

**Advisory Committee on Biotechnology and 21<sup>st</sup> Century Agriculture (AC21)**  
**Plenary Meeting**  
**December 14-15, 2015**

U.S. Access Board Conference Room  
1331 F Street, NW, Suite 800  
Washington, DC 20004

**Meeting Summary**

On December 14-15, 2015, at 9 am, the United States Department of Agriculture (USDA) convened a plenary session of the Advisory Committee on Biotechnology and 21<sup>st</sup> Century Agriculture (AC21). The meeting objectives were:

- To review AC21 purpose, history, and operational process, and member responsibilities
- To update committee members on regulatory developments and initiatives on biotechnology-derived agricultural products
- To update committee members on USDA activities to support coexistence consistent with AC21 recommendations
- To outline the new task for committee deliberations and develop a plan for addressing it.

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, Mr. Michael Funk, Dr. Gregory Jaffe, Dr. Mary-Howell Martens, Mr. Jerome Slocum, Ms. Angela Olsen, Mr. Keith Kisling, Dr. Marty Matlock, Mr. Charles Benbrook, Dr. Josephine (Josette) Lewis, Mr. Lynn Clarkson, Mr. Barry Bushue, and Dr. Latresia Wilson. All members except Dr. Benbrook and Dr. Matlock were in attendance. Ms. Julia Doherty from the Office of the United States Trade Representative, Mr. Ron Carleton from the Environmental Protection Agency, 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 welcomed members of the AC21, the AC21 Chair, *ex officio* members, and members of the public. He welcomed three new *ex officio* members on the committee: Ms. Julia Doherty from the Office of the U.S. Trade Representative; Mr. Ron Carleton from the Environmental Protection Agency; and Dr. Kelley Rogers, from the National Institute for Standards and Technology; Department of Commerce. He also welcomed Mr. Doug McKalip, Senior Advisor to the Secretary, and noted that Mr. McKalip would be helping to guide the committee's work and would be speaking later in the morning. He commended the valuable contributions of one now-retired AC21 member, Dr. Daryl Buss. He also noted that there would be time set aside for public comments at 3:15 that day.

He noted protocols for the running of the meeting, for signing up for public comments, and for interaction with the press, including that only AC21 members may speak during the meeting and that those at the meeting to provide public comments need to sign up at the registration table. He indicated that transcripts of this meeting and the meeting summary would be available online at the AC21 webpage but that the holidays would delay this somewhat. He requested that those intending to provide public comments give to him a hard copy and an electronic copy of their remarks, and noted that each commenter will have 5 minutes to speak.

Dr. Schechtman noted the objectives for the meeting, which were:

- To review AC21 purpose, history, and operational process, and member responsibilities
- To update committee members on regulatory developments and initiatives on biotechnology-derived agricultural products
- To update committee members on USDA activities to support coexistence consistent with AC21 recommendations; and
- To outline the new task for committee deliberations and develop a plan for addressing it.

He also noted that the AC21 would have only a limited amount of time in which to complete its upcoming task. He identified the documents set out for committee members and members of the public, which were:

- 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.”
- A document summarizing USDA’s main efforts to address the report’s recommendations and support coexistence, which members received via Email.
- A shorter list of some key tangible accomplishments brought about by your recommendations
- A memorandum from the White House directing Federal Agencies to undertake the effort to modernize the Coordinated Framework.

Dr. Schechtman then discussed the agenda and noted that Secretary Vilsack would deliver remarks to the committee on the afternoon of December 15, 2015. He then welcomed back the Chair of the AC21, the Honorable Russell Redding, now Pennsylvania Secretary of Agriculture, to offer his words of welcome.

Secretary Redding thanked AC21 members for their continued participation. He offered the view that all AC21 members could be proud of the committee’s previous report and the recommendations it contained, particularly relating to efforts to bolster the purity of USDA germplasm, risk management research and the new territory of using conservation programs to facilitate coexistence. He noted a few things he had gleaned while re-reading members’ “signing statements” they attached to that previous report: first, that prevention of unintended presence of GE material is certainly preferred over trying to wait for resolution or look for a response; and second, that members indicated that the conversation that had been undertaken by the AC21 was one that must continue. He noted the importance of diversity in agricultural production and the challenge of working on such “interface” issues. He then welcomed Mr. Douglas McKalip, from the Secretary’s office, to offer a few remarks.

Mr. McKalip commended the committee for bringing clarity to a difficult, complex, and technical set of issues where the noise level is generally quite high. He noted the unity of purpose among diverse committee members in offering support to U.S. agriculture and stressed USDA’s commitment to act on the committee’s recommendations. He highlighted a few areas in which USDA has been active: efforts to ensure the purity of USDA’s germplasm repositories; developing strategies to identify circumstances in which conservation programs might be useful in addressing coexistence concerns, and also the development of a handbook by USDA’s Natural Resources Conservation Service (NRCS) for organic producers that makes reference to the issue of unintended presence; gathering data on farmer economic losses brought about by unintended genetically engineered (GE) presence; improving crop insurance

options for farmers growing organic crops; and research relevant to control of gene flow. He also noted the efforts of the American Seed Trade Association in working to ensure the availability of seed varieties for diverse producers. He returned to the importance and challenges of the AC21's work and voiced appreciation for the committee's ability to take a fresh look at the complex issues. He then turned back to Dr. Schechtman.

Dr. Schechtman then spoke briefly about the AC21's Charter and its Bylaws and Operating Procedures. He noted that under the Charter, the AC21 is charged with examining the long-term impacts of biotechnology on the U.S. food and agriculture system and USDA, and providing guidance to USDA on pressing individual issues, identified by the Office of the Secretary, related to the application of biotechnology in agriculture. He noted that the AC21 has always met in sessions open to the public and seeks to operate via consensus. He described the procedures under the Bylaws by which committee reports are developed, which are, briefly, as follows. First, reports are drafted by the Chair and the Designated Federal Official, in a manner that attempts to incorporate the views of committee members from committee discussions. When a report is produced, members will have the opportunity to make factual corrections, and then will be asked to decide whether they will join in consensus in supporting the report. Members may choose either to join in consensus or not, and in either instance, may choose to provide brief additional comments to go along with their choice. All such comments get appended to the final report.

One committee member then inquired about the number of meetings envisioned for the upcoming calendar year. Dr. Schechtman indicated that 2 or 3 would be planned.

## **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. He described a major process improvement effort aimed at the improvement of the timeliness of regulatory reviews for GE products and the increase in opportunity for public input. These changes, which did not lessen the rigor of regulatory reviews, have resulted in decreasing the backlog of pending petitions for determination of nonregulated status from 27 petitions to only 3, and decreased the overall review times from about 3 years to about 18 months. He mentioned a few recent determinations of nonregulated status of interest: several deregulations of 2,4-D-tolerant and dicamba-tolerant crops, which had required extensive environmental analyses, and a recent non-browning apple. He noted that the Agency is now devoting additional resources into the inspection and oversight of regulated field trials, including hiring of additional staff. He also noted that in October 2014 EPA

and USDA announced collaborative measures to address herbicide weed-resistance issues. He mentioned that in October 2015, USDA's Office of the Inspector General has issued a review of USDA's regulatory oversight of GE field trials, a report that was a reexamination of a topic they had considered a decade previously. The earlier report had offered 28 recommendations, 25 of which were implemented. The remaining 3 related to the need to update APHIS' biotech regulations, about which more would be said momentarily. The new report, which is available on line, made a number of recommendations, and the Agency is working to achieve final management decisions on them at present. Mr. Gregoire also noted APHIS' efforts to develop a new electronic system for managing all its regulatory actions. He spoke about the outcomes of investigations of two incidents in which the unintended presence of regulated GE wheat was detected in unauthorized places. He noted that one outcome of these two occurrences was the decision by the Agency the previous week to move all field trials for GE wheat out from streamlined notification procedures and back under standard permit procedures. Finally, Mr. Gregoire spoke of APHIS' efforts to update its regulations for GE organisms, regulations that are nearly 30 years old. He indicated that the Agency believes that it is time for these regulations to be updated. He noted that Congress had in the intervening years issued the Plant Protection Act (PPA), which consolidated relevant legal authorities for the Agency, and that the science had also changed enormously over the intervening years. He indicated that the Agency is currently getting public and stakeholder input about what the new regulatory system ought to look like, and has begun outreach with many stakeholder groups. He indicated that there will be continued opportunities for public and stakeholder input on what the new rule should look like. The next formal action related to this effort will be the issuance of a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) that will inform the development of the new rule. The notice of intent for an EIS is basically a scoping document where the public is asked what issues should be analyzed related to a new rule and what alternatives should be considered in the EIS. The expectation is that the NOI will be published early in 2016.

One AC21 member inquired whether there had been any APHIS action to implement a proposed USDA action discussed at USDA's Stakeholder Workshop on Coexistence in March 2015 regarding the development of voluntary conflict analyses or coexistence plans by applicants. Mr. Gregoire indicated that the proposal had not been directly implemented but noted that most petitions for nonregulated status submitted to the Agency are accompanied by an environmental report that helps inform the development of the NEPA analysis that we do and the NEPA analysis, and often these environmental reports do address some aspects of coexistence. He added that the response to the proposal in public comments had been lukewarm. The member followed up with an inquiry about new procedures the Agency was using for extending existing determinations of nonregulated status to other organisms. Mr. Gregoire indicated that there was new guidance that will be made available shortly on the use

of this mechanism for organisms similar to ones already deregulated.

