasons. Another member offered the view that if a producer employs best management practices he should be eligible. One member voiced support for this idea. Another member interpreted the conversation as one addressing three potential approaches: the idea of exclusion of certain contracts; is the concept of reasonableness; and the lack of need for either if best management practices are followed.

Dr. Schechtman reiterated the previous question and checked with the group as to whether there was any objection to the necessity of following best management practices. There was no objection to a reliance on such practices as an element of eligibility. One member did note that the “if any” question had still yet to be resolved. Other members reiterated the work of WG 3 which outlined 4 criteria that would together need to be met for eligibility for compensation. After further discussion, there was majority agreement on the potential use of an eligibility criterion relating to contracts if it is decided that a compensation mechanism is to be recommended.

Another member noted that based on the conversations, it seemed unlikely that the AC21 would be able to make a clear recommendation supporting a compensation mechanism but that it would still be valuable to push ahead and see what elements could be agreed upon, and to better explain the rationale for why there was not agreement that such a mechanism is needed. At the same time, he felt that the Committee should provide to the Secretary some future triggers that, when tripped, would indicate that the situation at that time was not working and would necessitate a revision of best management practices or other parameters. He stressed that articulating a commitment to pure and clean seed was still of high importance.

Another member noted that if any of the three compensation mechanisms is adopted, it is likely that third-party experts and certifiers would likely be involved in the elaboration of best practices.

One AC21 member offered suggestions elaborating on the outlined bullet points suggested a few minutes earlier for framing the Committee’s recommendations to USDA. She added that in discussing the scope of the problem, everyone’s perspectives should be included as well as their perspectives on risks and benefits, then identify areas of agreement. This would be followed by any additional messages, relating to best practices, education, etc. She acknowledged that deeper analyses would be necessary to provide the diversity of perspectives rather than continuing to try to convince one another. Another member thought that there should be more discussion to identify areas of agreement on size and scope of risks.

Another AC21 member recalled the presentation given at the previous AC21 plenary session by Dr. Nicholas Kalaitzandonakes, in which the speaker spoke about the coexistence management process in Brazil, where a number of GE crops have also been rapidly adopted on a large scale. He recalled mention of an incentive program for best management practices that included punitive measures such as fines for non-compliance. He requested that USDA obtain additional information about that program and offered his view that a compensation program without such incentives would fail at the grower level.

One AC21 member framed the availability of compensation as an incentive for best management practices: if a farmer wants eligibility then certain practices would need to be followed, and also if he followed appropriate practices he would likewise be freed from the potential for tort liability—but if farmers don’t wish to participate in the overall scheme, they would be free not to. Use of the compensation system would not be mandatory but would be in place there to make everything else work.

Another AC21 member reiterated that the committee had not seen data on actual economic losses related to unintended GE presence, and asked whether the committee could recommend to USDA that they gather such information. She suggested that it would be dangerous to make recommendations without such data. Another member agreed with this analysis, and added that his impression from the report of WG 4 was that it was framed in terms of lack of agreement. From this, he wondered if there would be general agreement on a statement to the effect that, should a compensation mechanism be enacted, “any compensation mechanism funded entirely on the back of one segment of agriculture will fracture agriculture.” He thought this statement would apply whether compensation was publicly or privately funded.

Dr. Schechtman noted that based on the conversation over the last two hours, coming to a consensus recommendation in favor of a compensation mechanism did not seem likely at present, but that if that were in the end the case the Secretary’s office would benefit from understanding as to why not. He noted that the conversation was intertwining two different discussions, one on extent of the problem and the other on characteristics of potential compensation. He suggested that Secretary Vilsack would benefit from understanding a sense of the committee on the difficulties of the different types of compensations options under discussion.

Two other members commented on the suggested statement above, one noting that the current burdens are unfairly divided, and another noting that his industry’s perspective is that they do not wish to contribute to a compensation fund. Commenting on the distribution of burdens, a member noted that the formulation given had omitted mention of the premiums provided for those burdens. Accompanying those premiums also go the need for best management practices, though not everyone will follow them, and also risks. Another member disagreed with the notion that only one sector is currently paying for unintended GE presence, noting that seed companies invest in purity and education and growers have measures they need to follow for their equipment and in other areas to manage GE crops.

