

Advisory Committee on Biotechnology and 21st Century Agriculture (AC21)
Plenary Meeting
March 14-15, 2016

Room 107A, USDA Jamie L. Whitten Building
1400 Independence Ave. SW
Washington, DC 20250

Meeting Summary

On March 14-15, 2016, at 9 am, 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 work of the three *ad hoc* subgroups on the progress of their analyses relevant to the new AC21 charge;
- To listen to presentations from outside experts on topics relevant to the work of the AC21; and
- 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 academia: Mr. Russell Redding (Chair), Ms. Isaura Andaluz, Ms. Laura Batcha, Mr. Lynn Clarkson, Mr. Leon Corzine, Ms. Melissa Hughes, Mr. Alan Kemper, Mr. Douglas Goehring, Dr. David Johnson, Mr. Paul Anderson, Dr. Gregory Jaffe, Dr. Mary-Howell Martens, Mr. Jerome Slocum, Ms. Angela Olsen, Mr. Keith Kistling, Dr. Marty Matlock, Mr. Charles Benbrook, Dr. Josephine (Josette) Lewis, Mr. Lynn Clarkson, Mr. Barry Bushue, and Dr. Latresia Wilson. All members except Ms. Hughes, Mr. Kistling, Dr. Matlock, and Dr. Lewis were in attendance. Dr. Ritu Nalubola from the United States Food and Drug Administration (FDA), Mr. Ron Carleton from the Environmental Protection Agency (EPA), and Dr. Kelley Rogers from the National Institute for Standards and Technology, Department of Commerce, attended as *ex officio* members. 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 will be prepared and will be made 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.

I. Welcome and Opening Comments

Dr. Schechtman convened the meeting and welcomed all present. He noted that one member, Mr. Michael Funk, had elected to retire from the committee due to work commitments, and thanked him for his service on behalf of USDA. We welcomed Dr. Ritu Nalubola from the Office of the Commissioner at FDA as a new ex-officio member. He noted that both USDA Secretary Tom Vilsack and Mr. Doug McKalip, Senior Advisor in the Office of the Secretary, were unable to join, due to travel commitments. He indicated that comments submitted in writing by the public prior to the meeting were available for viewing by AC21 members and attendees.

Dr. Schechtman reiterated the overall mandate of the AC21, described its previous work on coexistence, and noted that the report on that work, issued in November 2012, contained many important and interconnected recommendations, among which was the recommendation that USDA should incentivize the development of joint coexistence plans among farmers. He noted that USDA's Office of General Counsel had indicated that USDA lacked the statutory authority to do this. As a result, the new charge, issued to the AC21 in December, 2015, asked for recommendations on how States and localities might promote the development of such plans and how USDA might support those efforts. He suggested that based on the discussions at the previous AC21 plenary session in December, 2015, the expectation would be that this charge could be responded to with a report including recommendations and an associated guidance document to help farmers successfully cultivate identity-preserved crops. He noted that there is very little time to complete the work during this Administration so that the AC21 needs to work cooperatively and efficiently.

He noted the available meeting documents:

- The Federal Register notice announcing this meeting.
- An updated meeting agenda
- Biographies of all the current members
- The AC21 Charter
- The AC21 Bylaws and Operating Procedures
- The previous report produced by the AC21, entitled, "Enhancing Coexistence: A report to the Secretary of Agriculture"
- The meeting summary from the December 14-15, 2015 plenary session of the AC21
- A package of meeting summaries from all of the conference calls held inter-sessionally for the three subgroups—there were two meetings each, so the package contains six summaries
- One document containing copies of two proposed outlines for a potential guidance document, developed by Angela Olsen and Lynn Clarkson on this committee, which are under discussion by the Guidance Document subgroup
- Copies of the North Dakota Pollinator Plan, kindly provided by North Dakota Agriculture Commissioner Doug Goehring

- A Notice of Intent to Prepare and Environmental Impact Statement for new proposed Biotechnology regulations published in the Federal Register by USDA's Animal and Plant Health Inspection Service, or APHIS, on February 5, 2016.
- A developed by USDA's Economic Research Service entitled, Economic Issues in the Coexistence of Organic, Genetically Engineered (GE) and Non-GE Crops
- A proposal from Commissioner Goehring for an outline or format for coexistence discussions
- A draft proposed coexistence policy under consideration by the National Corn Growers Association provided by AC21 member Leon Corzine.

He summarized the two-day agenda for the committee and noted that the committee will next meet in June 2016 but that a final meeting will take place either in September or October 2016, depending on member and meeting room availability. He then provided some welcoming remarks on behalf of Mr. McKalip, who could not be in attendance, which encouraged the committee to work hard to address their important charge and noted the ongoing discussions in Congress on GMO/GE labeling. He then turned to the AC21 Chair, PA Agriculture Secretary Russell Redding, to offer initial remarks.

The Chair thanked AC21 members for their work and time commitment. He noted that coexistence embodies many of the fundamentals of the business of agriculture: farmer-consumer choice, science, markets, policy issues, and constant change. He reflected on the AC21's previous report and observed that the report had offered an approach for stakeholders to work together, building on previous work but recognizing that landscape has changed and is now more complex. He further observed that it would have been easy for USDA to have let the topic drop, but instead the AC21 was engaged again to seek additional solutions. In rereading the earlier report, he had again considered the "signing statements" provided by members, and noted the common theme that it is better to act rather than wait to respond to a problem. This theme, he suggested, is at the heart of the current work. The collective challenge is developing guidance that stakeholder will wish to adopt, not a mandate, but a set of best management practices (BMPs) that allow choice in the marketplace to occur. With these efforts, he felt that the committee would be adding value to and changing the narrative about coexistence. He noted that at the winter meeting of the National Association of State Departments of Agriculture (NASDA) new policy was adopted that now considers coexistence, following the sharing of AC21 work and priorities. Finally, he noted that the Pennsylvania legislature had unexpectedly called a hearing on the second day of the meeting, so that he would need to return home that evening to testify, but hoped to return before the end of the second day. He thanked the committee again for ensuring that the diversity in agriculture and the marketplace continues to grow.

II. Updates on biotechnology regulatory developments within USDA and elsewhere in the U.S. government

The AC21 next heard from Mr. Michael Gregoire, Associate Administrator, USDA Animal and Plant Health Inspection Services (APHIS), who spoke about biotechnology regulatory developments within his agency since the last AC21 meeting. He noted that GE wheat field trials have been moved from requiring notifications to requiring permits, and that APHIS has issued 7 permits for spring planting and expects to receive more permit requests during the summer for

fall planting. He also noted that in February, 2014, APHIS published new guidance on its extension procedure— a mechanism by which the Agency can extend non-regulated status to a GE plant which it has determined is similar to one which has been previously deregulated. This procedural clarification still provides for public input, and also involves a similarity analysis to explain how the organism in question is similar to that which was previously deregulated.

He then spoke about other impending changes to APHIS' biotech regulations. He noted that the regulations date back to 1987, and that it has been more than 20 years since the last major update. In 2008 a proposed rule to amend regulations was issued, but in March 2015, USDA withdrew it and started the process over. They held webinars and received 221,000 public comments. In February, 2016, APHIS published a Notice of Intent (NOI) to prepare a draft Environmental Impact Statement (EIS) to accompany a new proposed rule when it is published. In response to public request, the original 30-day comment period on the NOI was extended an additional 45 days to April 21, 2016. The Agency will review and consider all comments received.

In the NOI, APHIS identifies 4 alternatives which may be analyzed and asks for public comment on alternatives, or if any other alternatives should be considered. They are: 1) No action; 2) Analyze a new GE organism first, and then regulate if there is an identified plant pest/noxious weed risk; (This model would use a new model for assessing noxious weed risk, which is currently being evaluated by USDA's Office of Risk Assessment and Cost Benefit Analysis, and will be made public at a later date. In addition, the NOI request public input on definitions of some of the key terms used.) 3) Increase the scope of what is regulated to capture more products of biotechnology, and regulate them all through the permit process; and 4) Eliminate separate biotechnology regulations in APHIS and use existing plant pest/noxious weed regulations instead.

Dr. Schechtman then provided an update on government efforts to modernize the Coordinated Framework for the regulation of the Products of Biotechnology, a process initiated in July 2015 via a memo from the Executive Office of the President. The memo called for the creation of a Biotechnology Working Group with representation from the Executive Office of the President, FDA, EPA, and USDA. The tasks for the working group are to 1) update Coordinated Frame to clarify current roles/responsibilities, 2) develop a long-term strategy to ensure that federal regulatory system is prepared for future, and 3) commission an analysis of the landscape of future biotech products. The memo also affirmed the original scientific principles upon which the existing framework is based.

Much of the work to date has focused on Task 1. The National Academies of Sciences have been commissioned to undertake Task 3, and are nearly done selecting panel members. With respect to Task 1, 3 public meetings have been scheduled. The first was held in late 2015 in Washington, DC, and the discussions at that meeting were fairly general and focused on process. Last week, the second public meeting held in Dallas, TX, and focused on 8 case studies prepared by regulatory agencies, describing the diverse regulatory pathways for GE organisms. For the meeting, a draft table was also provided describing how organisms are currently regulated; it will be published in Federal Register for comment later this year. The following White House blog provides more information:

<https://www.whitehouse.gov/blog/2016/03/07/clarifying-current-roles-and-responsibilities->

[biotechnology-products](#). A third public meeting has been scheduled for March 30, 2016 at the University of California at Davis, hosted by USDA. At that meeting, there will be greater focus on long-term strategy.

One AC21 member asked Mr. Gregoire for several clarifications: about the potential new regulatory status of stacked traits; about the status of crops produced through new technologies such as gene editing/gene deletion; and about the potential implications of a new definition for “bioengineering” in the context of new legislative actions underway in Congress. Mr. Gregoire replied, in order, that: if two events have been previously deregulated and are now combined via stacking, they would not have to go through a new review process; the regulatory status of plants produced through gene editing/new plant breeding technologies is an open question under active consideration by APHIS (and many governments worldwide), and the NOI includes specific questions on this issue under alternative 2; and the potential exists for there to be different definitions of bioengineering for different purposes across government (the current House and Senate bills offering different roles for USDA agencies).

An AC21 member noted that the one portion of the NOI mentions considerations of potential socioeconomic impacts of GE crop plants on domestic agriculture and observed that from a market standpoint, this is a key consideration for many in industry. He inquired about APHIS’ thinking on this, and whether synchronous or asynchronous approvals would be included in the analysis to examine potential disruptions in trade? Mr. Gregoire responded that those analyses are a subcomponent of APHIS’ environmental analyses under the National Environmental Policy Act, and will be examined programmatically for each of the proposed 4 alternatives in the NOI. He added that APHIS is aware of the difficult trade concerns that can arise, and that Secretary Vilsack is personally engaged in working with trading partners to better synchronize approvals in order to resolve trade issues. Another AC21 member echoed the concerns regarding asynchronous authorizations but expressed the view that lack of synchrony should not slow down approval processes, given that worldwide approval may not be possible before bringing new technology to market.

An AC21 member offered the view that establishing a process to review the Coordinated Framework is long overdue and hoped that the effort would lay the groundwork for long-needed changes. He noted that over 30 technologies have been deregulated by USDA without further consideration because they do not involve insertion of plant pest DNA sequences into target organisms. While such an approach might fit existing regulations under the Plant Pest Act, he argues, this was not harmonized with other Federal regulatory agencies’ policies. He inquired as to how the working group would prevent further confusion among industry, consumers, scientists, foreign buyers, etc. on government policy if the agencies are moving in different directions on basic definitions, particularly with the advent of additional new technologies. Dr. Schechtman responded that the immediate focus for the working group has been mapping the current roadmap for products. The next step will be creating a roadmap to examine the big-picture questions, including consistency, cooperation, and outreach to the public. That second process is just beginning, but this Administration will develop a roadmap for future administrations to answer these questions. Dr. Nalubola added that the White House memorandum included an independent, external analysis of the future products of biotechnology and how prepared agencies will be to provide oversight for them. The National Academies of Sciences will conduct the study and it is

intended that those results will inform the thinking of agencies on a long-term strategy. She also noted that the group had received much public comment on new technologies and those comments will also inform future efforts. The AC21 member noted that the rate of introduction of new products is accelerating while ability of governments to respond is not speeding up, and that as a result, the scope of exposure to U.S. agriculture and companies dependent on export markets is increasing. He offered the view that the message needs to get to Congress and the Executive Branch that we don't have multiple years to address incompatibilities in definitions and problems with international approvals. Dr. Schechtman responded that the government is keenly aware of these international implications. He noted that every nation has its own individual laws and policies, and that harmonized definitions and approaches are a distant hope. The question is how to work through these issues, recognizing the different approaches and speeds. He noted that the government works through a range of forums to resolve these questions, and that it is a very important issue, but a bit off-topic for the committee.