Another AC21 member inquired about USDA actions to protect against the importation of “unregulated, untested, and unmonitored genetic events” in import shipments. Mr. Gregoire noted that USDA conducts annual vulnerability assessments to monitor and keep abreast of GE products that are being developed in other countries and engages in outreach efforts with those countries to help them understand what the U.S. regulatory system requirements are. One member expressed support for the new actions with respect to GE wheat field trials. Another AC21 member inquired whether the lessons learned in streamlining GE regulatory procedures might be applicable to the backlog of regulations in the National Organic Program under USDA’s Agricultural Marketing Service (AMS). She also welcomed the actions on GE wheat trials, noted USDA’s actions in response to the two GE wheat incidents noted, i.e., making available to foreign trading partners the standards and tests needed to look for the presence of the regulated material, and called upon the government to make the same information available to domestic stakeholders to reassure domestic markets. She noted that this request was consistent with international procedures set out under the new Trans-Pacific Partnership. She also expressed the view that, in developing its new regulations, USDA should take economic implications of new deregulations into account under the noxious weed provisions of the PPA. In response, Mr. Gregoire noted that the APHIS process streamlining activities were accomplished without rulemaking and noted the difficulties of publishing new regulations. With respect to testing for regulated events, Mr. Gregoire noted that APHIS relies on two other USDA Agencies, AMS and the Grain Inspection, Packers, and Stockyards Administration (GIPSA) for help on GE incidents and noted the recommendation. With respect to the recommendation regarding use of noxious weed authority for regulation of GE plants, Mr. Gregoire indicated that it was the Agency’s current thinking that it should use that noxious weed authority consistent with how it has used it historically—that is, invoke it specifically for weeds that are invasive and difficult to control and cause severe physical harm or damage to other plants or plant products. But he noted that the issue was a very important one and would be one of the top policy decisions that will need to be made on the new rule.

Dr. Schechtman then spoke about other regulatory developments outside USDA, noting that this presentation was for the information of AC21 members only and not intended to provoke lengthy discussions about topics outside the committee’s purview. He started by describing the new White House initiative, announced on July 2, 2015, to modernize the Coordinated Framework for the Regulation of Biotechnology. The Initiative’s stated objectives are to ensure public confidence in the regulatory system and to prevent unnecessary barriers to future innovation and competitiveness by improving the transparency, coordination, predictability and efficiency of the regulation of biotechnology products while continuing to protect health and the environment. The effort is intended to maintain high standards that are based on the best available science and that deliver appropriate health and environmental protection, to establish

transparent, coordinated, predictable and efficient regulatory practices across agencies with overlapping jurisdictions, and to promote public confidence in the oversight of the products of biotechnology through clear and transparent public engagement. He described the 3 tasks set forth in the White House memorandum, namely to: update the Coordinated Framework to clarify the current roles and responsibilities of the agencies that regulate the products of biotechnology; develop a long-term strategy to ensure that the Federal regulatory system is well-prepared for the future products of biotechnology; and commission an external, independent analysis of the future landscape of biotechnology products. He noted that a Working Group had been established to complete the task, that a request for information from the public had been published and that the 902 comments received were being analyzed, that a study was being commissioned from the National Research Council, and that three public meetings were being scheduled specifically to discuss the first task. The first of these meetings was hosted by the Food and Drug Administration (FDA) in the Washington area on October 30, 2015, and the whole process has a due date of one year after the White House announcement.

Dr. Schechtman also noted several recent regulatory announcements by FDA:

- the approval of an application for genetically engineered AquAdvantage salmon, which reaches market size faster than conventional salmon, and which must be produced outside the United States under very particular controlled conditions;
- final guidance for the labeling of food that has or has not been derived from GE plants, to help food manufacturers who wish to voluntarily make that distinction on food labels;
- draft guidance (on which public comment is being solicited) on the voluntary labeling of food that has or has not been derived from genetically engineered Atlantic salmon; and
- approval of an application for a recombinant DNA (rDNA) construct in chickens that are genetically engineered (GE) to produce a recombinant form of human lysosomal acid lipase (rhLAL) protein in their egg whites, and of the human therapeutic biologic (Kanuma), which is purified from those egg whites, based on its safety and efficacy in humans with LAL deficiency.

Mr. McKalip then spoke about developments regarding the issue of labeling of GE products. He brought up the new FDA final guidance on labeling and noted that the guidance indicates that FDA, while not favoring the term “GMO” will not take actions against those who use the term “non-GMO” on labels assuming other requirements are met. He also offered a preview of a topic to be discussed a little later in the day, namely the use of AMS process verified program in one specific instance by the company SunOpta in making a non-GMO/GE claim regarding foods that they have produced under specific specifications. He also noted the ongoing efforts in Congress around providing clarity on the issue of GE labeling but indicated that the outcome of

those efforts is uncertain. Finally, he noted that the federal government had received at least four citizen's petitions requesting mandatory labeling of GE-derived products over the course of the current Administration. He indicated that those petitions were responded to on November 19, 2015 by FDA and each of those petitions was denied.

One AC21 member inquired whether the new FDA labeling guidance would have any impacts on meat and poultry labeling requirements under USDA's Food Safety and Inspection Service (FSIS). Mr. McKalip indicated that FSIS was looking at the issue. Another member inquired about progress in setting up the study panel called for under the White House initiative. Dr. Schechtman indicated that efforts are underway to get the work started, but that issues that funds transfer to the National Academies take some time to be worked out.

### **III. Updates on USDA coexistence-related activities since the last AC21 meeting and discussion**

Dr. Schechtman opened the panel discussion, which included various USDA staff with expertise in the activities to be discussed, by noting that the topics to be discussed were not an exhaustive reporting of coexistence-related activities and that both direct responses to the recommendations as well as some additional activities undertaken to bolster coexistence would be mentioned. Dr. Schechtman then discussed the complex set of recommendations in the AC21's earlier report on the topic of potential compensation mechanisms for farmers who had suffered economic damages as a result of unintended GE presence.

He noted that in that report was that there was not consensus among AC21 members that there was adequate information that documented such losses, information that would justify establishing a compensation mechanism. Consequently, one recommendation had been that USDA should gather such information and having that information the Secretary would determine based on that information whether establishing such a mechanism was appropriate. He indicated that such data had begun to be gathered and would be discussed shortly, but also noted that there was another recommendation that USDA develop a range of mechanisms to incentivize the development of joint coexistence plans among neighboring farmers that might be producing their crops using different production methods. In the interim, USDA officials have been informed by its Office of General Counsel that USDA does not have at this time the legal authority to implement either a crop-insurance-like compensation mechanism nor for Federal programs to directly incentivize the development of joint coexistence plans. Any direct action on those recommendations would therefore need to await additional Congressional action.

On the issue of the economic impacts of coexistence, however, he noted that USDA had been



doing additional work. He turned to Ms. Catherine Greene, an agricultural economist with the Economic Research Service (ERS), to discuss these efforts. Ms. Greene noted that because the report was not yet published, she would not be able to say very much, but that broadly the report examines the markets for GE-differentiated production, the production systems themselves and to some degree the interplay between the GE differentiated markets and the GE differentiated production systems, also touching briefly on the practices used by organic and non-GE producers to avoid GE presence in their crops. It also examines GE-related economic losses, based on the limited extant data.

Dr. Schechtman then noted that there had been other recommendations in the compensation mechanism section of the previous AC21 report about insurance and information available to farmers and turned to Mr. Brandon Willis, Administrator of the Risk Management Agency (RMA), to speak about USDA's actions to improve crop insurance options for farmers not growing commodity crops. Mr. Willis indicated that RMA had taken numerous steps in this area, both improving current policies and creating new ones. He indicated that RMA eliminated the 5 percent organic price surcharge in 2014, and had established a whole new series of compensation prices for organic crops, now up to 56 crops. RMA now also offers something called a contract price addendum, which enables the use of contract price information in setting compensation when there is insufficient market data available. In addition, RMA now also offers whole farm revenue protection, under which insurance is offered on a whole-farm, rather than a crop-by-crop basis, in all counties in all 50 States. He further indicated that these options were not static, but rather that the agency would continue to listen to farmers and make adjustments as needed.

Dr. Schechtman then turned to Dr. Craig Morris, AMS Deputy Administrator, to discuss one additional action USDA has taken to help non-GE farmers get a better understanding on market pricing. Dr. Morris indicated that AMS is now issuing a weekly report, based on voluntary submission of information, on pricing of food and feed grade corn and soybeans that are non-GE. He also indicated that if reporting on additional commodities would be beneficial to the industry such additional information might also be included.

Dr. Schechtman then turned to USDA responses to the set of AC21 recommendations relating to stewardship and outreach. He noted that the major thrust of those recommendations was that USDA should spearhead a stewardship and outreach effort on coexistence and its importance, working in conjunction with a broad range of stakeholders, and also that USDA should develop a package of mechanisms that foster stewardship and help mitigate economic risks and foster communication and collaboration, including things like best practices toolkits.

He indicated that one of the first actions USDA took in response to this recommendation was to seek public input through the Federal Register on how to foster communication and collaboration to strengthen coexistence. A notice was published in November, 2013, seeking input and received over 4,000 comments but relatively few of them directly responded to the request for information. Rather they raised general issues about the use of GE crops, the potential for coexistence to work as a general matter, or the balance of equities among different types of agricultural producers. He suggested that this was not the response USDA had hoped for and indicated that subsequently USDA decided to continue the discussion on communication and collaboration by holding a Stakeholder Workshop, to which all committee members were invited.