The Chair reiterated the suggested statement above and asked members whether they agreed. A majority of AC21 members did so. One member did not agree because the statement omitted mention of the use of best management practices, noted the range of contracts that exist that affect the notion of burden, and did not think that additional fractionation of agriculture would necessarily result. The Chair added that the situation was more complex in his region of Pennsylvania because written contracts are rare there. Another member responded that in the absence of such contracts, legally binding agreements or arrangements may exist, often agreed over a handshake. He added that even having a government-funded program would set a bad precedent. The Chair amended framing of the statement as follows: any compensation mechanism funded entirely on the back of one segment of agriculture or perceived to be so funded, may fracture agriculture.

LUNCH

Continuing the discussion and noting members’ flight schedule demands, the Chair noted that he would like to wrap up the day’s work by 3 pm. He indicated that he wanted to get additional guidance or insights on the continuing charge for the WGs and on the outline for the committee’s report. He indicated that he would then return to the morning’s discussion about the magnitude of the problem, in the interest of producing a single report versus a collection of independent opinions. He reiterated that he and Dr. Schechtman would be meeting with the Secretary within a couple of weeks and to that end asked for a sense of the AC21 as to whether or not there was support for the idea of having a compensation mechanism to address the economic losses due to unintended GE presence.

More than half of the members of the AC21 opposed the idea.

One member noted that there is probably a problem with unintended GE presence, but questioned whether it merited developing a compensation scheme or whether it should be covered under contract law. He suggested that until there was actual data on economic damage, he could not support a compensation plan. Another member suggested that the committee was not looking at the problem as a whole and was getting bogged down with wording. Another member suggested as a way forward that the committee write two alternative chapters in the report, one positing that a compensation mechanism is needed, the other that it is not needed, and try to delve into what conditions would need to apply in order for a compensation scheme to be preferable.

There was discussion regarding what obligations farmers who grow legal GE products have toward their neighbors and how to incentivize farmers to follow best practices. One AC21 member suggested that every farmer has an obligation to follow best practices. If an organic farmer were to in some way contaminate his waxy corn, they would need to work it out. He also noted the impact of the recent United States- European Union organic equivalency agreement, with its use of the term “contamination” in reference to unintended GE presence, on the matters under discussion in the AC21.

There was discussion about the distinction between the terms “low-level presence” (LLP) and “adventitious presence” (AP). Dr. Schechtman clarified that when the U.S. published its LLP policies some years back, “LLP” referred to products unapproved in the United States, irrespective of whether they had been approved anywhere else (although the focus at the time was on unapproved events developed in the United States and still under testing). The U.S. did not use the term AP because of the possibility of confusion as to its meaning. In the more recent Codex Alimentarius discussions on LLP leading to the Codex annex guidance on risk assessment in situations of LLP, the term was specifically defined to refer to situations in which a GE event has been approved in a country of export but not in an importing country and trace amounts of the unapproved material appear in materials intended for food in imports. Some now use the term “AP” in the domestic context.

One member reiterated an earlier suggestion that USDA should track losses and gather economic data, and reiterated another point made earlier about farmers taking risks based on the assumption that they will be compensated for taking them. One member supported these points and added that not all risks should be compensable. Another member responded that all farmers make planting decisions based on what is best for them on their farm, but that sometimes those decisions may be made a year in advance.

One AC21 member observed that there is a gap among members in their acknowledgement that a problem exists, and that there is mandatory stewardship for organic production and voluntary stewardship for other forms of production. She asked whether members would be comfortable with mandatory stewardship for GE production. Another member stated that

the problem does exist and there should be compensation. She noted, defining the problem in her context, that in her cooperative, the organic farmers don’t want GE materials in their crops and organic consumers don’t want it in their food. She wondered whether it was a problem that could not be solved by money, but if not solved in that way, would need to be solved by placing greater controls on how GE crops are produced.

One AC21 member, while acknowledging that there is some economic loss associated with unintended GE presence, questioned whether the problem is at a scale meriting a policy change by USDA, either via a compensation mechanism or via a change in regulations. She wondered whether such losses are already compensated by the market. So I am not sure that compensation or regulatory changes are needed.