Another member inquired whether the 2 labeling bills currently under consideration take into account new and emerging technologies, or might they allow products developed through new technologies to drop through the cracks. Mr. Gregoire noted that the Senate bill defines "bioengineered" narrowly, as developed through rDNA technology.

III. Update on new Farm Service Agency financial assistance to establish conservation buffer zones for organic producers

Betsy Rakola, Organic Policy Advisor, Agricultural Marketing Service (AMS), described a new Farm Service Agency (FSA) initiative to enroll 20,000 acres on organic land or land adjacent to organic lands in the continuous Conservation Reserve Program (CRP). The financial assistance is available from the USDA CRP, a federally funded voluntary program that contracts with agricultural producers so that environmentally sensitive land is not farmed or ranched, but instead used for conservation benefits. CRP participants establish long-term, resource-conserving plant species, such as approved grasses or trees (known as "covers") to control soil erosion, improve water quality and develop wildlife habitat. In return, FSA provides participants with rental payments and cost-share assistance. Contract duration is between 10 and 15 years. She noted that for conservation buffers, funds are available for establishing shrubs and trees, or supporting pollinating species, and can be planted in blocks or strips. Interested organic producers can offer eligible land for enrollment in this initiative at any time.

Several AC21 members voiced their support for this new program. One member noted that it has been well-received with organic and transitioning farmers, but that USDA needs to do more to roll out the program and make sure it is well known. She offered the view that the program could provide a valuable tool for incentivizing joint coexistence plans, and requested that FSA provide models that could show some realistic economic dimensions of how this program would work on the ground. Another AC21 member also encouraged FSA to consider other identity-preserved cropland, since there is significantly more acreage in identity-preserved grain than in organic. Ms. Rakola noted that the current initiative has not specifically considered non-organic IP producers, but that they might be considered in the future. An AC21 member inquired where there are minimum size requirements and sign-up dates. Ms. Rakola replied she was unsure about size requirements, but that the same requirements would apply as

for the existing continuous CRP program, under which contracts typically run 10-15 years. Another AC21 member inquired whether additional enhancements would be required for eligibility, and Ms. Rakola replied that conservation enhancements, such as hedgerows, wildlife habitat plantings, would be required. Secretary Redding observed that it was a good thing that both organic or lands adjacent to organic can participate.

IV. Update on new ERS report, Economic Issues in the Coexistence of Organic, Genetically Engineered (GE) and Non-GE Crops

Catherine Greene from USDA's Economic Research Service (ERS) provided an overview of a new ERS report on Economic Issues in the Coexistence of Organic, Genetically Engineered, and Non-GE Crops. [NOTE: Ms. Greene's presentation can be found on the AC21 website.] She noted that not much data are available, especially for non-GMO conventional crops, but the report attempts to synthesize what currently exists, while examining strategies currently in use. She noted that many organic products also bear a non-GMO seal from the Non-GMO Project. She discussed USDA's 2010 Agricultural Resource Management Survey (ARMS), which asked corn producers whether they had had a shipment of corn rejected due to GE presence, but the question did not precisely ask about economic losses due to this rejection or analyze the final market where the product was sold. A more recent survey did gather some additional information. She noted that USDA is only tracking GE and non-GE acreage for 3 crops: corn, soybeans, and cotton. Many data points come from other sources and may not be as reliable as USDA's data. She indicated that major data gaps still exist. She noted that the structure of organic agriculture is very different from conventional agriculture, and differs across crops. Very little of the U.S. production of corn and soybeans is organic. In contrast, for organic fruits and vegetables, organic may encompass 5-10% of the acreage, and there are no costs of coexistence in most cases (for crops that have no commercial GE counterparts). She described efforts to enable coexistence of the three types of crops, noting Purdue University's efforts to provide a mapping tool for pesticide use, a California area where GE alfalfa seed production is excluded, and strategies to minimize cross-pollination between GE and non-GE crops. She provided information on the GE-related losses incurred by organic farmers documented in the most recent National Organic Survey, which were significant in some States, and noted some inherent weaknesses in the data—particularly that it could not be broken down by commodity. Full information is available in the ERS report at:

<http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib-149.aspx>

One AC21 member noted that the private Non-GMO Project verifies the GMO status of some products which have no GE counterpart, which distorts the size of the product markets described. She added that organic producers face additional challenges to coexistence related to pesticide drift, which are not faced by non-organic IP growers, since the regulations do set a threshold for pesticide residues on organic products. The low acreage in organic corn and soy in the United States has resulted in huge influx of corn and soy from other markets. Ms. Greene noted that data from the non-GMO Project goes across all products, but that the ERS study did look at specific product categories.

An AC21 member distinguished between organic production, which is process-based, and contracts he referred to as "organic-plus," which also entail testing for GE presence, and could more easily result in

economic loss. He acknowledged that if customer requests testing, it would be carried out, but the presence of GE material in an organic product per se (as opposed to “organic plus”) should not lead to rejections. He observed that rejected products would generally move to an alternative market, which results in a lower price premium. He wondered whether there is now a need to redefine what is organic, so that it is a test-based, and not just a process-verified system. He further inquired how the U.S. is tracking imports of products, and how the value of the U.S. dollar is factored into it. In response, Ms. Greene noted that USDA’s 2002 final organic rule explained why a threshold was not set, though many countries do have one. However, many buyers now set private thresholds for unintended presence. She added that trade data is value and volume-based, and that ERS has documented chronic shortages of organic feed grains. Another AC21 member added that the strong dollar makes imports more attractive. Three and a half years ago, she added, the price peaked at a very high level, and there is now a considerable amount of certified organic land abroad, especially in the Black Sea region and Argentina. Imports have skyrocketed, and now that prices have declined by one-third compared to last year, buyers are using GE thresholds in contracts as a way of escaping contracts with domestic producers. Another AC21 member inquired as to who certifies organic Argentine corn and how it is verified. The previous AC21 member noted that Argentinean certifiers are also accredited by USDA and are theoretically being held to the same standards. She expressed doubt that Argentine corn is tested for GE presence when it arrived in the United States. Ms. Rakola further clarified that USDA accredits a large number of certifiers abroad, and in addition has organic equivalency arrangements with several countries and most notably with the European Union. Ms. Greene added that while organic production is process-based, part of the process is to ensure that buffers and strategies are in place to prevent commingling and cross-pollination. Ms. Rakola added that with respect to pesticide residues, organic regulations require that 5% of all of the certified operations be tested every year, and that requirement applies in the United States and abroad. Another AC21 member noted that the marketplace generally tests organic products to the 0.9% standard. Cargo coming to the United States may be rejected as well. Corn is increasingly coming from Eastern Europe or India. U.S. buyers have gone overseas not primarily due to price considerations, but due to purity concerns. Another AC21 member concurred that the increasing market preference for imported corn may be due to purity concerns. She added that shipment rejections do not result in loss in certification, but would trigger an investigation by the organic certifier and require corrective action, such as expansion of buffers, to prevent further commingling. Secretary Redding expressed appreciation for the presenter’s preliminary evidence on the economic costs of coexistence.

V. Reports from 3 *ad hoc* subgroups on their intersessional work and discussion

[NOTE: Discussions from this session continued into a more general discussion of many of the themes captured in later portions of the agenda and that extended morning discussion is reported here.]

AC21 member Gregory Jaffe reported on the work of the Guidance Document subgroup by noting the group’s charge: to develop a draft framework of relevant considerations for farmers who wish to produce an identity preserved crops, and to consider what general guidance can be offered to aid

farmers in constructively interacting with each other. The subgroup agreed to the charge, but initially considered the challenge of the scope of guidance: would it be limited to just preventing unintended GE presence, or would it include all topics related to IP production? Would it discuss mitigation measures for all farmers, or just those farmers producing IP crops? He indicated that these were questions the subgroup wanted to bring back to the full AC21 for resolution. He added that in terms of the level of detail to be provided in the Guidance Document, the subgroup felt that it should include broad, generalizable concepts that can be applied to local conditions. He then spoke more specifically about the two conference calls the group had held. On the first one, subgroup members had expressed the view that, if possible, the Guidance Document should include a framework, including principles, and a decision tree that could be applied by individual farmers. He noted that the subgroup had asked that USDA reach out to Dr. Nicholas Kalaitzondonakes at the University of Missouri for any additional information he might be able to provide relevant to achieving coexistence. On that first call, two subgroup members, Angela Olsen and Lynn Clarkson, agreed to separately draft potential guidance framework documents for discussion at the next call. On the second call, the subgroup discussed the two framework drafts and indicated that they should be combined, using the overall framework provided by Mr. Clarkson. It was agreed that Dr. Schechtman and the AC21 Chair would draft a revised framework document for discussion at a future meeting, but that it would not be provided at the current plenary session. He noted that there had been a lengthy discussion and a range of views on the section discussing “knowledge of the seed,” the need for information on GE content in the seed, and the impact of seed purity on ability to meet market thresholds. The subgroup also felt that the Guidance Document should identify sources of additional information, but not provide an exhaustive list. It might also excerpt portions of the AC21’s previous report, where applicable, to assist readers. There was also some discussion on providing some guidance relating to having discussions with neighbors. Several members offered to try and locate sample farmer-to-farmer letters that have been used in some circumstances in the past to open such discussions.

An AC21 member noted a draft document under discussion by the National Corn Growers Association (NCGA), provided to the Committee by Leon Corzine, noting that it provides relevant information. Mr. Corzine noted that the draft NCGA document came from a biotechnology committee meeting: the current NCGA policy book has limited reference to coexistence. He indicated that it is a proposed policy, under review by committee, not yet considered by full NCGA but offered his desire to share the current thinking, which notes, “We support the continued enhancement of coexistence practices in the production of IP products in commercial corn.” He observed that the statement refers to all IP products, not just organic ones, and that the proposed policy would promote farmer education and farmer-to-farmer communication. He further suggested that because practices vary, it would not be appropriate to mandate the sending of letters between neighbors, since in some areas they would likely get a negative response, but he also recognized that face-to-face communications might not always work.

Dr. Schechtman noted that the two guidance framework drafts had been provided to the committee for their information and that he had reached out to Dr. Kalaitzanonakes for information, which is pending.

One AC21 member explained the suggestion that organic farmers might send letters to their neighbors. This might be appropriate because an organic farmer might be unsure who the ultimate owner of a

neighboring field is, and an organic farmer needs to be able to provide proof that he/she has attempted to notify neighbors of his/her organic status. Often, there's no inherent coexistence problem: if a problem exists, then you can identify opportunities for cooperation. If there are no opportunities, the organic farmer must plan accordingly. He suggested that to his knowledge, to date, no one has responded negatively to such letters. He added that he had been working with the Illinois Farm Bureau to get sample letters. Another member added that she too had reached out for sample letters, to the American Farm Bureau, which was unaware of such letters being sent. She noted that a final guidance framework would not be a simple merging of the two drafts provided, and that there had also been a set of redline comments provided on Mr. Clarkson's proposed framework.