It was an invitation-only workshop, which was held on the campus of North Carolina State University in Raleigh, NC, on March 12-13, 2015. USDA described a series of activities either completed or under development in response to the AC21 recommendations and solicited comments from participants and members of the public in following weeks. USDA listened carefully to the views offered at the workshop. He noted that USDA generally got positive feedback about the proposals we offered (many of which we're talking about here), but the meeting was not without controversy. There were some criticisms for having held an invitation-only meeting, and there were a few presentations from some eminent non-USDA scientists (whose presentations were not pre-screened), who offered some strongly voiced opinions that were controversial. Following the workshop USDA again solicited comments from participants and the public about our proposals. USDA received 475 responses to that request for comment, with most comments again opposing the growing, production, and marketing of GE products, and/or questioning whether agricultural coexistence is even possible, but relatively few commenters directly addressing the policy proposals. He noted that several topics being discussed in this panel, such as work on assuring the purity of germplasm resources and a range of scientific research projects, did receive support from the directly responsive comments, but there was relatively little support for USDA proposals on development of an overall outreach and education strategy on coexistence, on development of farmer toolkits and for a new USDA website on coexistence. He indicated that the Secretary's office has taken all this input into account in moving forward and in deciding to start up the AC21 again.

Dr. Schechtman further noted that a website on coexistence that was announced at the time of the Stakeholders Workshop is live and contains background information—very general factsheets-- on coexistence and on different methods of production, and on best practices for production of different types of crops, and that USDA welcomes input that would refine these materials, or additional items that may be useful to farmers as they address any coexistence

challenges they may face. He also noted that USDA has developed some informational materials provided at the Raleigh workshop regarding voluntary and outcome-based strategies for facilitating production of identity preserved products. This included discussion of tools such as pinning maps, grower zones, screenable markers, pollen-excluding traits, and procedures used in the organic industry to prevent commingling and unintended presence.

Dr. Schechtman then noted the existence of new discussion documents developed by the National Organic Standards Board (NOSB) relating to so-called “excluded methods” and turned to Ms. Betsy Rakola, USDA’s Organic Policy Advisor, to discuss them. Ms. Rakola indicated that these were still at the discussion stage, without policy recommendations, and that the NOSB was very interested in receiving feedback from the public. They are interested in modernizing the definition of “excluded methods” in a way that will remain relevant and flexible as technologies continue to change and emerge over time.

Dr. Schechtman then noted that AMS has now made available the use of its Process-Verified Program (PVP) to verify non-GE crops and process and turned again to Dr. Morris for discussion. Dr. Morris noted that AMS has for some time been offering the USDA PVP as a tool to enable sellers, buyers, or third-parties to ensure that products conform to standards through very robust quality management systems and subsequent audit of those quality management systems by highly trained USDA employees. He noted the rapid growth of the use of such tools over the past year for a variety of different marketing claims. In May, 2015, AMS announced the initiation of non-GE/GMO PVP program with the company SunOpta. He indicated that following that announcement, AMS has had a number of other companies with a range of other products trying to avail themselves of similar services.

Dr. Schechtman then noted a final recommendation in the area of stewardship and outreach relating to the potential use of USDA conservation programs where appropriate in promoting coexistence, and turned to Mr. John Englert, National Program, NRCS, for discussion. Mr. Englert first noted that NRCS has statutory authority to address natural resource concerns such as soil erosion, water and air quality, wildlife habitat but does not have the authority to use NRCS programs to address genetic and gene flow issues. He noted the interest in the use conservation buffers as a means to restrict pollen movement, noted the wide range of factors that could affect their usefulness, and indicated that NRCS does not have design standards relating to the use of such buffers for pollen restriction. These caveats, however, do not imply that buffers cannot be used to support coexistence; rather, the implication is that NRCS can't provide incentives for using buffers solely for the purpose of coexistence. Producers can use conservation buffers and NRCS programs to address other resource concerns such as soil

erosion, wildlife habitat, etc., realizing that there are additional benefits for coexistence. He offered the caution that there is no guarantee as to the level of effectiveness of NRCS conservation buffers for controlling pollen transport. Mr. Englert also noted the new NRCS organic farming handbook, released in November 2015. He indicated that it contains information related to using buffers for pesticide and pesticide buffering and pollen transport but only in very general terms.

Dr. Schechtman turned to the topic of research to support coexistence and started discussions by turning again to Ms. Greene to discuss data USDA has gathered on GE-related economic losses by organic farmers. Ms. Greene indicated that USDA had added a fairly open-ended question on the 2014 National Organic Producers Survey asking farmers whether or not they had experienced an economic loss due to the presence of GE traits in their crops. USDA's National Agricultural Statistics Service (NASS) published the findings online earlier this year for 2011 through 2014 as well as for earlier time periods which showed very little economic losses. Farmers in 20 States, 0.65 percent of all organic farmers or 0.69 percent of all certified organic farmers, reported losses in 2011 through 2014. Among organic farmers growing crops with GE counterparts, just over 1 percent of all farmers in those 20 States experienced an economic loss. Three States had 6 to 7 percent of their farmers experiencing an economic loss during the period of 2011 through 2014. One of those was Illinois, where farmers grow a lot of crops that have GE counterparts. Ms. Greene went on to note limitations of the survey. First, the losses cannot be reported by crop. Second, it does not include losses by farmers growing conventional, non-GE producers who are growing identity preserved, non-GE crops and who are also subject to economic testing when they take their crops to be processed. And third, the data does not examine the costs incurred by producers for the measures they undertake to avoid GE presence. However, follow-up research in this general area is planned.

Dr. Shing Kwok, National Program Leader at the National Institute of Food and Agriculture (NIFA), next spoke regarding research relating to crop stewardship and gene flow risk assessment. Dr. Kwok first described the Biotech Risk Assessment Grants (BRAG) program, a competitive grants program administered through both NIFA and the Agricultural Research Service (ARS) to specifically look at environmental effects of biotech organisms in the field, whether animals, insects, plants or microbes. Research priorities related to gene flow and coexistence have been included in the BRAG's requests for applications for competitive proposals since 2013, and the program interacts with Federal regulatory agencies to make sure that its research priorities are in full alignment with regulatory needs. Since 2013, key areas of emphasis have been assessment of efficacy of existing confinement techniques, mitigation of unintended effects of GE organisms, and the development of novel techniques related to mitigating GE traits in a non-GE production system. From 2013 to 2015 about \$3 million was

allocated in this area, roughly 6 projects plus one conference, corresponding to about 25 percent of the total BRAG budget in that timeframe. This included 3 projects focused on developing male sterility techniques, pollen flow, pollen confinement or containing transgenes within the plastids of plants, as well as projects examining the impact of GE traits on insect migration for insect-pollinated crops that are related to pollen flow and insects, a project on control of seed dormancy, one on reducing fitness of GE plants in the environment, and others. In addition the BRAG program funded a conference that was held with the National Academy of Sciences, part of an 18-month NRC study, comparing the environmental effects of genetically and non-genetically crop production systems.

Dr. Schechtman next turned to Dr. Jack Okamuro, National Program Leader, ARS, to discuss research on landscape level gene flow in alfalfa relevant to coexistence in alfalfa production. Dr. Kwok noted that this research was jointly supported by ARS, the BRAG, program, and the Office of the Secretary and expressed gratitude to the National Alfalfa & Forage Alliance for their support as well. He indicated that USDA scientists have ongoing research projects to examine the movement of the Roundup Ready® herbicide resistance trait in alfalfa in the field, with 3 project objectives: to assess the role of feral alfalfa in transgene transmission in the field, to determine the impact of pollinator behaviors on pollen mediated gene flow and to analyze the flow of transgenes from Roundup Ready alfalfa seed production fields to conventional fields. Scientists analyzed 4,600 locations in three states and detected feral alfalfa in about 400 of those and 26 of those 400 had transgenes in them. Three publications will result—one that has been accepted will come out in 2016, another currently in review and the third in preparation. The results confirm that genetically engineered alfalfa is dispersed in the environment and they suggest that eradicating feral alfalfa along roadsides, minimizing seed spillage would be effective strategies for mitigating transgene dispersal. On pollinated mediated gene flow, USDA scientists analyzed the inadvertent carry-over of GE alfalfa pollen in honeybee hives and in leafcutter bee domiciles. The, I think what was the most important, what was done was to compare the adventitious presence of GE traits in the pollen versus seeds from seed production fields was compared. Adventitious presence of GE material in seeds from the seed production fields was remarkably low but transgenic pollen was also detected in the hives in the domiciles of the leaf-cutter bees. In addition, to better understand how landscape effects gene flow from transgenic to conventional alfalfa seed production fields USDA scientists have been collecting seeds from different zones in 24 commercial seed production fields and alfalfa production fields. The results from these studies are still being analyzed.

Dr. Okamuro also discussed basic research being conducted by ARS scientists on controlling corn pollen germination so as to limit unwanted transmission of corn genes. He indicated that

3 genes are under study (called GA1, GA2, and TCB) that may be utilized to mitigate the germination of pollen on corn plants. Twenty-one new corn lines have been developed for evaluation in the field and those field evaluations will go on in 2016.

Dr. Schechtman next turned discussion to the final area of the AC21's recommendations in its 2012 report, that of seed quality. Dr. Peter Bretting, ARS National Program Leader, then addressed USDA's actions in response to recommendations regarding terms of the maintenance of the purity of USDA's germplasm banks. Dr. Bretting noted the focus of those recommendations on developing plans to monitor and maintain the purity of germplasm stocks and to have appropriate best management practices to do so. This would specifically include determining the presence of plants with genetically engineered traits in publicly held germplasm stocks, conducting ongoing monitoring for unintended GE presence and developing a plan to respond when unintended presence of genetically engineered traits does occur. In response, ARS has updated and a revised of our current best management practices (BMPs) for its germplasm resources. The initial focus is on 5 of the major crops that have substantial acreages of deregulated traits: alfalfa, cotton, maize or corn, soybeans and sugar beets. This effort has included insuring that BMPs are well-documented, reviewed and accessible; testing for trueness to type and purity at critical control points; mandatory testing of new varieties or enhanced germplasm prior to formal release; guidance on how effects can be mitigated if and when unintended presence of genetically engineered traits is detected; and development of appropriate communication strategies. The updated procedures and practices have been reviewed internally within ARS and by numerous external reviewers, including the National Genetic Resources Advisory Council, and were previously provided as a courtesy to members of the AC21.