One member expressed support for having USDA gather data on economic losses. Another AC21 member responded that members of the organic community are reluctant to divulge data on losses. She noted overall losses to organic producers in the State of New Mexico, and noted that management of organic crops would be much easier if producers there could access information about where GE crops are planted. Another member offered the view that providing compensation would not change the overall situation, which she described as a moral and ethical question, saying no one has the right to lower the value of a neighbor’s crop.

Another member, while agreeing that the data on risks is not extensive and noting that in her own State, Florida, it appears not to be a real problem, noted that the Secretary, in stating the charge to the AC21, already assumed that a problem exists. There was continued discussion about the inadequacy of data and whether the specialty producers’ premiums compensation in their contracts should cover potential losses. The Chair acknowledged a data gap and suggested that the committee’s report could acknowledge it as well. He framed the dilemma facing the committee by noting the charge and the need to make some assumptions based on what is known today and the need to frame any additional needed work for WG 1. One member disagreed with the use of assumptions, citing the need to base decisions on data. Dr. Schechtman noted that both the Secretary and the Deputy Secretary, in their remarks to the committee, recognized that data would not be complete, and that it would be up to the committee to say either we cannot make a recommendation, or acknowledge that there are holes in the data but we think there are some loses. There was no presumption that much new data would appear. The previous member noted that there was USDA data that demonstrated that organic farmers are prospering more than other farmers.

One AC21 member suggested that not every member would agree with the earlier formulation regarding the ethical responsibilities of farmers. He suggested that the committee’s report should explain the two different world views, note that the majority of AC21 members agree that there is a problem, of uncertain magnitude, but suggest that using best management practices could help mitigate it. He suggested that with concerted effort, 90% of the “small problem” would be mitigated. He suggested that the problem may or may not get worse. He suggested that information on GE-related marketplace disruption and economic harm could be useful, but indicated that he would not support including a recommendation that USDA gather such information unless the report also provided some advice about what USDA should do with the information once it is gathered.

One AC21 member acknowledged that WG 1 did not come up with much direct evidence of economic harm, but noted that the information sought is highly confidential and unlikely to be volunteered. He likened it to asking how much arsenic is in the food supply or where pesticide drift occurs. He noted that other producers could feel the same way that non-GE and organic producers feel if their crops were damaged by unintended presence of the high amylase corn trait. Another member suggested that many of these issues are often resolved neighbor-to-neighbor, with informal restitution. He suggested that the report could address a few topics and offer some alternate views.

An AC21 member who had participated in the WG 1 discussions noted the conclusions of most that there were likely to have been economic losses but not a very large amount in total. She said that she had not focused on the data’s imperfections. She did not think that the data was problematic based on the sort of testing from which it was derived. She thought it important to note in addition that some feel that new products coming on the market have the potential to change the magnitude of the problem. Another AC21 member disputed the absence of data, noting that the data was aggregated from 15,000 separate test points. She indicated that the market loss data cannot be gathered without putting specific mechanisms in place, and asserting that there is not enough data is a tactic for pushing the problem down the road. Suggesting that grower education on contracts would help was also, in her view, not well informed, because marketing chains in organic and non-GE markets are different from those for production agriculture. She noted that the U.S.-EU organic equivalency arrangement was likely to increase pressure on the organic industry to keep unintended GE materials out. Another member voiced disapproval that the AC21 had not been consulted on that arrangement, noting his displeasure at having the products he produces labeled as “contaminants” under the terms of the agreement. Another member noted that while the data was not precise, it was not clear that such precision was needed, and that the AC21 should not fall into a trap of thinking that economic losses would be the only factor that would drive a decision to put in place a compensation mechanism. It may be that one or another mechanism would work depending on how large the losses incurred were. The committee might consider which mechanisms might work best under which situations.

One AC21 member noted an instance where a particular GE corn variety had been commercialized even though it had not been approved in all foreign export markets and some shippers refused to accept that corn, resulting in some problems for producers. Another member noted that there had been a lawsuit that was resolved in favor of the shippers who declined to accept the product, but that those shippers may have lost some long-term suppliers. There was discussion about whether farmers suffered any actual losses as a result of this situation, and whether patent issues were also involved.

One AC21 member noted that the establishment of risk retention groups to address GE-related economic losses would not require any action on the part of USDA, and that proposals for such mechanisms exist.