North Dakota Agriculture Commissioner Douglas Goehring then provided a summary of the two meetings of the Models and Incentives subgroup. He noted that the subgroup's work in the first conference call had touched on potential incentives and the use of voluntary versus mandatory approaches. Members had felt that voluntary approaches would work much better and that mandatory approaches would be unlikely to work without specific State law. There had also been some discussion about looking to the Natural Resource Conservation Service (NRCS) to see if they have approved practices in mitigation efforts. There was also discussion concerning mediation programs in State Departments of Agriculture, which, for the most part, address issues between farmers and financial institutions or creditors. He noted as an aside that there are some farmer-to-farmer non-coexistence issues for which USDA sometimes has a role, and States sometimes play a role in other landowner issues, such as transmission lines, with electric companies, pipeline companies, royalties on mining of minerals, timber, and oil and gas. On the second call, there had been much discussion about State Pollinator Plans, which are generally being quickly adopted and well-utilized into practice well. The plans focus on the why, who and what; look at best management practices; and are general in nature so that another State could incorporate a document with very few changes. The group also discussed voluntary mapping systems for sensitive production sites. Only 2 robust systems exist, one developed by the State of North Dakota and the other by Purdue University. They offer producers the ability to put in GIS coordinates and identify whether there are beehives, vineyards, or organic production in the vicinity, and they generally work well. The subgroup also discussed grower opportunity zones to facilitate alfalfa coexistence, for which 80% of farmers in the area must sign on and vote for establishment of the zone. The dissenting 20% would be required to comply, if the area is voted in, based on crops and practices. It was noted that similar production zones had been attempted for rapeseed and canola in Oregon, but that the effort got shut down quickly based on litigation and there is currently a moratorium. There is a private non-profit organization which does some mapping and provides an agreement plan, but it requires payment to gain access to information. The Oregon Agriculture Director has indicated to Commissioner Goehring that it would likely be 2018 before there will be additional State progress on the brassica/canola issue, and expressed the hope that the AC21 would provide guidance before then. The subgroup also discussed wolf-livestock coexistence efforts in Arizona & New Mexico, under which public-private partnership funds incentivize impacted livestock owners by providing financial incentives to let wolves reside on their properties. The subgroup also discussed an EPA watershed model, which offers a useful format for consideration of relevant data, though he expressed some concerns about the watershed model itself. Dr. Schechtman added after that summary that subgroup members felt that

none of the existing models would precisely fit what would be needed for coexistence, but that each offered a worthwhile element for this effort, and the AC21 would likely need to create its own model. Commissioner Goehring concurred with that statement.

Leon Corzine then provided a summary of the work of the Venues and Conveners subgroup. The group was tasked with identifying potential venues and conveners for local coexistence discussions and describing the roles the groups might play, and providing whatever guidance could be offered on how localities might decide which groups would be most appropriate for which role in their area. In the subgroup's first call, members noted the great diversity within individual States, with different crops produced and different organizations present. It was observed that in some States, State Departments of Agriculture might play a substantive role, while other may not have the resources to do so. The subgroup considered different scenarios under which groups or organizations might be utilized, and created a "laundry list" of State Departments of Agriculture, Crop Improvement Associations, Chambers of Commerce, and others. It was recognized that an organization like a Chamber of Commerce might be a good organization to initiate a discussion about a potential new commercial opportunity involving a new IP product. He referred members to the list of potential participant organizations contained in the meeting summary. He noted that the subgroup had recognized the need for a convener perceived as independent and roles for organizations seen as being on different sides of an issue, with a need to account for those differences. On the second call, the subgroup attempted to refine the list and categorize the groups into categories: initiator, neutral/trusted host/convener (if just one group convened, might be too linked to like-minded stakeholders), technical experts, and facilitation and process specialists. This categorized list has been provided as a resource to the other subgroups. There was no discussion of funding of these discussions, though it was observed that private companies and Chambers of Commerce might be able to self-fund.

One AC21 member, noting that the committee had focused thus far on potential funding of incentives for growers, inquired whether there were any USDA funds that might be directed specifically at funding the convening of local dialogues of the sort envisioned by the Models and Incentives subgroup. Dr. Schechtman noted that the subject had come up in the subgroup with one member's inquiry about the possible use of AMS Market Improvement Program funds, but that he had learned that those funds have a research focus.

An AC21 member raised the possibility that the Association of Official Seed Certifying Agencies (AOSCA), which has state agencies in about 45 states and some foreign countries, as well as trained staff, might, with somewhat dwindling responsibilities, have incentive to help with local meetings. He noted as an example the Illinois Crop Improvement Association, which is part public, part private, and part academic. He inquired about other members' views on their own local agencies. Another member observed that Crop Improvement Associations are generally held in high regard, though their relevance may have dwindled, and noted that they had been included in the list of venues and conveners, particularly for their technical expertise.

Secretary Redding wondered at the relationship between Seed Certifying Agencies and Crop Improvement Associations. One member offered the view that they can often be thought of as the same. He noted an instance over 20 years earlier when the Illinois Crop Improvement Association assisted with standards development and testing for a Japanese client, and then brought the standard to a national AOSCA meeting, where it was adopted on a national basis. However, the actual relationship between the entities is unclear and may be blurred in Illinois. Another member offered the view that the two are very different, with different missions and technical capabilities. Another member suggested that a problem with calling on AOSCA, at least in some States, is lack of available staff.

An AC21 member raised the issue of GE content in seeds as underlying the ability of farmers to meet market requirements for their products. He noted that the Non-GMO Project has struggled in its standards document about how to deal with seed and seed purity and has established a seed purity working group to decide what role seed purity standard might play in meeting non-GMO standard. He added that organic livestock farmers want to be able to buy feed that will enable them to meet market requirements but don't want to pay for testing every batch of feed. Whatever the percentage of GE presence is in a seed, it is unlikely to decline at time of harvest. He observed that the cost of living with a coexistence system will increase substantially if it depends on testing of end-product foods and advocated for a system farther up the value chain which confirms adherence to a seed standard in order to mitigate costs. Thresholds for adventitious presence in seed could be established to enable farmers using that seed to meet international thresholds for their crops, and most of the burden for compliance would fall at the seed level and potentially reduce the costs of compliance. To make that work, he argues, two pieces of information would be needed: what is the level of unintended GE presence in non-GE corn seeds; and at what level of seed production do seed companies actually know what level of unintended GE presence is in a given lot of seeds? He wondered whether the seed industry is producing enough low-level presence seed to meet the market demand, and how that seed can be gotten to people growing for the IP markets to satisfy buyer demand.

Another AC21 member provided additional information on Crop Improvement Associations, noting the range of institutions in different States: Seed Commissions, Land Grant universities, Agriculture Departments. Crop Improvement Associations by contrast are often the farmers themselves, creating standards, making sure they are met. In the Northern Plains, some crops may fall under the purview of Crop Improvement Associations and others under a State Department of Agriculture's authority.

Sec. Redding requested clarification as to whether the Models and Incentives subgroup had had a similar discussion about seed testing as described above. Subgroup members confirmed that this was part of their discussion. Another member offered the view that there is not enough seed of adequate purity available and that there are significant challenges for producing such seed.

Another member noted that seed companies by law must put seed purity information on the seed bag, and that seed purity alone will not guarantee that IP requirements are met: mitigation measures on farm, such as cleaning out combines and knowing about one's neighbors' actions are still needed. She noted that the American Seed Trade Association (ASTA) has convened meetings on seed availability and believes there is enough available seed but not enough advance planning: producers need to work with

seed suppliers at least one year in advance to forecast needs. Another member noted that purity data on seed tags reflects percent inert material and percent weed seeds but does not include GE presence, the relevant data in question for organic and non-GE seed. She suggested that the AC21 needs more information about what is found on a seed tag and how accurate it is, including whether the information receives third-party confirmation. She suggested that seed companies need to be able to tell farmers routinely what level of GE presence exists in their seed. The previous member suggested that the way to get quality seed is to work with reputable seed companies. She noted that some companies do provide information about GE content and growers who need that information should work with such seed providers. There are those providing this information are addressing an interesting business model and supplying a niche market. Another member suggested that someone should reach out to a company that sells GE, non-GE, and organic seed and see what they do.

A committee member spoke of his changing understanding of the most likely source of unintended GE presence in non-GE and organic products. Whereas earlier he had thought it was due to pollen flow during cultivation, now he believes it mostly comes from the starting seed. He noted that when seed companies are asked, "what does non-GMO mean?" with respect to a bag of non-GMO seed, the response is "Please don't ask." A buyer may be told that the mean is 0.4% but the range runs from 0-5%, and there is no way of knowing what is in the particular bag purchased. Buyers now want to have tighter degree of purity and disclosure than industry has ever supported. He noted that some companies are now starting to sell seeds with tolerance numbers on the bag, with one company in particular providing 0.5%, and charging extra for testing.

Another member stated that it would be a disservice to agriculture if purity standards for all seed were raised, because that would raise costs for everyone: costs for commodity growers should not be raised to meet the needs of IP and organic growers. He offered the view that seed for those growers should be more expensive, as driven by the standards required by that voluntary market. Secretary Redding noted that the previous report had discussed the theme of shared responsibility for coexistence, and that theme extended to seed purity as well. He observed that in the next report, there could be many points of reference back to earlier discussions on these topics.

A member described the process for seed certification for alfalfa. New varieties are submitted to a review board before consideration for certification at the State level. The seed tag will indicate the variety, the percent hard seed, percent germination, and the date the germination test was conducted. Think about genetics – most important. Another member noted that she buys and resells organic seeds from 3 major companies doing both organic and non-GE seeds and indicated that she would ask them for data on samples per lot, percent purity, and where they were tested--in house or sent out, hoping for an immediate response. She suggested that having this baseline information would be critical for crafting the Guidance Document, suggesting that the document would only be useful if farmers could start with non-GMO seed of sufficient purity. She also noted that vigor is also critical for quality seed.

A member observed that the idea of market solutions responding to supply and demand relies on access to information and transparency. She wondered if there are ways to incentivize access to this seed information. She noted that starting knowledge was critical to the implementation of BMPs. She

suggested that efforts on the farm become futile if there is no transparency, and that the lack of knowledge would not foster good relationships between neighbors. Another member noted that seed purity is not an issue only for organic and IP farmers, but that it is also a contractual matter for some farmers. Another member observed that seed purity is an important issue for coexistence, but not specifically for the new report to be written.

VI. Presentation from Mr. Roger Noonan, Vice Chair, Northeast Region, National Association of Conservation Districts (NACD), on cooperative local processes in conservation management plus discussion

[Note: Mr. Noonan's presentation slides will also be posted on the AC21 website.]

Mr. Noonan started by thanking the committee for its work on coexistence. He noted that when he had started as an organic farmer, he was the "odd man out" in his community. Going to NACD meetings helped us to understand each other, we have a healthier community because of it. The NACD's view is that conservation decisions should be made at the local level, and local people--those working the land and using the land--have the best understanding of the area's resource concerns. NACD's mission is to serve conservation districts by providing a national, unified voice for natural resource conservation. Conservation assistance is the primary job, NACD works with both USDA (NRCS being the primary USDA partner) and EPA (through Clean Water Act Section 319 funds).

At the local level, work groups develop ranking questions for proposals under the Environmental Quality Incentives Program (EQIP), the Conservation Stewardship Program (CSP), and CRP to inform State Technical Committees. Work groups develop a district's natural resource plans, which may exceed strict agricultural conservation issues, e.g., they may discuss how to keep small farms in business. Their work brings a diverse group to the table. North Dakota, for example, has the second largest number of certified organic acres in the country and is a major agricultural producer and exporter of a diverse set of crops. As markets have grown for organic and identity preserved products, so has understanding of each other's issues. Farmers who switch production methods can bring new voices into the discussions.

Mr. Noonan noted that in terms of soil health, use of cover crops and crop rotation can address resource concerns and at the same time promote coexistence. However, conservation solutions to coexistence can pose other problems, such as forested windbreaks which may require too much of the available water and affect sunlight in a way that detracts from other crops. He noted that some crops may require miles of separation for isolation. The key to conservation discussions is to get everyone in a room talking to each other.