Ms. Rakola then provided an update on a contract that AMS had issued to the Association of Official Seed Certifying Agencies (AOSCA) and the Organic Seed Alliance (OSA) to support the Organic Seed Finder Database during the stakeholder session in March so we just wanted to provide a status update here today. Through that contract, AMS has received a couple of reports and a draft fact sheet from them, which are currently under Agency review. In addition, OSA and AOSCA held a webinar, available electronically, discussing the requirements for the use of organic seeds under organic regulations and how to use the Organic Seed Finder Database. She also noted AMS' ongoing engagement efforts in general with the seed industry.

Dr. Schechtman then noted AC21 recommendations regarding work with the seed industry with respect to the quality and availability of seed. He indicated that USDA has had discussions with the leadership at the American Seed Trade Association about this issue and the head of ASTA, Andrew Lavigne, spoke at the stakeholder's workshop on this issue. Mr. Lavigne noted at that

time the challenges for seedsmen to accurately forecast total annual commercial grain production and demand for particular types of seed and that seed production for relatively small markets requires advanced planning. Mr. Lavigne had also indicated that for such organic and non-GE markets and particularly for those crops for which most of the overall demand is for GE varieties rather than for organic or non-GE seed, it is imperative that growers talk with seed producers well in advance of signing production contracts, at least a year ahead of planting, preferably longer. He also noted ASTA efforts underway to develop a process to facilitate the licensing of elite germplasm for further breeding for non-GE markets, a process which could bolster the availability of diverse, high-quality seed for non-GE producers.

Dr. Schechtman then noted a final AC21 recommendation, that USDA task another advisory committee, the National Genetic Resources Advisory Council (NGRAC), with developing, “a plan in conjunction with the seed industry for ongoing evaluation of the pool of commercially available non-GE and organic seed varieties and identifying of market needs for producers serving GE sensitive markets.” He noted that Secretary Vilsack did indeed task the NGRAC with this charge and they have developed a report about it, and turned to Dr. Bretting, who also serves as an ex officio member of the NGRAC, to report on it. Dr. Bretting started by expressing the regrets of the NGRAC Chair, Dr. Manjit Misra, that he was unable to attend in person, and then discussed the history and broad mandate of the NGRAC (not limited to plant genetic resources), which was reactivated in 2013. He indicated that despite its broad mandate, the NGRAC has focused its initial efforts on developing a plan and approach for assuring the commercial availability of non-GE materials and with that completed was now beginning to address other issues, such as livestock, aquaculture, and insect genetic resources and also the genetic resources and needs of tribal nations.

With respect to the specific charge from the Secretary, the NGRAC examined the issues at all stages of germplasm development, from the relatively unimproved, highly variable materials in gene banks through the whole breeding process, characterizing and evaluating it and then finally into the latter stages where breeder seeds are made available to seed producers and the harvests are provided to processors and consumers. The council focused on the eight major crops with commercial GE varieties. There were a series of recommendations regarding the evaluation the pool of commercially available non-genetically engineered and organic seed varieties, first about developing and providing information about what varieties are available, second about having USDA work with plant breeders and other providers of organic and non-genetically engineered germplasm to increase the availability of such varieties, and third, about studying the output of the breeding pipeline for inbred lines or varieties from public universities to see whether that output is delivering what the market and the consumer needs. The NGRAC also suggested there be an assessment of the impact of the Bayh-Dole Act on public sector

breeding capacity.

Dr. Bretting indicated that the NGRAC also requested that the USDA conduct an ongoing economic assessment of non-genetically engineered and organic seed markets that would enable those interested to understand the value and plan investment opportunities in the seed sector. With respect to ensuring that diverse and high-quality commercial seed supply exists to meet the needs of all farmers, the report also recommends that there be regular meetings with appropriate representation on trait stewardship including discussion of prevention and mitigation of adventitious presence with those involved in genetically engineered breeding programs and gene banks. There was an additional recommendation focusing on the need for developing relatively inexpensive and yet effective assays for genetically engineered traits. The report also encourages USDA to devote additional resources to essentially knowing characterizing materials contained in its gene banks and facilitating joint public, private sector efforts to do that, and in the same vein to identify gaps in the collections and to the extent possible fill those gaps. Finally, the report notes the importance and need for inbred lines and foundation seeds that are not treated by chemicals that are prohibited by the national organic program and the need to communicate this fact to ASTA and to State seed foundations.

Dr. Schechtman thanked Dr. Bretting and indicated that the actual report should be available for AC21 members in the near future and opened up discussion on all of the USDA activities reported on in the session.

The first question concerned how to sign up for whole farm insurance and on what economic data the insurance is based on. Mr. Willis noted that the whole farm insurance would cover roughly the same proportion of losses as conventional crop insurance, and would be based on Form 1040F reporting.

The next member question concerned the breadth of the forthcoming ERS report on the costs of coexistence and a response from Ms. Greene indicated that the report would cover not only economic losses but also compliance costs and would consider not only organic production but also non-GE and GE production systems. In response to a follow-up question about future organic survey efforts, Ms. Greene indicated that additional organic producer data was or would be collected in 2015, 2016, and 2017, and additional broader survey data would be available from another major survey tool, the Agricultural Resources Management Survey. There would be some oversampling of organic producers and additional information could be gathered from the ARMS survey, but for that survey particular commodities are addressed only at particular intervals—every 6 or 7 years.



The next questioner inquired whether there was any data linking losses to particular contractual specifications for GE content that had been set for organic producers but had not been met. Ms. Greene responded that no such data was available, and moreover that it was not even possible to report losses by commodity.

An AC21 member asked what the qualifications are for companies that offer crop insurance. Mr. Willis replied that the qualifications are largely financial in nature, and that there has been some variability in which companies offer such insurance over the years. There was additional discussion of one insurance provider which had subsequently been purchased by another company.

There was additional discussion on the specificity of data reported on GE related economic losses, and Ms. Greene noted that only data that cannot be attributed to specific producers can be reported, and there are serious penalties for violating this requirement. This poses serious challenges for reporting details about thin, spread-out production like organic. Another member offered the view that it would be very useful to collect data on production costs that are tied to specific contractual specifications a farmer was trying to meet. Ms. Greene thanked him for the suggestion.

An AC21 member inquired about the availability of testing materials and procedures to detect commercially available GE events or events under developments. Dr. Schechtman indicated that he would seek out a response.

Another AC21 member cited the history of previous AC21 disagreements on economic losses and commended USDA for collecting actual data on them and offered some suggestions for how to collect data that would be useful on a commodity basis without violating confidentiality provisions.

An AC21 member asked about how prices were reported for the non-GMO/GE crop report, given that prices may vary depending on the exact crop specifications. Dr. Morris acknowledged the difficulties and indicated that there was both art and science in the reporting. He indicated that greater grower participation would enable finer category distinctions.

Another AC21 member commended USDA on the work it had been doing on the relatively small segment of agriculture, organic production, and noted the usefulness of the new pricing information. She followed up by inquiring whether the research on alfalfa gene flow could be used to develop a predictive model that might be useful for other crops. Dr. Okamuro, in

responding, noted that the research might have uses for helping control of feral alfalfa populations in places such as highway medians. Such medians are typically treated with Roundup, but another herbicide might need to be used in this instance, since the GE varieties are tolerant to Roundup.

Another member thanked NRCS for clarifying what NRCS could and could not do with regard to promoting coexistence and indicated that it would be up to Congress to help NRCS strengthen coexistence.

An AC21 member noted that the economic loss data probably understates the actual problem of unintended GE presence because many organic farmers may still be able to sell their crops as organic even if they are not meeting the de facto 0.9 percent tolerance level for GE content. Another AC21 member inquired as to how the GE-related economic losses for organic farmers compares with GE-related losses by other non-organic farmers. Ms. Greene replied that such data had not yet been collected by USDA, but that there has been some work in the area by Dr. Nicholas Kalaitzandonakes from the University of Missouri. She reported on her recollections of this data, which was discussed at the Stakeholders Workshop in March 2015, but indicated that it had not yet been published.

Secretary Redding then thanked the panel and expressed satisfaction at the evolution of the work and discussions on this complex issue.

#### **IV. Review of Ethical Requirements and Standards for AC21 Members**

Mr. Andrew Tobin, Deputy Director, USDA Office of Ethics, offered a “20,000 foot” view of ethics requirements for advisory committee members. He described the history and operation of his office, noting that in 2004 the Government Accountability Office had issued a report providing guidance for agency ethics offices regarding advisory committees, which found that the procedures with regard to federal advisory committees at that time were lacking. This has prompted additional efforts to address this situation. He distinguished three categories of potential advisory committee members: full-time government employees (for whom strict ethics rules are already in place), representatives, and special government employees (SGEs). Representatives are not considered to be federal employees and are not compensated by the federal government for their service beyond travel expenses. They represent the specific interest of an outside group or an outside industry and are appointed for that reason. Although the vast majority of representatives on advisory committees are considered to be experts in their field they're not necessarily appointed for that reason as representatives. They are not expected to speak from an unbiased perspective but rather to present the perspective of the group that you're here to represent. Such outside perspectives can help us understand how

government programs are affecting folks in the field and how they might be better delivered. Because representatives are not considered to be federal employees, they are not subject to the criminal conflict of interest statutes, nor to Federal standards of ethical conduct. But Representatives need to be aware that because they are known to the public and are working on such important issues, they therefore should be careful of how their actions might appear to an unbiased member of the public. He cautioned representatives on the AC21 to discuss any potential conflicts of interest they may have with Dr. Schechtman. He then briefly listed the sorts of circumstances that might raise such issues.