The Chair inquired whether the AC21 needed further work on potential compensation mechanisms by WG 2 and if so, what that should be. He added that the same discussion needed to be had on the work of the other two remaining WGs. One member suggested that the WG could provide more information on advantages and disadvantages of each potential mechanism. Dr. Schechtman noted that much of that information was provided in the matrix the WG had filled out partially, that many of the answers depended on who would pay for each mechanism, and that more work could be done to finish all the considerations in the matrix. One WG member suggested that the table be divided up so that instead of having just 3 potential mechanisms, it would be divided up into 6 categories, based on potential mechanism plus potential payer. She later amended this suggestion with the notion that it might be necessary to consider subdividing further if that proved necessary to consider “regular” versus “functional” GE traits. Another member suggested that it might be useful to have a separatesingle chart for the general concept of potential compensation mechanisms (not broken down by potential mechanism) with a “yes” or “no” column as well as a description of relevant policy considerations, in support of the concept, or against. Another member, noting that the chart might be divided in many ways dependent on a variety of variables, that there was unlikely to be consensus on a mechanism, and that the final decision would be in part a political one, suggested that it might be useful to think about the policy considerations associated with each potential mechanism independent of who pays. Dr. Schechtman noted that in practice this had proven very difficult to do. The member returned to this point to suggest that there might be some issues relating to a mechanism, like relative efficiency of resolving claims and making payments, that might be addressed in this way. Another member suggested that there could be issues like ease of application and clarity that might be generally considered.

One member suggested that particular mechanisms would have natural payers and particular routes of USDA involvement in them. He also noted that government subsidy for a new mechanism was not terribly likely in view of the efforts to cut farm programs in the Farm Bill deliberations.

The Chair inquired about further work by WG 4. It was noted by WG members that there was a “laundry list” of perhaps 20 potential principles for guiding the “who pays” decision, of which at least half had not yet been discussed, and perhaps the WG could prioritize the 5 most important ones or categorize the list in some way.

With respect to the efforts of WG 1, one member offered the view that the only remaining source of significant data was likely to be the as-yet unpublished studies of Dr. Kalaitzandonakes based on his gathering of confidential data and offered to engage with him personally to try to speed up the availability of that information. Another member complimented the WG on its efforts but suggested that they might give some consideration to what kind of data it would be most useful to collect.

WG 3 had identified some items in their work plan that had yet to be completed, and those should be addressed.

The Chair indicated that he thought members had identified next steps for each of the WGs, and asked if any members had any additional requests to put on the table. One member requested data on the predicted acreage of high amylase GE corn over the next 5 years. Another member noted that such information was included in the deregulation petition submitted to APHIS.

One member noted that there had been substantial agreement on three of the classes of eligibility criteria developed by WG 3 and wondered whether they could be included in the report’s framework. Another member requested an accounting of what was actually agreed upon. Dr. Schechtman noted that such information would be contained in the draft meeting summary, which he expected would be carefully read by all.

The Chair noted that the plan going forward would be to continue WG meetings and to brief Secretary Vilsack on the progress of discussions and the range of opinions offered. He suggested that some ideas for the May or June meeting would be forthcoming to form the basis of the next plenary session in May or June in order to produce a final draft report by Fall. He reiterated that the overall goal is to develop, in a public process, a final document that the AC21 can agree to. He noted that debate had been spirited and appealed to members to remain positive on the AC21. He observed that the issues under discussion are precisely those that need discussion under the Secretary’s charge and that a complete record of that discussion is required. He also asked the committee not to lose sight of other recommendations that might be added under the third element of the Secretary’s charge, citing the centrality of the neighbor-neighbor interaction issue. He asked members to look five to ten years ahead to what would be necessary to give consumers the confidence they expect. He also thanked staff responsible for organizing the meeting.

One member asked whether it would be possible to see the summary of the meeting before the briefing with the Secretary, and the response was that it depended on timing, but that members shouldn’t expect the briefing to get into great detail.

One member requested information about the number of other organic equivalency agreements are in the works in order to help inform the committee about initiatives that could impact the committee’s deliberations. The Chair offered to so inquire.

Dr. Schechtman noted that he would send out requests for schedule information for working groups upcoming plenary sessions as quickly as possible.