One AC21 member offered the view that 5 miles of isolation is required to produce pure non-GMO Corn. Ron Carleton, *ex officio* member from EPA, thanked Mr. Noonan for his acknowledgement of section 319 funding, much of which goes to conservation districts.

An AC21 member inquired about how conservation districts work and how large an acreage they reach. She noted that the committee is charged with looking at state and local solutions to joint coexistence

plans and that all members seem interested in the previously discussed CRP buffer solution. Also members are interested in identifying funds to convene coexistence discussions. Mr. Noonan replied that there are over 3,000 districts but that he was not sure about the representativeness of the farmers showing up to meetings broadly. Locally, in New Hampshire, there is very high participation. NACD has cooperative agreements to promote Farm Bill programs and to address conservation concerns; coexistence has not been elevated to be a natural resource concern. He noted that there is a backlog of conservation concerns in bigger agricultural States and funding is an issue. An AC21 member noted that NACD officials and farmers are the experts who know the land, the soil, and the region and offered appreciation for the often thankless role NACD officials play.

Dr. Schechtman asked Mr. Noonan to provide more information about local meetings. Who runs them and sets their agendas, and how are groups notified and encouraged to attend? Mr. Noonan indicated that local work groups are subject to the notice requirements of public meeting law. In his district, the Board of Supervisors puts together an agenda and is required under statute to invite FSA and Extension. They reach out to the local Farm Bureau, to an organic group, to the Department of Agriculture, and to others on their mailing list, and post meeting notices in the local newspaper. He offered his view that it is best to work through local farm groups in facilitated meetings, and observed that in bigger States, NACD seats are competitive.

An AC21 member inquired as to what triggers a local meeting. Mr. Noonan indicated that meetings are usually triggered by Farm Bill program deployment—there might be a need to establish ranking criteria for the upcoming EQIP season, for example—but meeting structure and timing varies across the country. The NRCS Field Office Technical Guide (FOTG) provides some guidance on who to invite and how to run meetings.

Secretary Redding inquired as to whether NACD might offer a good model to help facilitate development of joint coexistence plans and what kinds of elements might be in such joint plans. Mr. Noonan replied that he wouldn't want to overburden NACD, but that their framework could be helpful. He noted the polarization of the current world: organic farmers spend time with other organic farmers, and conventional farmers with other conventional farmers, so that it is difficult to get people with different ideas to the same table. He observed that farmers can be blunt, and because of the potential economic impacts around discussions, coexistence discussions could become very heated. Using an existing process could facilitate having different producers meet, have a conversation, and learn about each other.

An AC21 member noted that his State's farmers hold a variety of opinions, and for discussions among them, NACD district supervisors might need to be trained in arbitration. He also observed that the current economic downturn may put 20 percent of farmers out of business which may complicate discussions on coexistence.

Secretary Redding wondered how NACD's expertise might be borrowed and put to the task of developing joint plans. He noted that there would be many pieces to a solution, and noted that the new CRP buffer option could be one piece of the solution. He observed that people see the role of

conservation in a number of different ways that could facilitate coexistence. Mr. Noonan replied that he didn't mean to suggest that NACD could actually facilitate coexistence debates at the grassroots level, but that they could help to bring people together, people who might not have interacted before because landowners might actually live far away.

An AC21 member observed that if a meeting format were developed, he could envision NACD as being the needed third party in some instances. In the subgroup discussions on venues and conveners, it was recognized that different localities are different. He indicated that he wanted to be sure that NACD was on the list of to the list of potential venues and conveners. He inquired whether NACD would object to being considered for that role in some localities. Mr. Noonan replied that the NACD Board would certainly look at the issue and give it serious consideration. He added that the more information the districts can disseminate to other farmers, producers, or other interested parties in the community, the better off everyone will be.

An AC21 member observed that coexistence issues could be on the table in a forum with other issues like pesticide applications, and bringing together private pesticide applicators, NACD officials, and extension agents with farmers and others could be a means for working toward solutions for all. In that format, coexistence would be one of the topics discussed.

VII. Presentation from Dr. Barbara Glenn, NASDA, on how it can engage in the coexistence process plus discussion.

[Note: Dr. Glenn's presentation slides will also be posted on the AC21 website.]

Dr. Glenn thanked the committee for its work and noted that NASDA has worked with the AC21 for many years and has two members on the committee. NASDA provided public comments during last USDA meeting and urges the AC21 to consider State Managed Pollinator Protection Plans (MP3s) as a model for coexistence discussions. She indicated that NASDA has a new mission and momentum, to create partnerships and forge consensus. It has developed a range of policies, on genetic engineering, on organic agriculture, on bee health, and other important topics. She spoke of the roles of agricultural officials in the 50 States and 4 Territories in a range of areas, including: food safety; biotechnology; organic certification; seed control; pesticide approvals, certification and training; and even apiary inspections. NASDA members act as co-regulators with the Federal government and have numerous areas of responsibility. She listed a number of organizational affiliates, including the Association of American Pesticide Control Officials (AAPCO), the Apiary Inspectors Association (AIA), the Association of American Seed Control Officials (AASCO), the Association of Structural Pest Control Officials (ASPCRO), and others. She noted that under the concept of federalism, the Federal government consult with states, it is important to educate before you regulate, and resources are always needed. She spoke in more detail about the MP3s and about White House support for bee health, and also noted that a week earlier, NASDA had co-hosted, along with the Honey Bee Health Coalition, USDA, and EPA, a successful symposium on MP3s in Washington, DC.

MP3s are designed to support the health of managed pollinator species and mitigate pesticide risks while supporting the use of crop protection tools that are important to modern agriculture. They provide mechanisms for communication and cooperation, in fact, coexistence, among the very diverse set of stakeholders that interact with bees or their products. The tools include guidance documents, public outreach, information on formalizing agreements between relevant local parties, and metrics for success. She noted the number of States involved in these efforts, starting with North Dakota—7 States have completed their efforts and another 29 States have plans in various stages of development. Both USDA and UPA support these efforts. Some of the BMPs identified include: identification of hive locations; best practices with respect to crop protection, including the adoption of Integrated Pest Management practices; bee-incident reporting mechanisms (in some States), communication, and others. Some key features of MP3 programs are that they are voluntary, flexible, address State and local needs, focus on communication, and are driven by States and stakeholders. Every State plan is different. In many States, the State Department of Ag is a key leader and partner. But the foundation is getting neighbors together and having honest brokers help them talk through issues.

One AC21 member from a State that had an MP3 plan in place noted the wide range of participants from the public, that tensions calmed down after a while in long meetings, and that many persons were surprised at both the complexity and simplicity of the issues involved. Another AC21 member inquired about the challenges for States that are in the process of developing MP3s. Dr. Glenn replied that getting all stakeholders to come can be challenging but that when the Secretary of Agriculture or Commissioner invites them, they do come publicly announced. There are sometimes political aspects: a large contingent of legislators at one meeting changed the dynamics. In general, there is a high level of confidence in State actions, but each State does it differently.

Another member inquired about what is done with bad actors—people who do not act respectfully of their neighbors—and whether there is enforcement or a structure to deal with them. Dr. Glenn replied that States have bee incident reporting mechanisms, but it is complicated because beekeepers often don't report losses, and not all losses are due to pesticide exposure. State Departments of Agriculture have processes to oversee these, and data is gathered to learn from what is reported.

An AC21 member noted some of the complexities around the issue. Most people think pesticides are the issue and advocate looking for pesticide residues and collecting and testing bees. But beekeepers also need to use pesticides to control Varroa mites and other pests and diseases. So various factions around the use of pesticides can have conflicted loyalties or change sides on these issues. Investigations of incidents cover all activities by all parties. Bee behavior is also complex. In the end, pesticides have labels which spell out the law and the job of officials is to enforce the law, not to report back to the person who files a complaint. But rather than pesticides, it appears that the number one problem for bees is forage and nutrition, or insufficient habitat. Hives need to be placed near forage and water.

An AC21 member inquired about the overall process—how it is initiated, how decisions are made on who is invited, how it is convened, and how constructive conversations are set up. Dr. Glenn noted that there are kickoff meetings and meetings are publically announced. State Departments of Agriculture take the lead, develop a robust list of stakeholders, and share information with other State agencies.

The invitation to participate comes from a respected leader. In some States, the Farm Bureau has convened meetings, and it has worked as well. On top of the agenda for the meetings: to provide knowledge and provide status updates, then proceed to breakout groups.

Another AC21 member inquired about pollinators that can't be moved, noting that bees are dying off quickly. She cited excessive pesticide use in household applications as one cause. She also noted that commercial beekeepers do many things that are wrong in hive placement, wax retention, chemical use, and in using miticide sticks. She wondered about the participation of pesticide manufacturers. She noted that farmers spray when crops are not flowering, but ignore blooms of wild plants, and that systemic pesticides constantly expose bees. Dr. Glenn replied that those comment just underscore the complexity of the relevant issues. Each State implements the flexibility that they need, but communication is needed on all these issues.

An AC21 member asked whether State Departments of Agriculture want to get involved to avoid Federal regulation, and whether stakeholders get involved for motivation, awareness, and education. Another AC21 member responded that the threat of looming regulations or the loss of certain crop protection products provides incentives. Crop protection companies attend the discussions and listen. Putting facts on the table from the testing of bees adds credibility.

There followed some discussion about the testing of bees and who can carry this out.

An AC21 member observed that whoever facilitates the MP3 meetings must be both intimate with industry and unbiased and must serve the public and protect agriculture at the same time. Not all Agriculture Departments can do this – an appointed Commissioner may have a Governor who finds this issue too controversial, while others may have more latitude.

An AC21 member noted the parallels and challenges in addressing pollinator health and dealing with issues around the planting of GE crops and applauded the use of the MP3 model in considering coexistence with GE crops. He described some of the scientific advances around the understanding of pesticide impacts on bees and the challenge of addressing multiple subacute effects on them. Another member expressed the view that the committee was getting off target, because MP3 was only a model for tools that might be applied to the coexistence issue.

Dr. Schechtman requested that Dr. Glenn speak about potential roles for State Departments of Agriculture in some of the processes AC21 is considering initiating at the local level, acknowledging the different constraints that may apply in different States. Dr. Glenn replied that Commissioners, etc. are there to advance agriculture, including through outreach and education, and they have “boots on the ground” and are trusted and respected. NASDA can play a role and supports all methods of agricultural production. They would like to continue to engage. She indicated her belief that her members would entertain an active role in this regard.

Secretary Redding noted in wrapping up the session that MP3s, at a macro level, are about engagement and bee health is the call to action. A similar call to action could be invoked for coexistence. At the micro

level, plans should be able to achieve some level of formal engagement between parties, with specific actions expected and agreement between individuals and/or entities. He noted the benefits of looking at MP3s as a model, in that they provide some indication of what works and has been tested. A plan, once developed, will be a living document, continuously modified, and will bring people to the table. He also noted that in his home State, Pennsylvania, many people want to be involved in the plan, including some unexpected stakeholders, like town supervisors and master gardeners. They are working on a shared vision for protecting bee health that could be borrowed from.

VIII. Public comments

There was one comment from a member of the public during the comment period. Ms. Patty Lovera from Food and Water Watch noted that her organization had attended previous meetings and submitted comments. She reiterated her continuing skepticism about the potential for dialogue to solve this problem and expressed worry about overreliance on dialogue alone. She noted that her organization had conducted a survey along with the Organic Farmers' Agency for Relationship Marketing (OFARM), asking organic growers about other solutions to coexistence problems, and the results of that survey indicated that dialogue is not working. She indicated that she was intrigued by one version of the draft guidance document framework, which contained a "knowledge of the seed" section and discussed disclosure about presence of traits and the distance they can travel. She suggested that this information would be the bare minimum information that could be provided to those in the organic and IP sectors, since their products will be tested down the supply chain. She asked that USDA should require that test kits be available when new GE varieties are commercialized. She recommended that USDA should incorporate this into the new biotechnology regulations under consideration as well as provisions for conflict analyses. She also called for more data for those entering into relevant transactions.