By contrast, he suggested that SGEs fall into a hybrid category. SGEs are defined as an officer or employee of the United States who is retained as needed, appointed or employed to perform without compensation for not to exceed 130 days during any 365-day period. They are brought on board to provide expert perspective and independent advice. An SGE, unlike a representative, is here to say, "I believe this, I have examined this particular issue and here's my guidance." A representative is here to speak on behalf of the entire group. A SGE is here to speak on his or her on behalf as an expert. Unlike representatives, SGEs are under the supervision of federal employees, full-time federal employees while they are acting as SGEs. Under August 2014 White House guidance SGEs may not be federally registered lobbyists. SGEs are also required to submit the OGE 450 Confidential Financial Disclosure Report, which discloses outside employment relationships, stock holdings, and third-party involvement an SGE may have from a financial interest perspective. SGEs are all required to receive annual ethics training and are subject to the ethics laws and regulations while they're acting as SGEs. Mr. Tobin described conflict-of-interest requirements and restrictions for SGEs and then limitations for SGEs: SGEs who work on a particular matter are then barred from representing any other party back to the federal government on that matter for as long as that matter exists. He also described SGE limitations with respect to gifts and compensation as they relate to official duties as an SGE.

One AC21 member then inquired regarding the recent hacking of government security information, since the member had been notified that she was affected, and asked what the government was doing to better protect personal data. Mr. Tobin noted the issue and indicated that all the full-time government employees shared her concern.

## **V. Announcement of new charge and preliminary discussion**

Note: This portion of the meeting summary will contain a record of discussions held before and after public comments on the first day.

Mr. McKalip began by again commending the efforts of the AC21 and how its recommendations

had affected the workings of USDA in many areas. He noted that there remained a gap between USDA actions and conversations at the farm level. He indicated that USDA would like the committee to consider the development of joint coexistence plans at the local level, how state and local entities of government and non-government can play a role in that process, and what the federal government could do to facilitate and to help be an enabler of that process. He indicated that USDA's goal in this is to help preserve and insure diversity among agriculture, to help ensure that every farmer is able to meet their production needs and address their market needs.

Dr. Schechtman then expanded on the concept, restating the charge as follows: is there an approach by which farmers can be encouraged to work with their neighbors to develop joint coexistence plans at the state or local level and how can USDA assist in that process?

He indicated that this new charge was focused on encouraging cooperating, not assessing damages. He indicated that in addition to discussing incentives, educational tools, and/or programs, the AC21 at its discretion could also discuss relevant tools or models for States or localities to use in resolving disputes or sets of preferred practices. He offered a series of questions that AC21 members might find useful for their deliberations:

- What tools/incentives do states/localities have at their disposal to encourage neighbors to work together?
- Are there existing programs/models that states or localities could build off of?
- Is this general public outreach or some type of program with incentives?
- Should there be recommendation as to what types of officials and or local folks might also be involved?
- Is there need in addition for some general discussions on the topic that state or local officials might mediate?
- Is there any useful new role for state/local officials in dissemination of coexistence best practices?
- Is there some kind of particular structure that States or localities might be encouraged to set up to aid their efforts?
- Should there be involvement of anyone downstream from the local farmers in any way, for example, for information purposes?
- What role might USDA have in helping whatever approach you recommend succeed?  
What tools might USDA bring to aid states and localities in putting programs in place?

He also indicated that the format of the AC21's response—whether a simple set of recommendations or a fuller report, would be up to the committee and subject to further discussion. Then the subject of the new charge was opened up for discussion.

One AC21 member noted that coexistence might take on other meanings in the future as farmers struggle to cope with depressed commodity prices. Another member inquired whether the meaning of coexistence for the new work meant coexistence between all forms of agriculture or just between GE and organic. Dr. Schechtman replied that the definition was unchanged from the previous one. Mr. Carleton from EPA noted similarities between these efforts and those addressed by EPA with regard to promoting state-managed pollinator plans, wherein a range of diverse stakeholders are being brought together to facilitate communication on the particular issue.

One AC21 member offered the view that in her area, there was probably little that the Federal government could do on a practical basis to incentivize coexistence, but inquired as to whether the Federal government has evidence that conservation “best management practices” are indeed effective at preventing pollen flow between neighboring farms. Mr. McKalip replied, noting that USDA had begun compiling such data but that more needs to be done in that regard, and that the national handbook that NRCS does now includes unintended presence, so that significant cost sharing on practices that promote coexistence can be obtained when there is a connection to addressing another natural resource concern, such as water quality, wildlife habitat, or air quality. He indicated that this offered a new opportunity. He deferred on the advisability of inducing Congress to provide clear authority on gene flow concerns in conservation programs.

Another AC21 member expressed the view that this effort would not be successful in her home state, because Monsanto and key agricultural organizations were blocking disclosure of GE planting sites. She also raised concerns regarding their intervention in preventing geographic indications for local non-GE chile varieties. She offered the view that this same restriction would apply to sharing information about GE plantings of corn elsewhere. Secretary Redding indicated that in his understanding, individual producers are free to talk about what they were planting but companies might not be willing to disclose what particular producers are growing.

Another member offered the view that there is already a lot of farmer-to-farmer communication but that rather than disclosing particular varieties, shared information might be about the requirements needed for producing whatever they were growing. He also offered the view that a lot of data about efficacy of best management practices is probably available because this is standard practice, especially critical for the seed industry. He added that the types of practices needed to meet particular contractual specifications can have significant economic impact. He further expressed concern about unintended consequences from expanding the eligible uses for limited NRCS conservation funds.

Another AC21 member raised a distinction between the challenges posed by “conventional” GE crops versus those carrying new functional traits. For some of those traits, he indicated, one mile buffers might be needed to prevent damage to neighboring crops. He offered the view that for such crops, it would be very helpful for buyers and other producers to see on a county map where those functional trait GE crops were being produced. This might be done on a voluntary basis in county offices.

An AC21 member inquired about what programs and resources were available to facilitate coexistence dialogue. Mr. McKalip offered the view that the resources that would mostly likely be brought to bear would be State or local ones, but that USDA would be interested in hearing how it might facilitate their efforts. USDA would also be interested in thoughts about how any existing USDA program might be repurposed in a useful way. Another AC21 member offered the view that hearing about existing models for complex conversations would be helpful. She also supported the earlier idea that having confidence in the performance of best management practices would be a very important for the success of these efforts, and, if that goal is achieved, it would then be desirable to cross-reference those practices in NRCS handbooks. She further offered the view that USDA might be helpful in providing technology to facilitate the production or sharing of voluntary planting maps, and that providing shared information might be an important part of promoting coexistence.

An AC21 member related his experience in developing two types of programs that could be relevant the types of cooperative approaches under discussion: one, a program to facilitate farmer transitions between different types of farming operations, and the second, an oil pipeline restoration reclamation program. He pointed to accountability, education, information, and communication as components of their success. Another AC21 member noted the variety of methods that exist to communicate and deliver key messages but that consistent message delivery will be important. He added that coexistence will face challenges in next few years and pointed out that NRCS programs create disparities in compensation. He offered the view that extension services might provide a neutral venue for coexistence discussions. He further noted that vehicles exist such as Field Watch and Drift Watch to provide information that helps protect sensitive crops and wondered whether they might be expanded to included coexistence-relevant information on a voluntary basis.

The AC21 Chair supported the concept of working toward an inventory of these models and continuing a broad dialogue focused on State and local efforts.

Another AC21 member supported the idea of enlisting extension services to help with coexistence, suggesting that it might help to renew their mission. Plus, since no one solution

will work everyone, their local focus could help to craft workable solutions, though he noted that both extension services and land grant universities suffer from lack of funding currently.

An AC21 member noted that controlling gene flow involves not only consideration of who plants what where, but also what happens to harvest equipment or how much residual crop remains in that equipment that may be used on multiple farms. She also requested further explanation about another member's comment that coexistence will face challenges in the near future. Secretary Redding likened the concerns about the disposition of farm equipment to recent heightened biosecurity concerns for poultry producers in his home State, monitored by the Department of Agriculture and trade associations, in the face of disease outbreaks. Another AC21 member supported the analogy over increasing biosecurity concerns for crop agriculture as well. He further explained that the coexistence challenge issue by indicating that coexistence would be hard for farmers to focus on when they have lost 30 to 50 percent of their income in the past year with low commodity prices and increased input costs.

One AC21 member noted that there have now been four alfalfa seed production seasons in opportunity zones (all GE or all non-GE) have been in operation. He indicated that BMPs have been in place which might be instructive, and suggested that the National Alfalfa and Forage Alliance might be approached to provide information on how the BMPs have performed.

An AC21 member supported the earlier analysis of the challenges in getting farmers to focus on coexistence in the current economic climate and supported utilizing extension and land-grant institutions as venues for farmer dialogue. Another member remarked on the poultry biosecurity analogy, noting the importance of wild birds in disease transmission but observing that poultry farmers in the area would be more motivated to address their presence than their cattle farming neighbors. Similarly in addressing coexistence there will be parties who are more motivated than others to address relevant issues. She supported the development of a neutral, fact-based curriculum that can be widely used. Another member questioned offered the view that developing such a broad curriculum would be very complex, due to differences in crop biology, cultivation and cultural and business practices, farming systems even in the same crop, and contract standards as well as different levels of state commitment to different types of agriculture. She proposed instead that for buy-in, the focus needs to be more local and flexible, addressing the crops and practices relevant to particular areas. She suggested that USDA and other federal agencies could support the process by providing a flexible incentive program that encourages diversity of approaches at that local level.

An AC21 member spoke about the cooperative efforts in his State to address avian influenza issues and from that noted the lesson of the importance of having efforts in each State

involving extension, land grant institutions, the Departments of Agriculture, and other State stakeholders. He suggested that stakeholder meetings would be important, that there might be a leadership role for NRCS in these discussions, but that stakeholders would need to find the solutions.