IX. Discussion of the types of potential interactions envisioned in AC21 thus far and their relationship to each other

Dr. Schechtman noted that the next several segments of the agenda would try to tease out different aspects of a large, overlapping set of topics. In discussions from the previous plenary, as well as working groups, there were at least 4 different types of coexistence discussions envisioned:

- New IP opportunities that may also offer production challenges
- General local education about how to produce IP crops and/or talk with neighbors
- Resolution of issues of concern in an area
- Specific venue for farmer-to-farmer conversations.

He requested clarity on whether the committee wished to provide guidance on all 4 types or on some subset of them, on the relationship between them, whether there might be some guidance given to localities that might be considering one or the other of the conversations, and whether the Guidance Document was envisioned to be a general feature of all or some of the discussions. In response to a

question by an AC21 member, he added that on the next day's agenda there would be time for discussion of whether there should be additional guidance documents, and offered the hope that if there were to be more, they would result from splitting an existing task and not adding new work.

An AC21 member recalled that there had been earlier discussion that BMPs/guidance might be brought to the table at the same time as particular products are discussed. She offered the view that topics 2 and 4 were the things the committee was already working on. She voiced support for working with NASDA as a partner with a workable template because there could be potential endorsements from States and supportive statements which could create an opening for conversations to happen without an actual active role for State Departments of Agriculture in the resolution of issues. She indicated that discussions on incentives for participation had gotten underway. She questioned whether there was any work in process around how to resolve issues when they come up through this process of joint coexistence plans when they don't work.

Another member expressed the view that it would be important for the committee to consider the first of the 4 types of conversations. She stressed that the guidance document to be crafted needs to be suitable, adaptable, and practical not just for today's products but also for those 5 years in the future, citing a few particular newer technologies. She also questioned the assumption that as soon as neighbors sit down together and talk, issues would be resolved. She noted potential resentments directed toward non-GE growers due to low commodity prices, but suggested that wasn't something the committee could address.

An AC21 member observed that topic 1 might be addressed with BMPs, and that topics 2 and 4 are very similar. He suggested that the reason for putting mechanisms in place to have these conversations is not only to address existing tension, but to be able to talk about ways of putting mitigation strategies in place to address a number of shared concerns (e.g., preventing soil borne pathogens, noxious weeds, etc. from moving) that are common issues that bring everyone to the table. While there is a captive audience, broad concerns can be discussed, and BMPs can be developed.

Dr. Schechtman noted that the first topic arose in earlier Guidance Document subgroup discussions, noting that farmers may be looking for value-added opportunities in times of low commodity prices. A company may want to come to a particular area to let farmers know of a new IP production opportunity, but may require particular practices to be in place to get the product desired.

Another AC21 member observed that the report that AC21 produces will end the committee's opportunity to advise Secretary Vilsack and USDA and will bring the current AC21 to an end. A new Administration may keep it going, but it will probably be a new committee with a new charge. He noted that important coexistence issues have changed just since this group was originally brought to the table. He suggested that issues, tensions, and struggles over agricultural biotechnology are defining how segments of the public deal with American agriculture right now. He added that the economic ramifications are growing and will continue to grow. He suggested that the AC21's report should talk about the growing challenge and the corresponding growing economic consequences. He suggested

that for topics 2 and 4, there is a lot going on, and that when people want to get together, opportunities exist. Topics 1 and 3 in his view offered opportunities to make constructive contributions: regarding topic 1, he suggested that a case study be presented of a new product that raises entirely new issues; for topic 3, he spoke about resolving issues of concern like seed purity and the need for USDA to recognize international thresholds and help farmers to meet them to enable access to export markets. He added that more and more of agriculture is moving away from general commodity markets and toward contracts. He wondered whether there are standards contract provisions that could be helpful around issues like testing, segregation, thresholds, and seed, or whether USDA could develop such provisions.

An AC21 member noted her agreement with many of the previous comments and suggested that once a meeting framework is developed, examples along the line of topic 1 could be provided, and that topic 3 should be addressed, providing alternatives for what to do if discussions are not successful. Another member noted that much of the discussions had already focused on topics 2 and 4, and recommended that that momentum be built upon, drawing on the NACD and NASDA presentations. She noted that a model would need to be locally adaptable and expressed her appreciation for the MP3 model and presentation. Another AC21 member recommended that discussions focus on farmer to farmer discussions, which will be difficult in today's economic climate and suggested that discussion of topic 3 would also come back to discussion of new opportunities in IP. He recommended that unresolved issues not be dealt with through arbitration or litigation, but rather through mediation. He added that controversial issues like seed purity and others should be addressed in opening statements.

An AC21 member asked Mr. Barry Bushue, an AC21 member from Oregon, about how coexistence challenges were being dealt with in Oregon and whether the situation had calmed down. Mr. Bushue replied that Oregon finds itself in a public fishbowl on the issue. He suggested that the situation is driven by ideology, markets, and lack of communication between farmers. He agreed that not all issues between farmers will necessarily get resolved, and that resolutions or agreements cannot be forced. He expressed the view that starting conversations with a formal letter is not productive: neighbors would want the courtesy of a face to face visit first. In Oregon, he suggested, there is a lack of appreciation for the value of the diversity of agriculture. The Oregon Farm Bureau board runs the gamut of producers and embraces them all. Perhaps their biggest challenge is dealing with the legalization of marijuana and appropriate structures for legal growing of it. The canola issue in Oregon, in his view, was purely market driven by seed producers. The producers did not come to the table to negotiate coexistence, but instead found a friendly legislator to mandate what can and can't be grown on a farm, with tremendously negative results for a fine industry. In Jackson County there was an ideological issue with one group of farmers banding together to determine what neighbors can and cannot do and farmers miles away were punished as a result. Some had issues with a multinational company growing seed there—the opposite of coexistence. He noted that Oregon had actually passed a seed preemption bill, which stopped counties from determining what can and can't be grown at the county level. The bill was challenged this legislative session and he predicted that it will be challenged in the next legislative session. He noted the importance and challenges of coexistence and the need for farmers to talk face to face and be honest about what their needs are. He added that he was transitioning part of his farmland to organic

production.

An AC21 member sought to clarify the recommendation around sending a letter to neighbors. He indicated that it was not mandatory, and that in cases where a farmer has many neighbors or where farmland is rented, it can be helpful. The key is communication and it is nice to have in writing. He added that having the conversations is market driven, and markets are moved by ideology and other things. Economic straits are often not based on the quality of the farmer, but the market they're serving. Those who serve markets will go where they need to, including to foreign suppliers, to serve the demand, but would rather source product in the United States. He added that his view of future competitiveness is through having really good IP systems. Another AC21 member agreed that communication is key, but noted that he doesn't ask his neighbors for their plans or economic information that might affect their competitiveness. He does inform his neighbors about his use of Liberty Link soybeans, because a specialty herbicide is used with them. He noted the importance of getting a report done, because crises can occur and the document could help to handle them.

An AC21 member noted that in outlining the document, the committee will be creating boundaries to discourage people from doing things that would be harmful to others. He spoke of other countries with which we trade, where there are concerns about their regulatory environment, corruption, and food safety, but there is a trust for U.S. products. If the committee can develop the outline and format, create boundaries, deliver a product to the States, and elicit farmer to farmer talks and public meetings, awareness will be raised, and eventually the majority, but not everyone, will be engaged.

An AC21 member noted that the choices made by farmers are business and market choices, the outcomes of which need to be accepted. If those choices are no longer profitable, the options are to quit or change the choices. A farmer cannot be expected to accept the responsibility for another's market choices.

Another AC21 member agreed that some foreign countries trust our products more than their own. He argued that we have the best regulatory system and should not turn it into something that is not manageable. When there are new IP product opportunities, there needs to be a pathway provided. Perhaps the new opportunity in rural America is organic since it's not grown everywhere. He expressed unease with having those in Washington D.C. educating farmers about how to farm, but he indicated that the committee could offer suggestions and help about IP and about how to do farmer to farmer discussions. He offered the view that community conversations in communities would not occur without a trigger, perhaps a new product or new opportunity.

An AC21 member pointed out that what is important is not that we think we're a good neighbor, but that our neighbor thinks we're a good neighbor. The committee's efforts need to stimulate self-searching, for farmers to consider if they are doing something on their farm that negatively impacts a neighbor. This is a shift in the conversation, though it would be appreciated if neighbors thought of our needs as well.

Secretary Redding noted that AC21 members had put a great deal of information on the table and planted some seeds to consider. He noted that there will be some issues that are unresolved but nonetheless critical, for which we may need to refer back to the previous AC21 report. Some issues, such as that of seed purity and perhaps the issue of tolerances, may need to be restated, but may not be resolved. He encouraged members to reflect overnight on the charge, the models discussed, the ad hoc work groups' feedback, and their reports out. Members should consider what they would like to see as the outcome of the charge: that information would be helpful as we get down to drafting.

Dr. Schechtman noted that AC21 members had had much discussion about the 2 presentations in the afternoon and indicated that he was very interested in hearing members' thoughts on how those 2 different models might be adapted and what from them would be useful in the overall structure that may be offered to states or localities. He noted that tomorrow's discussions would focus on specific issues – what the guidance document should look like, what its relationship to the overall report should be (an appendix or something else?), what people think about the kinds of incentives that might exist if there are no monetary incentives, etc. He indicated that it would also be useful to hear ideas about what might bring stakeholders to the table. For example, would having a State's Department of Agriculture call the effort important be a motivator?

He also noted that there were procedural questions to be discussed. There was an issue of how much a subcommittee can move a document towards completion before the larger committee sees the work. He reminded members that subcommittees, since they do not meet publicly, cannot make decisions. Rather, the full committee must make decisions, in a public process.

END OF DAY ONE.

DAY TWO

X. Welcome and reflections on Day One from Dr. Michael Schechtman

Dr. Schechtman thanked members for rich discussions on the previous day. He indicated that Secretary Redding was attending a hearing back in Pennsylvania that morning but hoped to return before the end of the meeting, noted that he would serve as Chair in the interim, and asked the committee's indulgence. He noted that a new guidance framework would be developed by him and Secretary Redding and distributed within a week to 10 days. He indicated that the 2 documents from AC21 members providing proposed revisions to the draft guidance document framework offered by Mr. Clarkson and requested for distribution would be distributed in the morning. He noted that some unresolved issues or divergence of views remain—on the scope of discussions, on where and how to discuss seed purity, and on how to reference previous AC21 work. But he noted that members had identified important common themes – communication, shared responsibility, the desire of farmers to be good neighbors, and the acknowledgment that this work will not resolve all problems. All members around the table saw the value of farmer to farmer interactions. He suggested that the AC21 would

need to find a road map with many options, one that can be tailored to local needs and which would help farmers identify critical factors that would enable them to grow their crops and meet contractual obligations. He noted that the AC21 had been reminded on day one that it would not be seeking to educate farmers or teach them how to farm but rather would want provide a resource for farmers and communities to bring people together.

He noted that the outside presenters had offered valuable parallels. MP3 works because of a common interest in bee health and there could be common interests here as well--the importance of food and feed and of providing economic opportunities for all. There will be value in knowing who is responsible at state/local level for doing what, and the roles of all players in coexistence discussions must be clearly articulated up front.

He noted that interesting possibilities were presented for roles for NACD and NASDA in supporting and or convening coexistence discussions. He indicated that the day's discussions would focus on some more difficult issues: the scope of guidance, how to bring stakeholders together, and what a model for discussions might look like. The plan will be to parse them separately, knowing they will overlap, and articulate difficulties or disagreements, but find common ground to move forward. He noted that with the different but overlapping topics, the committee might spend more or less time on each, but the intent would be that all the topics are on the table.

XI. Discussion on the potential scope of farmer-to-farmer discussions envisioned and on structuring a new cooperative model for coexistence discussions

Dr. Schechtman opened the initial discussion of the scope of farmer-to-farmer discussions by observing that the committee has noted some fundamental facts:

- Most farmers try to be good neighbors, though some are more difficult than others and may have different constraints
- Farmers may not always have information needed on critical factors for their crop production, or for neighbors' production
- They don't always know what neighbors produce, or may not inform neighbors of their plans
- In the discussion of pollen movement, encouraging farmer participation in discussions may be challenging, because the issue may be more of more concern to an IP producer than to his/her commodity neighbor.

He noted that at the last meeting, the AC21 uncovered tension over focusing discussion on pollen movement and perhaps not providing enough incentive for full participation by commodity producers, versus broadening the discussion to include topics that are not specifically GE related, e.g., soil movement, weed/pest management, water, pesticide use, which could broaden the participation.

He asked if the committee would resolve this issue so that a recommendation can be made to States and localities or would choose to leave it up to localities. He also noted that Commissioner Goehring had shared his suggestions for a discussion framework and they had been provided as a meeting

document. It would be up to committee to decide whether to use that framework in whole or part or to modify it. He opened up the discussions on scope.

An AC21 member offered the view that restricting the scope of discussions in the report to pollen flow and commingling does a disservice to AC21's potential contribution. He suggested that the committee should consider expanding the set of issues related to coexistence. It would be unfair, he argued, to expect farmers in neighborly dialogue to work out all the problems being imposed on the agricultural system by new technologies: regardless of beliefs, these tensions exist, making challenges greater and raising stakes and the issue risks becoming more unmanageable. He noted that there are farm-level responsibilities but also input sector responsibilities. He noted the important issue of asynchronous approvals as well as other aspects of introduction of technologies into the marketplace. He suggested that the report should acknowledge the breadth and dynamism of the issues.

Another AC21 member acknowledged that it is a complex issue and suggested that introductory paragraphs of the report could define what the report would cover and what would not be covered. She offered the view that the report cannot attempt to address all the challenges in agriculture, especially given the limited amount of time to complete it and the narrow charge given by USDA. She suggested that Commissioner Goehring's proposed discussion framework and the draft NCGA coexistence policy provide a great start. She requested information on how similar that framework is to the MP3 model, and whether there are things in MP3 that haven't worked which could be improved on for the new model.

An AC21 member indicated that the proposed discussion format followed the same lines as those of the MP3 program. It focuses on identifying issues and concerns and then the mitigating strategies that can address them. He suggested that the framework would not directly create farmer-to-farmer dialogue, but if a venue is created and a public meeting held, providing counsel or guidance to those interested and creating a "two-way street," then there may be progress. He suggested that a lot of thought would need to go into framing meetings and extending invitations, and that a broad framework around identity preservation and IP products would elicit greater participation. It would be important to put mitigating strategies on the table and provide the means to raise awareness (especially about issues facing others) and the overall information level.

An AC21 member noted that she had heard overnight from an organic seed producer overnight in response to a query about organic seed purity. The response was that their organic seed might be expected to have about 1% unintended GE presence— which would not meet her contractual needs, since the GE content would likely rise in a product derived from the seed. The company, which she suggested was doing its best for organic farmers, was unwilling to put a guarantee of less than 1% GE content on the seed label. She expressed the view that it is imperative for farmers to know what starting GE content of their seed is: if a farmer doesn't know where the unintended GE content came from, he/she may erroneously blame neighbors when the fault lay with the seed. She suggested that seed must be labeled as to GE content, verified, and guaranteed.

An AC21 member noted that she had been initially resistant to the idea of having a broad scope for coexistence discussions but had come to recognize the need to have something on the table for everybody in order to engage all parties. She supported the idea of positioning discussions around IP and opportunity, as well as the challenges of IP and how to work within one's community. She in general supported the approach offered by Commissioner Goehring, but suggested that more would need to be added on incentives and supports, as was described by Mr. Noonan for the NACD processes, and noted the new CRP buffer initiative discussed on day one. She also offered the view that the draft guidance framework document provided by Mr. Clarkson could evolve into a BMP document with similarities to the North Dakota Pollinator Report. She noted that the seed discussion is challenging, but members must try and reach consensus. She expressed the view that the report would need to have some discussion on seed and mechanisms for improving the visibility of seed content.

An AC21 member noted that the Venues subgroup had discussed how to structure meetings in order to get people to attend. Exactly how to structure discussion might depend on the neighborhood. In the case of a potential new IP product being offered as an opportunity, then from farmer perspective, if the new IP product requires new practices to be undertaken, conversations with neighbors may be needed. But in order for community meetings to be successful, there needs to be a reason that they are convened—a need for a particular type of change. He also requested that the AC21 provide feedback on the draft NCGA coexistence policy. The document addresses seed purity. It also stressed the need to understand contract requirements and the practices needed to meet those obligations. He noted that if a contract requires tight GE tolerances, the buyer should help the farmer to secure appropriate seed. He noted that for producing some very high value products, it may be necessary to pay neighbors to alter their practices as well. In response to a question from Dr. Schechtman, the member noted similarities between the new draft NCGA guidance and the guidance document concept. Another member endorsed the previous member's comments.

An AC21 member supported Commissioner Goehring's proposed discussion model but argued for stopping after the introduction and letting committee members fill in the subsequent details. He also argued that strategies not be referred to as "BMPs" but instead as "sustainable cropping strategies." He also provided some facts about seed purity requirements: GE seed corn must have 98% GE trait purity and 95% varietal purity or else would require a "blended" designation. Similar requirements apply for conventional corn. Seed law allows 5% off-types in all seed. Organic seed requirements use the same law and allowance for off types; but industry strives to have less than 0.9% GE presence. He requested that there be a sentence in the introduction to the report or in a footnote indicating that the seed industry strives to produce pure seed but that U.S. seed law allows up to 5% off-types.

An AC21 member cautioned against blaming all unintended GE presence on seed. She indicated that she wants to be able to get non-GE seed with zero GE presence, and the Organic Seed Growers and Trade Association has also called for this. She called for the preservation of the genetics of important varieties, notably drought-tolerant seeds. She noted potential trade impacts if seed purity is not maintained.

An AC21 member agreed with earlier comments about the need to acknowledge purity of seed in introduction to the report. She noted the business opportunity presented for those companies that may wish to provide GE content information on a label. Farmers could seed out those companies' products if they need the information. However, all seed companies should not be forced to provide such information. She also expressed agreement with earlier concepts about a broad framework for community discussions and the use of Commissioner Goehring's draft document overlaid with some elements from the NACD model regarding the use of incentives. Another AC21 member returned to an earlier comment, agreeing with the suggestion that the term "BMPs" not be used because of possible legal implications.

An AC21 member offered the view that including a discussion of resources, focused at the State level, would be important for the local discussion model. He noted that States have different types of funds, such as EPA's Section 319 funds (Nonpoint Source Management Program) which have been used for Soil Conservation District funding, which States may be able to sometimes apply, but their application is specific to individual circumstances so it should be left to States and localities to see what resources may apply for their circumstances. There are also a variety of foundations that have available funding for specific areas or regions. He suggested that the model might perhaps provide general, high-level examples such as some NRCS programs like EQIP, and then let States, counties, and Extension deliver on resources. He further noted that the discussion model was designed to be specific to farmers, and topics like mitigation strategies will be relevant to them, topics like marketing and seed purity less so. He added that the report narrative might note that Crop Improvement Associations, marketing groups, seed companies, and others working with identity preserved crops might consider holding meetings to talk about contractual agreements and seed purity. He stressed the need to provide tools to help farmers think about different strategies, learn what neighbors are doing, and facilitate farmer-to-farmer group discussion.

An AC21 member supported the use of the term "management strategies" as being broad enough to include a wider range of stakeholders including residential ones. On the question of seed purity, she supported the idea of providing clarification on legal requirements in a footnote. She noted that an 0.9% threshold for GE presence is increasingly required not only for organic products produced under contract, but also for those sold on the spot market. She wondered whether the report might include a recommendation for IP growers that they consider requesting information from their seed dealer on purity levels. She wondered whether there might be resources available somewhere to provide affordable testing for non-GE seed for farmers who might need it. She noted that a recommended management strategies for seed companies might be to provide purity information on seed lots, not general ranges, as a way to foster coexistence and transparency.

An AC21 member agreed with earlier comments about the need to bring farmers to the table, but noted the critical issue of how they are invited or included. Farmers, he noted, often fear government and want to be left alone to farm: if community meetings are portrayed as telling them what to do, they will not show up. He was not supportive of engaging the broader community beyond farmers (as in done in pollinator discussions) in coexistence discussions, as others do not have a stake in the issues. He also cautioned that discussion of pesticide issues would also raise red flags: farmers may view their inclusion

as an attempt to restrict pesticide use. Another member noted that many farmers are also nervous about any potential infringements on private property rights. He also noted that many Farm Bills and other laws have rollout provisions for specific models in particular States. Selected States might be offered the ability to opt in to a coexistence program on a trial basis, upon approval by their State commissioners. He also noted that the committee's charge was broader than simply addressing pollen drift in maize and could apply to a range of agricultural issues. He proposed noting in a footnote that all seed has some genetic flaws.

An AC21 member offered strong support for the context offered at the last AC21 meeting by Secretary Vilsack, linking the strength of American agriculture to its diversity. The diversity of agriculture is in turn about food, and everyone has a vested interest in food and food production. He noted the rapid development of State MP3 plans and suggested that NASDA could provide a venue to see if there are States willing to try out a proposed discussion model. He offered support for Commissioner Goehring's draft discussion framework. On the topic of seed purity, he observed that seed law is written the way it is because crop biology leads to the presence of impurities. He suggested that keeping the discussion framework conversation broad will facilitate its quick roll-out and provide people an opportunity to understand the challenges each party faces—including not just farmers, but consumers as well. He suggested that the Models subgroup might develop a quick model and bring it to NASDA, and let them take it to their membership. Dr. Schechtman clarified that the subgroup would provide input, but that he and the Chair would be drafting the document, and that in any case the work of the subgroup would need to go to the full committee first.

An AC21 member noted that the role of the Federal government in this process should not be omitted: leadership comes from the top and USDA needs to make this a priority. There would need to be a role for USDA and the report must include it. Regardless of incentives or legal authority, USDA must make this a policy priority in conversations with State and local partners.

An AC21 member noted that markets are defined by consumers and that linkages in the food chain often limited: farmers may only know first buyers, and there are disconnects between producers and consumers. It is critical to maintain access to beneficial markets for U.S. producers. Clients for our products can be tough: they may demand 0.9% tolerances and are not interested in excuses. He noted that the U.S. has ceded 50% of organic seed market to other countries, and predicted that corn may follow. He spoke of the need to fight unreasonable standards set by those who don't know or care what difficulties they cause on-farm. Consumers, however, want the food chain to pay attention to their demands. New demands for purity levels are extraordinarily difficult.

An AC21 member spoke of the need for USDA not to be in the forefront of specific recommendations on coexistence, lest farmers perceive them as prescriptive. Rather, USDA could note that the AC21 offered some items for farmer consideration, but the effort could be promoted by another organization, like extension or a State Department of Agriculture. State entities could then choose for themselves what to do. Another AC21 member supported the idea of teamwork between USDA and State Departments of Agriculture or conservation districts in a rollout of a coexistence discussion package.

An AC21 member took issue with the earlier statement that consumers are not understood by farmers, noting that he sells products directly to consumers and that his State sells much agricultural production overseas. He noted that the American Farm Bureau Federation always prioritizes trade and exports and its members would not be happy with the assertion that farmers don't understand consumers. Another AC21 member clarified his earlier comments to note that he did not suggest that USDA should host meetings, only that USDA should show leadership from top level.

An AC21 member noted that farmers in some areas may have a closer relationship with consumers than in others. He asserted that Midwestern farmers might not have the same kinds of interactions with value chains and urban consumers as farmers on the coasts. He noted that the issues faced by farmers vary around the country. He reiterated his earlier point that the report must note that the scope and seriousness of issues around technology deployment have grown and will continue to do so, with potential collateral damage, and that there is a need to speed up the pace at which underlying tensions are dealt with, regardless of whether those tensions are valid or based on science.