Secretary Redding raised the issue of the importance of knowing what neighbors are doing and noted that that exchange of information may be complicated, such as in the case of absentee land owners. So there will be both the issue of having conversations between neighbors as well as that of appropriate planning once information is shared. Another member observed that information sharing is good in principle but there may be a need to protect proprietary farming methods as well as concerns for potential vandalism of GE crops, so mandatory solutions will not work. Also, extension agents may not always be neutral as to preferred farming practices. He also expressed disappointment that there was not more support for earlier AC21 recommendations regarding education.

An AC21 member offered the view that while much of the conversation had been focused on pollen drift and BMPs, in all likelihood 70 to 80 percent of the problem for non-GE producers is based on purity of starting seed. Another member shared the concern that all farmers have for pure seed, and suggested that there are three points that all AC21 members should be able to agree on: the need for a universal, consistent message through the country; the need for discussions to take place neutral sites with neutral delivery systems; and the need for all stakeholders to be involved. He suggested that stakeholder involvement should not be limited to farmers but also seed producers, feed manufacturers, and others. One other AC21 member seed companies adhere to purity standards and that seed sale is a contract between the company and the purchaser. She added that as part of that contract, her company now provides information on coexistence to the purchaser and that information is publicly available. She also noted her perplexity with the lack of public enthusiasm for the education recommendations in the previous AC21 report and indicated that despite that, education would be a key component in the response to the current charge.

An AC21 member noted the difference between teaching and learning, and offered the view that there would need to be incentives for farmers growing commodity crops, whether GE or non-GE, to participate meaningfully in coexistence discussions, especially in these difficult financial times. Another member inquired as to whether as part of the information alluded to in seed contracts by an earlier speaker, there was any notion of shared responsibility for planting of buffers with their neighbors so that grain growers don't negatively impact their neighbors' crops. The earlier speaker replied that the information did not have that level of specificity. There was then additional discussion among several members about the bearing or sharing of



responsibility for negative impacts of unintended GE presence. Another member suggested that that discussion was reminiscent of earlier ones by the committee for its previous report. He continued by identifying a variety of knowledgeable individuals in farm country, such as farm managers, rural appraisers, private applicators, certified crop consultants, and commercial pesticide applicators who might play a role in furthering discussions on coexistence.

Another AC21 member returned to the subject of lack of enthusiasm for earlier AC21 recommendations on education and indicated a couple of reasons for it from her perspective: one, simply a matter of relative priority; and two, that knowing the substance of what is to be taught is necessary before there can be enthusiasm for education.

An AC21 member offered a farmer perspective on available information on variety planting intentions and indicated that his acres need to be certified and in his case, USDA's Farm Service Agency is well aware of what he has planted before harvest. This early reporting, he indicated, is a requirement for participation in certain farm programs. Another member noted that filing prior information about intent for planting might be important, and gave the example of planting rye as a cover crop, which can cause problems for neighboring wheat crops. He suggested that having crop mapping in an area might prove to be quite useful. The previous commenter noted that the increasing use of cover crops will make coexistence issues even more important, and suggested that coexistence-related issues might be increasingly monitored in the future through the use of drones. Another AC21 member noted that information about planting intent prior to planting is filed with the crop insurance agency. He also raised the issue of aerial planting as sometimes causing seed drift issues.

An AC21 member returned to the issue of disclosure and how to construct incentives for different stakeholders. She suggested that an organic corn farmer in Illinois might have trouble getting a contract for his crop if it were publicly disclosed that all of his neighbors were growing GE crops. It might not be beneficial for some stakeholders to publicly disclose information to the public that is reported for crop insurance purposes. She suggested that appropriate incentives to bring stakeholders to the table might vary greatly in different parts of the country. Mr. McKalip noted that he did not believe that USDA is authorized to release planting intentions data but indicated that he would confirm that overnight. The previous member added that solutions at the local level might not require public disclosure of planting information. Another member expressed the view that releasing such information publicly would violate confidentiality agreements and provide unfair advantage to competitors. Another member supported the need to protect confidentiality and protect against vandalism and raised the possibility of third-party maintenance of useful planting information.

An AC21 member returned to the issue of appropriate incentives to bring stakeholders to the table, and noted that in the case of State Pollinator Plans, stakeholders were motivated to participate in discussions State Pollinator Plans because there was a fear that EPA may ban use of certain pesticides for agriculture use. He suggested that broadening the areas of risk mitigation under discussion beyond unintended GE presence to include topics like the presence of plant and animal pathogens, noxious and invasive weed control, over-tillage and soil movement, would bring everyone's issues to the table and enable broad participation. Secretary Redding noted that these are increasingly complex conversations that revolve around farmers protecting their own interests and respecting their neighbors', conversations that address protecting each other's markets and maintaining "peace in the valley." Another member noted that for there to be progress on these issues, it would be necessary for AC21 members, who in many instances represent different, large, agricultural interests, to move beyond their comfort zones and act as leaders who can help plan for what will make life easier for producers in the future.

Dr. Schechtman noted that USDA did not have a fund of money that it was going to be able to offer us in the form of monetary incentives to spur coexistence but was looking to the committee for creative ideas as to how it could help States and localities direct these conversations and whether there are other sources for incentives that could be brought to bear. He also wondered whether the committee might find it useful to think about potential technological tools that might be developed that might facilitate information sharing between neighbors.

A committee member noted that there is an application called Drift Watch, which he believed was developed by Purdue University, which is a voluntary mapping program, and that the State of North Dakota has also developed a program enables neighbors to share mapping information including the locations of sensitive sites like beehives and vineyards. He indicated that penalties for damaging a neighbor's crop can be stiff if the information included was disregarded. Another member noted that there exists not only Drift Watch, but also Field Watch and Bee Watch, which are voluntary tools which farmers use to protect themselves against liability situations. Another member inquired about the rate of participation in the North Dakota program. The response was that the program has mapped over 600,000 beehives in the State, as well as all of the vineyards and most of the organic production and includes contact information for the owners of sensitive sites.

An AC21 member noted that incentives do not always need to be monetary and need not always be positive. He noted how some friction between a group of winegrowers in his State and other producers that spilled over into the media was resolved by strong pushback by the

other crop producers. Another AC21 member related an issue she was facing arising between a wine producers regarding her nearby organic soybean production due to extension advice about concern about the presence of a soybean pest which can ruin wine quality. This was offered as an example of the need for neutral responsible information to help defuse potential situations of conflict.

Another member offered the view that in some localities, State Departments or Commissions of Agriculture might be better placed than Extension to help facilitate these conversations. In addition, various types of grower organizations may have experience in educating growers about BMPs and other tools. A member cautioned against creating situations where local groups gain a position where they could exert control over broader interests of agriculture, rather than just over local affairs.

One member suggested that USDA might consider co-locating a September AC21 meeting with the NASDA annual meeting. Dr. Schechtman reminded the committee that September would be very late in the committee's work process. Others raised the possibility of NASDA's winter meetings, but those meetings were determined to come too soon to co-locate an AC21 meeting with them. Nonetheless, interaction with NASDA officials at the winter meetings was seen as desirable. Secretary Redding concurred that raising the issue with NASDA members would be productive. He noted work in his own State around Chesapeake Bay watershed issues and looked to gather additional useful examples, including some from outside the U.S. He also cited information on alfalfa research from the March 2015 workshop as material that the committee might revisit.

One member inquired whether this effort would be limited to commodity crops or would be broader, to include things like cut flowers. Mr. McKalip indicated that there was no restriction in this way intended on the breadth of this charge.

Secretary Redding took note of all the good discussions and the need to hear from AC21 members tomorrow about what they would need from USDA. He also asked members to consider whether joint coexistence efforts could involve not only neighboring farmers but also farmers with industry partners or others, and whether these could have some element of community involvement. He suggested that these conversations would revolve not only around education but also the commitment that producers have to one another.

## **VI. Public comments**

There were two comments from members of the public during the comment period. Dr. Margaret Mellon noted her role as a former member of USDA biotechnology advisory committees, noted the earlier comment from an AC21 member about the importance of seed purity to the issue of coexistence, and raised the question of whether the committee's new efforts will have any effect on the amount of contaminated seed that is available for sale. While acknowledging the boldness of the charge, she questioned whether holding this discussion was the wisest use of Federal resources, and whether USDA was envisioning that there is a pot of resources that could be utilized to provide incentives.

Mr. Dudley Hoskins, Public Policy Counsel for the National Association of State Departments of Agriculture (NASDA), expressed gratitude for the leadership of Secretary Redding and AC21 member Douglas Goehring, North Dakota Commissioner of Agriculture. He noted that NASDA has identified a model for farmer interactions that could be useful for coexistence discussions, and that is the MP3, a State Managed Pollinator Protection Plan. MP3 is not linked to a specific mandate or regulatory trigger but nonetheless allows stakeholders to work together in a collaborative and productive manner. MP3s have been developed and implemented in five states to date, Florida, Mississippi, Colorado, California, and North Dakota. MP3s bring stakeholders together to identify best practices, lessons learned, vehicles for communication and to explore ways to enhance that in a collaborative and non-regulatory approach. He indicated that the model has been so successful that in May 2015 the White House, through their national strategy to promote honey bees and other pollinators referenced the State Managed Pollinator Protection Plans.