An AC21 member noted a recent example/model for coexistence around efforts to control citrus greening. There had been early tension between growers around production methods. Organic growers don't use neonicotinoids to control the psyllid insect vector of the disease and there was finger-pointing directed at them. California initially instituted mandatory spray programs on organic farms, causing some farms to lose certification. In Florida, discussions were convened involving diverse farmers and including the local Land Grant University and APHIS; it was discovered that organic growers actually had lower psyllid counts. This exchange of information calmed discussion and helped growers look to each other for solutions. The California State Department of Agriculture then convened stakeholders, including the state marketing board and input suppliers, and got to a place where they did not impose mandatory sprays on organic growers following certain protocols. The bottom line is locally-driven efforts to address common problems.

An AC21 member noted that some consumers now asking for no-soy, no-corn animal feed. Consumers may not understand agricultural realities and don't care, or may believe themselves to be experts in nutrition. Buyers play a difficult, intermediary role. Consumers are becoming more opinionated and will continue to make demands that are increasingly difficult for American farmers. She reiterated an earlier point that with respect to seed, farmers must know what they are buying in order to manage risk, and the problem will only increase in magnitude. Another AC21 member noted that the previous comments point out the difficulty of what the committee is trying to accomplish. Consumers are becoming more discerning and demanding and farmers are offering more choices. Secretary Vilsack has asked the AC21 to facilitate this diversity and communication is key. He cited an example of problems in the production of soft red winter wheat in the South due to mold contamination and new testing for toxins produced, combined with very low commodity prices. There is a need, he asserted, for a conversation to apprise farmers of the new market conditions and useful new production practices, because, in a global marketplace, buyers are more discerning and demanding, and if U.S. producers can't provide a product, foreign producers will. He called for a supply chain strategy, regardless of product, involving the entire production and distribution chain. He noted that the Secretary asked the AC21 to address a small piece of this chain with a short timeline, which will require refocusing on a narrower charge.

Another AC21 member took issue with earlier statements that farmers don't know their markets or end users. In a diverse marketplace, he asserted, there will be a point where someone has to say "no" to unreasonable market demands brought forth by a middleman. Everybody in the food chain needs to do some education at the consumer end. In his view, the AC21's charge is to provide a pathway, when there is a market opportunity, to foster coexistence to enable those opportunities to be realized.

An AC21 member pointed out the need to recognize that we have a changing society with changing needs, and the need to embrace change. He pointed out the importance of electronic communication and suggested that virtual communication, rather than physical communication, will build the community we need to facilitate these conversations. In his area, all the farmers are under 40 years old; and the communication tools they use—Facebook, LinkedIn, webinars, etc.—are very different. Another AC21 member noted that the farmers in her area are also young, but are predominantly Amish and do not use modern communication tools. She added that the guidance the committee offers should not be too complicated and it is important to get the work done.

XII. Additional discussion on elements of the proposed guidance and the intersecting activities of the 3 subgroups

Dr. Schechtman started this discussion by noting his commitment to provide to AC21 members a new version of the draft guidance framework based on discussions and comments received within 10 days. He indicated that input was still needed on the level of detail the final document should have, and noted some tensions in subgroup discussions around specific, unresolved sensitive subjects such as: the amount of detail that would be provided on recommended sizes for buffer plantings; recommendations that might be provided on what farmers or others should do with regard to seed purity; and the choice between providing information that might be region-specific, versus being more principle-oriented and providing reference citations for more specific information. He also noted that the idea of providing flowcharts had been raised and sought input on whether this was appropriate or would be seen as too prescriptive. He noted that the new draft guidance framework would be provided quickly but would not be entirely fleshed out, and that it would be up to the committee to decide how much flesh should be added to the framework.

An AC21 member inquired about the relationship between the guidance document and the final report to Secretary. Dr. Schechtman replied that there are several different pieces being discussed: a report that provides context, a proposed structure for coexistence discussions, the guidance document, etc. The exact relationship between the pieces, the guidance that may be provided on when meetings might be convened, and who should convene them, remains to be determined. The different pieces will all be part of an overall report, but their relationship needs to be discussed. The AC21 member further inquired about the status of AC21 in 2017. Dr. Schechtman noted that the AC21 is a discretionary committee which exists at the discretion of the Secretary. Its Charter must be renewed every 2 years and the current one expires in February 2017. He indicated that we would initiate the Charter renewal process before end of the current Administration and it would be up to the new Secretary of Agriculture to decide what to do with the committee. He noted that discretionary advisory committees are not

always the first priority of a new Administration. Term limits may also affect members and will result in significant turnover. At the very least it is likely there will likely be a hiatus.

An AC21 member offered the view that she was generally in favor of flow charts, but that in this case, they might be perceived as being too prescriptive. She suggested that documents be kept at a high level so local actors can address different issues. Flow charts might, however, be developed on a local level. Another AC21 member suggested that the considerations that might be provided in flow charts, e.g., timing of planting, pest management, pollination, and barriers/buffers, could be included in a narrative, similar to what is done with pollinator plans.

An AC21 member indicated that she liked the level of detail offered in the North Dakota Pollinator Plan—it is not too long, provides rationale, provides helpful basic background on the challenges (to prevent rehashing of knowns), offers strategies/BMPs, and references sources where details on subjects like buffers can be sought out. She supported the idea of flow charts, because they provide a structure for thinking about identifying relevant issues. She expressed some concern that the AC21 may have lost sight that their focus is intended to be on joint coexistence plans, not simply management plans for the IP producer.

An AC21 member expressed support for a more general, less prescriptive, principle-based, high-level guidance document that can be tailored to specific needs. He noted that the document will also reach a brand-new audience: commodity growers in general are not concerned with pollen drift nor aware of the relevant issues. The document, he suggested, must be general in nature, providing options and pointing to resources which are already developed. Every plan using it will be different based on site-specific conditions.

An AC21 member noted a potentially useful idea in line with the remarks of the previous speaker that she expected the committee might not be able to take on. Pennsylvania and Cornell University are developing an online program for farmers containing a decision tree and identifying control points for actions that might give more vulnerability with respect to climate change risks and providing information on actions at each point to increase resilience and lessen risk. However, if USDA or other cooperators could follow up in this idea, farmers could benefit.

Doug Goehring: An AC21 member observed that those that would be facilitating/operating meetings can follow what's spelled out in text rather than in flow charts, but it is important to spell out potential downstream problems so farmers will understand why particular topics are being raised. For example, it is important to know that some crop rotations (e.g., between pulses) can cause problems with mold, so farmers need to consider their tillage and rotations. The text need not be prescriptive, but should help people think through questions.

Dr. Schechtman indicated that he now had enough information on general direction for the guidance framework. He requested that there be a brief discussion on subgroups, how they intersect, that their tasks be going forward, and whether there was now a need for increased dialogue between the subgroups. He suggested that the Models subgroup work on combining elements from MP3 structure, the proposed NCGA policy, and Commissioner Goehring's proposed model, present to committee for

inclusion in the report and later to States. One AC21 member noted that the Venues subgroup had completed all its work.

An AC21 member supported the general approach used in the North Dakota pollinator plan and suggested that the Models subgroup might shepherd the pieces coming in from other subgroups. She also suggested that the introduction might include recommendations to States and localities around convening coexistence discussions without being prescriptive. Then there might be a section discussed in the full committee about casting the broader issue of coexistence, and about which two different approaches have been discussed: viewed from a crisis perspective or from a future of agriculture and IP market opportunity perspective. Then perhaps a section based on the Guidance subgroup work on management strategies, including discussion of incentives. The idea offered on USDA leadership could be addressed by inviting Secretary Vilsack to draft a letter on the importance of the AC21's recommendations which might accompany the report when it is distributed as a resource. Another AC21 member agreed that agrees that North Dakota approach could work in general could work well here. She noted, though, that the task of writing will still reside with Dr. Schechtman and Secretary Redding, and inquired what would work best for them. Dr. Schechtman expressed support for the overall approach for the work of the Models subgroup described above, but noted that it might be slightly premature: first there needs to be work done establishing the revised model and structure and also work on context-setting and the breadth or focus of issue-framing. He also indicated that how the guidance group will proceed will also be of central importance.

An AC21 member offered a clarification that the work product assembled by the models subgroup could exist within the report to Secretary. She suggested that the committee could produce a single report, and members might add signing statements to highlight issues yet to be resolved. Dr. Schechtman responded that many levels of document seem to be under discussion: the guidance document, the context for discussion, the overall report, signing statements, etc. The approach suggested might be achievable, but the more layers there are, the more complex it becomes. It may in the end be necessary to reduce the scope in order to achieve the end goals. But in principle it could be done.

An AC21 member inquired whether concepts from guidance group might be folded into Commissioner Goehring's draft discussion models framework, in order to have only a single document to deal with. Dr. Schechtman replied that different pieces have different functions, one about how States and localities might start conversations, one about things for farmers to think about, and both of those embedded in a report describing why the committee undertook this work and what the charge was, and that we think these other things are also important, and information about how the report might be used. And, by the way, we think the Secretary should write a letter telling others how important this is. Another AC21 member agreed with that proposed characterization and noted that it would be important for the report to be straightforward, understood, and of a form that will be welcomed by farmers and that will bring them to the table. Another AC21 member agreed that the document should be kept simple and targeted at farmers. A guidance document based on the work of Ms. Olsen and the draft NCGA policy might include an addendum which might be targeted to a different audience. There could be farmer-to-farmer discussions about what is done on farm. Locally convened coexistence meetings would be

intended to raise awareness. Talking about joint coexistence plans would be something slightly different, so overall the report will need to provide flexibility. Dr. Schechtman requested some clarification. He understood that the guidance document (or portion of the report) would be intended to inform farmer-to-farmer conversations and also provide farmers with information that they need to consider for their own production. Is that approach correct? In addition, he noted that the guidance subgroup had felt that the starting point would be Mr. Clarkson's general framework, amended to reflect comments received, but now there had been discussion of using Ms. Olen's draft framework combined with information from the proposed NCGA coexistence policy. He requested the views of members.

An AC21 member expressed the view that Dr. Schechtman and Secretary Redding would be best suited, as impartial parties, to take a moderate stance and produce an appropriately detailed document. In her view, the guidance would need enough detail so that farmer conversations are sufficiently informed, and not be entirely general. She expressed some concern that if commercial interests are allowed to dictate the document's content, it will not be useful. Another AC21 member offered the view that the guidance should be kept at high level, recognizing regional variation for its implementation and the diversity of agriculture in the United States. It should concentrate on procedures and pathways forward rather than on specific crops. Another AC21 member supported the use of Mr. Clarkson's draft as a starting point but noted the usefulness of providing examples. He added that the issues raised in Mr. Clarkson's draft need to be represented in the final report, though their ultimate placement might change.

An AC21 member suggested that there might need to be a "tear-out" segment of the overall report which could be provided to farmers. Dr. Schechtman suggested that the guidance portion of the overall report could fit that bill, but the mechanism and timing of providing it to them had not yet been discussed.

An AC21 member agreed with an earlier comment that Mr. Clarkson's guidance draft would make a good starting point, and noted the potential framing of the guidance in a friendly way, as an "opportunity," providing the context that there is something in this for everyone. Dr. Schechtman indicated that the intent would be to incorporate pieces from all the starting materials and comments, addressing the important issues in a non-inflammatory way and trying to keep the document simple. An AC21 member noted that the redline set of comments on Mr. Clarkson's proposed draft reflected some philosophical differences as well as an attempt to provide a positive tone to the document. Another member expressed the view that work on the guidance framework should proceed from the redlined comments on Mr. Clarkson's draft guidance framework.