**END OF DAY ONE.**

**DAY TWO: December 15, 2015**

## **VII. Welcome and Reflections on Day One**

Secretary Redding welcomed back AC21 members and noted the impact that the AC21's earlier recommendations had on USDA activities. He suggested that the efforts of the AC21 and of USDA have helped move coexistence from aspirational toward practical. And practical results will depend on farm level conversations and planning that protects the integrity of crops while respecting farmers' production choices and encouraging diversity. He reiterated the joint coexistence charge and noted the existence of potentially useful models such as the State Pollinator Protection plans and the Pesticide Continuing Education Program. He hoped that using such models would eliminate the need to reinvent the wheel. But he also noted that efforts toward coexistence will need to be intentional—States and localities will need to take

action to help the process along, and USDA will support them. He reminded members of the need to provide calendar information to staff so that subsequent meeting dates could be pinned down, and opened up the floor for AC21 member observations.

One member noted the positive discussions the previous day. She also observed that it had been useful for the previous AC21 report that the Chair had helped the committee identify some guiding principles to frame their work and wondered if identifying relevant principles for this work might not also be useful. She offered the view that closer examination of different cooperative models and consideration of various different venues for discussion in different locations might be useful.

Another member offered some thoughts on how the AC21 might promote actions by entities other than USDA, apart from simply the development of useful tools, best practices or models. She noted that the AC21 had the opportunity to bring visibility on a larger stage to a particular organizations, public or private. She offered the example of NASDA, as well as individual State Departments of Agriculture, such as perhaps the Illinois Department, since that State has perhaps experienced more GE-related economic losses than many other States. Mr. McKalip supported the notion that USDA and the AC21 have the opportunity to spotlight activities by key State and local institutions.

Another member offered support for the new AC21 charge, but expressed disappointment that after the previous controversy over the existence of GE-related economic losses and USDA's work to document those losses, there is no follow-up action plan in the new charge from that major thrust of the AC21's previous work.

Another member indicated that as an organic farmer, she understood the realities of what needs to be done in terms of planting considerations vis-à-vis neighboring GE crops, but thought that for organic or IP farmers, developing a practical guidance document would be a very useful reference and teaching tool. Such a document could cover: the effect of pollen drift, include buffer size and geographical characteristics, wind effects and other influences; the effect of adventitious presence (AP) of various types in seed for crops for various intended end uses; and cleanout of machinery, both for planting harvest. A practical and neutral document that addresses risks for both self-pollinated and cross-pollinated crops could help further useful conversations, she offered.

An AC21 member, referring to USDA's work on GE-related economic losses, suggested that it was time to move forward, not rehash previous discussions, and that in any case the new USDA data were inadequate in several ways. He also questioned whether gathering guidance

information was something the committee should be doing, since universities regularly compile such materials.

Another AC21 member spoke of the economic losses experienced by those seed producers who destroy seed that does not meet zero detect standards. She made a call for the availability of zero GE-detect seed.

An AC21 member supported the notion of the need to move forward and asserted that all farmers face losses. He supported the idea of developing a guidance document as an achievable goal, but suggested that the real challenge would be getting all farmers to the table. To do that, he said, would require a broader conversation between farmers about all the challenges they face. The discussions could be mediated by State Departments of Agriculture or extension, which understand local considerations around considerations such as soil type, topography, climate, crops, local pests and pathogens, etc. He offered the non-GE example of excessive tillage leading to windborne movement of soil-borne pathogens. Farmers may not be aware of their neighbors' challenges. Such a broader conversation about mitigation around the range of issues different types of producers face could therefore be enlightening.

Another AC21 member offered the view that even though USDA has determined that it does not have legal authority to provide incentives for the development of joint coexistence plans, it may be reading its role too narrowly. USDA should, in his view, provide leadership in encouraging State and local actions on the issue. Mr. McKalip offered a view on the initiative with NRCS to note that the connection between conservation program practices and coexistence practices was an example of such leadership. Ongoing data gathering to refine the understanding of GE-related economic losses will provide relevant information for actions at the State and local levels, but developing additional Federal programs based on the current data on GE-related losses seems unlikely. An AC21 member inquired whether there was any precedent in the NRCS for joint conservation plans between multiple farmers working together? Mr. McKalip indicated that there was precedent for such actions between willing farmers, and also between farmers working with adjacent Bureau of Land Management lands.

Another member noted that farmers are often less receptive to new Federal programs than to State or local ones. He supported the idea of developing guidance principles but cautioned that details about what works in one area of the country may not work in another. He noted that in his part of the country, cooperative efforts around drainage districts are effective. He offered the view that the new charge will be relevant for all IP producers, not just organic producers, and that the current economic situation made IP production more relevant for many farmers.

New guidance that helps inform IP production might be discussed at annual extension agronomy meetings, or by NRCS representatives, or in other forums.

An AC21 member offered his concept of a good farm neighbor as one who that does his best to avoid damaging his neighbor, and who doesn't want to be damaged unreasonably. He noted that almost every AC21 discussion revolves around issues of purity, with increasing segmentation away from a simple fungible commodity to a marketplace offering a variety of different product classifications. Markets provide different incentives for these different product classifications. He noted enormous economic losses in the Chinese market and resulting lawsuits because of lack of approval of an individual trait there. Information about what it will take to satisfy a particular market requirement will be helpful, to enable reliable supplies and suppliers. He offered a vision for U.S. agriculture 10 to 20 years from now as a source of a more reliable purity of products than many of our key competitors. He supported the idea of Federal policy to sensitize people throughout the system to the importance of food purity or commodity purity that is being delivered.

An AC21 member offered a clarification on her earlier comment about disappointment regarding further work on GE-related losses, suggesting that she was merely acknowledging the views of her stakeholders, not suggesting that old debates be rehashed. She embraced the new charge and suggested a few possible areas for work: to define what a joint coexistence plan might look like; to better understand other models for farmer cooperation; to explore incentives other than monetary ones to encourage farmer participation; to identify principles or recommendations for convening efforts at the State or local level; and to consider how technology might facilitate these processes.

Another AC21 member offered an example of successful NRCS-mediated cooperation between two young farmers, one organic and the other anti-organic, over a drainage issue, that would not have happened but for the excellent NRCS work. She suggested that the AC21 charge was doable and that the result should antagonize no one. Another AC21 member recognized the value of NRCS participation in these efforts, but suggested that the Federal role would need to be to encourage, rather than to mandate anything. He added that it was unlikely that States would be able to find new money to these activities, but that conceivably Congress could set aside some money in a future Farm Bill to set, set aside a little bit of money for NRCS to look at an appropriate program, and if the committee made progress in this area there could be better participation and acceptance.

An AC21 member suggested that there are two useful types of tools the AC21 might provide: technical, hands-on toolkits, such as are one component of USDA's coexistence webpage; and

tools directed toward organizations such as producer organizations, State extension services, State Departments of Agriculture, etc., describing models that could be used to bring growers together at a more aggregate level, or that might be used to incentivize growers to work together. She added that she would support a recommendation that USDA should provide leadership and facilitation to these efforts, and that USDA might offer grants, perhaps through AMS' Market Improvement Program, or from another grants program, to support State coexistence efforts. She added that which outside groups might be invited to speak to the AC21 in upcoming meetings should be based in part on who the committee wishes to be encouraged to incentivize to take on this issue as a priority. Giving them visibility in front of our Secretary of Agriculture and at a more national stage might spur them to take this up as part of their mandate.

An AC21 member stated that useful and accurate information about appropriate procedures to follow to protect their crops and how to talk to neighbors and what to talk to them about is not available or accessible for most organic farmers. Information may be available but it may not currently be in a form that is understandable and actionable on their farms. She acknowledged that there may be differences in details of procedures in different areas of the country but suggested that practical considerations would likely be similar.

Another AC21 member offered the view that discussing coexistence needs to encompass agriculture as a whole and the breadth of potential coexistence considerations, and that the committee should not get fixated on any small segment of them.

Secretary Redding noted that the conversation has devolved into two separate considerations: the content that the AC21 wishes to deliver and the process by which it should be delivered and by whom. He suggested that it might not be that there is a single entity that should be tasked with delivering it.

### **VIII. Continuing Discussion of Charge and Developing a Work Plan to Address It**

Secretary Redding requested that members reflect on what they have heard in putting together a work plan. He noted BMPs, processes for discussions with/among farmers, things to consider in developing joint coexistence plans, and a facilitative role for USDA as topics to include.

One member stated that information sharing between farmers would be critical, and that, as in the case of the MP3 Pollinator Protection Plans, having a database of who is doing what would be very useful. Another member suggested a stepwise approach, starting with a definition of coexistence, then identifying stakeholders and specific participants, then moving to a website



link enabling participants to know to whom they will need to speak, and finally discussing the actions that can arise.

An AC21 member stated that fundamental to discussions of coexistence is the recognition that drift occurs, whether of pollen, herbicides, or weed seed. He suggested that data exists about the rates of movement of these substances. Another member agreed that such data exists, but suggested that universities have been disseminating such data and have fine publications on the subject. Another member suggested that regional differences in BMPs might be significant, but that process might be an appropriate level of focus, leaving details up to the local level where needs could be determined and an appropriate plan devised. Secretary Redding added that in his view the committee might focus on top line considerations that are geographically neutral, with a recognition that details would need to be tailored to specific regions.

An AC21 member suggested that the AC21's output could contain crop-specific BMPs plus a set of questions to be worked through with cooperating neighbors. It would also include a means of identification of who is growing what where, and who would be the participants in any conversations. She also alluded to the HACCP model as relevant in its consideration of critical control points. Another member supported consideration of the HACCP model and providing guidance as to what needs to be done at critical control points, and suggested that the committee's guidance needs to be straightforward and not overly vague. She further suggested that the guidance needs to make specific distinctions between self-pollinating versus cross-pollinating ones, and distinguish the considerations for insect-pollinated versus wind-pollinated ones.