An AC21 member expressed concern about having unrealistic expectations for the usefulness of the farmer guidance document. He offered the view that the reason pollinator plans got traction was they evolved naturally in different areas of the country. By contrast, it would not be possible for the AC21 to produce a farmer guidance document that would be equally useful around the country. He suggested that the committee could describe a set of materials that could be used for farmer meetings, but producing relevant materials would need to be a more local responsibility. Another member supported

this last point, suggesting that the aim should be to provide materials that NASDA could share with States, and that local experts would need to develop the final materials and take them forward.

Dr. Schechtman indicated that from the discussions, he had gotten a sense from the committee of the next steps for the guidance group, and that when a revised framework was provided to the subgroup they would be able to consider how much additional information would be needed in the final guidance piece. The work of the models group will be crafting a new combined model working from Commissioner Goehring's materials and the proposed NCGA policy and then coordinating the assembly of the different pieces of the report. He asked members whether there were new tasks for the Venues and Conveners subgroup to take on, or whether its members should be split among the remaining 2 subgroups. One AC21 member supported splitting up the members of the subgroup into the remaining 2 subgroups.

Dr. Schechtman then requested that the committee briefly discuss the topic of eliciting support and incentives for participation. He noted that there had been some interesting suggestions earlier in the morning that some localities may have some potential sources of local funding that might be alluded to in the section of the report on local/community coexistence discussions. The question remained, he asserted, whether it would be easy or difficult to get the various players identified by the Venues and Conveners subgroup involved. He also noted that the FSA program discussed the previous day and some NRCS programs might also be mentioned, and asked AC21 members whether they could identify other potential resources for incentives.

An AC21 member noted that the ability of Federal and State government entities to constructively address the problem might be limited, but that there may be an untapped opportunity to facilitate some constructive and innovative efforts through the private sector, and in particular entities that are imposing standards, thresholds, and contract provisions on agricultural producers on the value chain. He added that it could be an appropriate role for USDA to interact with them and provide guidance on constructive ways to address marketplace concerns. He suggested that cooperative models involving the food industry and buyers working directly with farmers should be supported by USDA.

An AC21 member expressed the hope that what the AC21 would be able to provide would enable discussions to move forward even if there are no financial incentives. He noted that certain players involved in farming infrastructure, e.g., tractor dealerships, are often willing and available to have farmers come in and discuss general farming issues. Other groups, like extension, are often willing to get involved if the issue seems significant and relevant. An indication of such relevance could come from USDA prioritization of the issue.

An AC21 member noted that there were potentially various other sources of incentives and funding, including EPA Section 319 funds and grants from foundations. He noted that an agricultural community may want a third-party facilitator like Extension, the local conservation district, the State Department of Agriculture, or another entity to take on the responsibility of convening a local discussion they understands the culture, challenges, and priorities of the area. He predicted that a number of

foundations or groups with grant money would approach the State Department of Agriculture once the effort becomes known, but that the agricultural community might worry about the intentions of some funders. He suggested that incentives and resources would best be distributed through public entities that are held accountable.

An AC21 member expressed support for having a corporate role in eliciting support for such community activities. She noted that organic buyers are interested in developing new acreages, increasing domestic supply, and helping producers meet product specifications. She agreed with the previous speaker that farmers will want to know what is behind a particular entity's support for such efforts, and thought there could be a role for both corporations and agricultural communities in endorsement of a template with neutral framing. She wondered whether there would be room within the committee's timeline for NASDA and NACD to be able to endorse the value of joint coexistence plans. If so, it might signal to agricultural community that there has been some legitimate vetting of the effort. Another AC21 member expressed the view that if the AC21's work product captures relevant concerns and provides a deliverable, the agricultural community will embrace it for outreach and education toward goal of coexistence. He predicted that more than 20 State Departments of Agriculture would step forward and see what discussion venues could be created. An AC21 member inquired whether NASDA might consider adopting a policy to encourage states to consider engaging in such activities. Another AC21 member predicted that that could happen. Dr. Schechtman suggested that it would likely need to happen at a major NASDA meeting.

Dr. Schechtman welcomed back Secretary Redding to the discussions and provided him a summary of the discussions and significant progress in his absence. In particular, he noted:

- Drafters (he and Secretary Redding) were given a vote of confidence to find the appropriate middle ground around sensitive issues and to provide context for the various pieces. There was good discussion on how to position the guidance document and the level at which the discussion should be offered.
- There was clarifying discussion about the relationship of the various pieces of the final report: is to say the guidance document, the proposed discussion model and larger context that would be provided.
- There was agreement that a model for those discussions could be put together starting from Commissioner Goehring's outline and information from the National Corn Growers as well.
- The report will call upon the Secretary to announce his support for work to be taken on based on these activities at the local level.
- There was interesting discussion about incentives and how localities may have access to some specific incentive opportunities and the caveats that may go along with them.

He noted that a redrafted guidance framework would be provided to AC21 members within the next 10 days. It will attempt to achieve a balance between being simple and straightforward having enough information to be relevant. Also, the discussion model framework will be cast in a way that highlights opportunities for farmers of all types and as a means to facilitate conversations between farmers.

In response to a question from Secretary Redding, Dr. Schechtman clarified that the guidance

framework would merge all the documents and comments received, but that some elements might be moved into other segments of the full report.

An AC21 member noted that conversations with farmers would most effectively focus on mitigation strategies and ways to get farmers thinking about them, while other elements of the report might have different target audiences. The information for such discussions would need to provide flexibility for local/State activities. In response to a question from Secretary Redding, the AC21 member suggested that some topics, such as seed purity and contractual obligations, that might be relevant to IP farmers but not to other farmers.

Dr. Schechtman noted that the report would contain a model for community coexistence discussions but might not describe what would trigger their initiation. The model could offer suggestions on which such discussions might cover and, to a certain extent, how they might work, but not in a prescriptive way, but just attempting to bring, to bring folks together. And the model offered would be embedded in the full report which would provide context.

An AC21 member requested that Dr. Schechtman provide a clearer timetable for when the report would need to be completed and on Secretary Vilsack's desk as well as assurance that AC21 members would have an opportunity to provide additional "signing statement" comments to be added on to the report. He also expressed the view that it would not be very useful for the committee to provide detailed farmer guidance or models describing dialogue among farmers, and that it would be more useful to highlight market-related challenges and trends that are likely to be worked out by the private sector. In his view, food companies and marketers will play greater roles as conveners and venues for resolution of coexistence issues. He suggested that the committee should offer suggestions and guidance on how that might unfold as effectively and efficiently as possible. Another AC21 member agreed that the private sector should be taking a larger role in such discussions, but noted that government is always asked to step in. He further agreed that the model on farmer-to-farmer conversations must not be too prescriptive, but rather should offer ideas to get farmers thinking about relevant issues.

Secretary Redding noted that a strength of the MP3 engagement model is the diversity of the people it brings together and offers a valuable theme for coexistence discussions, that they all have responsibilities for the issue, though it is not possible in the report to tell them how they should talk with one another.

An AC21 member suggested that once the guidance document portion is completed, the AC21 consider applying it to concrete situations (comparing, e.g., corn grown in Upstate New York versus Oregon, and doing the same for soybeans or another crop) to see if has the right level of prescriptiveness.

An AC21 member offered an illustration of potential future coexistence challenges by noting a transgenic corn that he suggested was approved or could soon receive regulatory approvals that was modified so that pigs that feed on it have altered phosphorus metabolism, with potential beneficial effects for water quality, but also potential concerns if the product enters the human food supply and

the potential for trade disruptions. He suggested that the product's approval would be as feed only, not as human food and would be grown with extra management requirements. He suggested it would pose significant potential concerns and hoped that the committee's final report would be able to address such emerging challenges.

An AC21 member expressed confidence that Dr. Schechtman and Secretary Redding would be able to draft a suitable work product in the limited amount of time remaining, one that addresses the issues relevant to all IP farmers and at an appropriate level of detail. Another AC21 member suggested that the guidance document portion of the report would benefit from offering relevant examples in text boxes.

Dr. Schechtman responded to several points that had been raised. First, he assured the AC21 that the issue of crops with functional traits will be addressed in the report, but where the issue would be placed was as yet not determined. Then he indicated that the intent was to provide the final report to the Secretary prior to Election Day. He added that the intent at the September/October final meeting would be to provide a report for discussion that would be quickly revised thereafter based on discussions and sent out to members for concurrence or non-concurrence, plus any signing statements. He recognized that this would be a significant challenge to achieve. By the next AC21 meeting (in June) he anticipated that there would be a revised and more fleshed-out guidance document (or portion of the full report) as well as an outline for the full report, which might include the new draft local discussion model as well as a listing of the thematic topics the rest of the report would cover.

An AC21 member agreed that the previously cited example regarding a corn that alters phosphate metabolism was a good one, because past experience with products approved for feed use only was not favorable. He noted increased efforts to develop appropriate containment for any such functional products. Dr. Schechtman noted that the product alluded to had not received U.S. approval.

There was some additional discussion about the timing of the last AC21 plenary session and Dr. Schechtman indicated that he would look at everyone's submitted availability information to see if any date in October would be better than the current scheduled date in September, provided that suitable meeting room space was also available.

An AC21 member requested that staff attempt to provide preliminary drafts of discussions around some of the difficult issues before the next plenary session. He also suggested to committee members that it might be useful for members to send emails to Dr. Schechtman and Secretary Redding in the month indicating additional topics that members strongly believe should be reflected in the final report. Such topics, he noted, could otherwise be contained in signing statements or minority reports. Another AC21 member offered the view that Secretary Redding and Dr. Schechtman should first be given an opportunity to draft a report, but would be happy to submit such an email if the two of them felt it would be helpful.

An AC21 member, noting his need to depart early, complimented the dynamic cooperation and collaboration among committee members and added that it was imperative that a report go to the Secretary before Election Day.

Secretary Redding noted the pressure to produce a timely final report and expressed confidence in its ultimate usefulness. He indicated that there would be no harm in receiving additional feedback from committee members about which might be useful guidance and what the final report might look like. Dr. Schechtman added that he welcomed comments from members at any time on topics they believe important for the report. He noted that members were chosen because Secretary Vilsack thought those individuals had something important to say.

On the issue of providing draft text on difficult issues prior to the next plenary session, Dr. Schechtman was not certain that request could be met but indicated that he thought that could be accomplished by shortly after the next meeting. He expressed the hope that the success of the committee's efforts would not founder on disagreements on material that was being provided for the purpose of context-setting.

On AC21 member suggested that it would be useful I would really like to see in June when we come is to have a USDA representative provide several case studies of where unintended presence has caused market loss and consider whether the situations might have been avoidable with the use of the proposed guidance document.

An AC21 member suggested having a subgroup work on framing some of the difficult issues for the larger report in order to provide more guidance for the drafters. Another AC21 member suggested that the third subgroup could address how the Federal government might help support the processes outlined in the rest of the document.

An AC21 member requested that USDA provide the AC21 an Email update on the work of the National Genetic Resources Advisory Committee over the past several years. He also wondered whether AMS or the Agricultural Research Service might perform testing to provide a periodic survey of seed purity and establish some baselines for unintended GE presence. He also inquired about committee procedures, and specifically whether messages to Dr. Schechtman and Secretary Redding should also be copied to all members of the committee. Dr. Schechtman replied that for relevant topics, other than individual things like schedule availability, it was probably a good idea. He added that he was not sure that USDA had the authority to perform such seed testing. Another AC21 member offered the view that it was not USDA's responsibility to expend funds on testing that benefit the market.

XIII. Closing Remarks and Adjournment

Secretary Redding indicated that he and Dr. Schechtman now have a fairly clear idea of what the committee still has to accomplish and what the drafting work will entail to deliver a meaningful report. He invited AC21 members to provide reflections and thoughts about topics that should be included

somewhere in the report. Dr. Schechtman noted that the spirit of cooperation during the day had been very strong and that he would be leaving the meeting with a sense of the great task ahead but encouraged about what will be possible and with a much better sense of direction than at the outset. He and Secretary Redding thanked the members for their efforts and wished them safe travels.

The meeting was then adjourned, around 2:40 pm.