An AC21 member suggested that the discussions are converging on a few questions: Who will provide information? Who are the relevant stakeholders? and Who will be involved in stakeholder meetings? He supported the idea of generating geographically neutral information, suggested that stakeholder discussions would need to revolve around mitigation, and offered that topics for mitigation discussions should include pollen, soil, pathogen, and weed seeds. Having all of these included in discussions would capture the interests of all farmers.

One member objected to dwelling on the analogy of HACCP because it refers to "hazard" rather than coexisting, and would not promote participation by all players. Another member echoed this concern. Secretary Redding noted that the use of that term might not be helpful but that "coexistence control points" or simply "critical control points" might capture the idea. He also noted creating an opportunity for farmers to discuss the vulnerabilities that each has would form the basis for a conversation that could lead to actions on the part of neighbors. Another member questioned whether HACCP applies national standards or operates at an individual

level. Secretary Redding suggested that HACCP provides basic principles that are then applied to particular operations. These activities may also involve inspections.

An AC21 member provided examples of some potential models for the AC21 to consider for which the marketplace offers participation incentives. One is the FARM audit, in which producers, both conventional and organic, are asked to participate so that major retailers can confirm compliance with animal care, sustainability and other standards. The other is Caring Dairy, which provides an online tool, a decision tree, that examines farm practices and offers suggestions of practices that a farmer might consider in order to make his/her operation more sustainable. She added that an online tool might provide objectiveness and neutrality that might facilitate the types of conversations that are needed. Another member supported the use of objective models and noted another one, Keystone's Fieldprint Calculator. Another member cautioned against infringing upon farmers' property rights.

An AC21 member spoke about two types of AC21 activities that could be beneficial. One would be a workgroup discussing tools that producers could use to help them meet their production needs. She indicated that one good reference point to examine would be the University of Minnesota's Organic Risk Management Handbook. The second activity would be to hear from outside speakers regarding facilitating information sharing for coexistence management. She noted MP3 activities and American Seed Trade Association-supported pinning maps, but added that some of the information shared could be market-sensitive, and the ramifications of that would need to be carefully considered, perhaps via another workgroup. Another member cautioned about making recommendations that would be interpreted as imposing additional obligations on farmers, rather than promoting collaborations or partnerships.

An AC21 member suggested that there might be two types of presentations to the AC21 which might be useful: first, from government entities such as NRCS, AMS, or extension, who have extensive farmer outreach activities, and private entities, such as the National Grain and Feed Association, as well as seed companies, who could speak to seed purity standards and available tools and technology to lessen or detect pollen transfer.

An AC21 member noted that organic farmers already document and report many activities on their farms, often as a condition for certification or benefits. She indicated that what she sees as most useful would be guidance, not requirements, for farmers, which would primarily help them identify vulnerabilities and minimize risks in their operations and then secondarily help provide useful information to help engage with neighbors. Another member agreed that organic farmers and seed producers do document a great deal, but noted that many other farmers do not, and would object to needing to do it. Providing them options to think about,

which might help alleviate problems, would be better received. Another member agreed with this analysis, but voiced an objection to a notion that what would be needed for success in these efforts would be changing the mindset of farmers. He suggested that it was only a small minority of farmers who don't want to do the right thing. Secretary Redding agreed with these statements, and added that what would be important to provide along with guidance would be an accompanying narrative that provides context. He summed up the state of the conversation as focusing on three areas: guidance, models, and plans for future work. Another member added that there was also needed a federal policy statement or articulated viewpoint. Dr. Schechtman added that another aspect that had been discussed was the need to articulate an approach for bringing all the relevant stakeholders to the table.

An AC21 member echoed the notion of the importance of providing context, and suggested that that piece should include a description of where the AC21 sees the future of agriculture in the 21<sup>st</sup> century, particularly as regards the growth of niche markets, etc. He added that not all growers will be fully familiar with this context.

#### **IX. Remarks by Secretary Vilsack on the Work of the AC21 and Its New Charge, and Reflections on His Remarks**

Note: The full text of Secretary Vilsack's remarks is contained within the meeting transcript.

Secretary Redding introduced Secretary Vilsack, noting Secretary Vilsack's continuing commitment to agriculture and the lively conversations by the committee on the new charge.

Secretary Vilsack thanked Secretary Redding for his tireless work and thanked the committee for all of the incredible and difficult work they have accomplished. He indicated that the committee's work is some of the most important work for the future of agriculture and for ensuring the diversity of agriculture. He described the shared responsibility of farmers in producing safe, affordable, and accessible food in the face of climate change, in revitalizing rural communities, in serving as stewards for the land, and in ensuring that there is a diverse next generation of farmers and ranchers. He spoke of the importance of both technology and diversity in bringing about the resilience of American agriculture and in meeting evolving consumer demands. The resilience of American agriculture brings great benefits to consumers and enables the trust that those consumers have in the safety of U.S. agricultural products.

The topic of coexistence and the role of technology, he said, has never been more critical for the goal of feeding the U.S. and the world population, and never more controversial. He spoke of the changes that have appeared in agriculture over the past decade, and his ongoing

conversations with other world leaders about the appropriate role of innovation in agriculture. The committee's role, he suggested, would be to provide a path forward that balanced the need for technology and innovations while balancing consumer needs to know more about their food, how it was produced, and how it might affect their health.

The Secretary noted the previous AC21 report and the wide range of recommendations it contained, as well as his and USDA's ongoing commitment to implementing its recommendations. He noted an upcoming USDA report on the economics of coexistence as well as research on economic losses and on ways to minimize gene flow. He noted the need to minimize the occurrence of situations that potentially compromise organic production. He noted ongoing work on seed quality and availability. He noted the two areas of recommendations—around compensation measures and incentivizing joint coexistence plans—for which USDA lacks statutory authority, and suggested that further work needs to be done to gather information that will enable future Secretaries of Agriculture to inform Congressional leaders and potentially go to them with requests for additional legal authorities.

He also noted APHIS' efforts to revise its biotechnology regulations, and the White House-led effort to modernize the Coordinated Framework. He reminded AC21 members of the need to foster diversity in agriculture in the face of its multiple challenges and the need for stakeholders to be forthcoming and forthright about the problems and the need to work together to find solutions.

He suggested the challenge facing committee members is the need to check their personal interests at the door to come up with collective wisdom to ensure the future of U.S. agriculture. He added that the committee had already done an admirable job of this, but acknowledged that this was perhaps an unfair request. He spoke about the differing views and challenges of agriculture in Cuba, China, Japan, Belgium and France, and noted the level of agreement that had been necessary for countries with diverse views and interests to reach the recent international climate accord. He noted the important role that the adoption of creative agricultural approaches played in enabling the U.S. to articulate its commitments under the pact. The diversity of American agriculture has enabled productive engagement in these bilateral and multilateral forums. This diversity is crucial to maintain U.S. agricultural leadership, he argued, and requires engagement and education will all agricultural producers in order to be maintained. He added that the work of the AC21 can provide an important example for others outside agriculture indicating that the work of finding common ground is a more important endeavor than trying to divide our citizenry.

Secretary Redding thanked Secretary Vilsack for his consistent commitment to U.S. agriculture, and opened up the floor for comments and questions.

One AC21 member noted that promoting coexistence will be challenging in the current climate of economic hardship for commodity farmers. Secretary Vilsack attributed much of the decline in commodity prices to the lowdown in China's economy but indicated his optimism for 2016 with ongoing efforts to dismantle trade barriers. He also noted potential opportunities in the renewable fuel arena with China and India. He further noted the importance of coexistence for keep rural economies vibrant and for creating new opportunities for small businesses. He also noted his efforts to persuade Europe that we need not have competition but that it can be a win-win situation if we work collaboratively.

An AC21 member noted the fine line the Secretary needs to walk to support all of agriculture. She remarked that many new organic farmers are coming into that effort not as a philosophical lifestyle approach but as a more practical effort and some were coming from non-farm backgrounds, and suggested that those factors might facilitate coexistence. She also noted that many members of the organic community would love to help in outreach and trade efforts with Cuba. Secretary Vilsack indicated that U.S. farmers could be of assistance with Cuba, and that there were great opportunities to help Cuba develop its organic agriculture. He also suggested that the work he and the committee have been undertaking, to try and encourage moderation, was an indication of strength rather than weakness.

Another AC21 member expressed support for the local focus of the new AC21 charge. He acknowledged the role of technology in supporting diverse agricultural production, suggested that the guidance to be developed would help farmers in producing different value-added products to meet consumer demands, and noted that different value-added products should not be thought of as superior to others. Secretary Vilsack acknowledged the point and looked back to the history of manufacturing, which a few decades back the U.S. dominated. Then the U.S. manufacturing base declined, but has been rebounding in the arena of high-value, specialty products. He suggested that a similar pattern may apply in the future to agriculture, as key actors, such as China and African nations, improve their productivity, and that when that happens, the key to maintaining our role will be in the production of value-added agricultural products.

Another AC21 member spoke of the resilience of Cuban people in addressing their needs despite the ongoing embargo, noting their desire for access to credit and the lifting of the embargo. He inquired about the timetable for having these things happen and the willingness of Congress to act. Secretary Vilsack noted the difficulties posed by an election year, noted the

advantages other countries have in with their ongoing relationships with Cuba, but added that our close proximity is one advantage we have as well. He added that if we end the embargo and open up a trade relationship with Cuba we will have created a very valuable ally. Agriculture will have a critical role in that, and the generational change in Cuba may help as well from the old revolutionary leaders. He ended by again thanking the committee for its important and difficult work.

#### **X. Developing a Plan of Work for Addressing the Charge, Discussing Next Steps, and Identifying Information Needs**

Secretary Redding again thanked the committee, Secretary Vilsack, and USDA staff for their work. An AC21 member noted Secretary Vilsack's remarks regarding a U.S. agricultural future concentrating on high-end products rather than on feeding the world population, and noted that for organic products, much of the soy and corn used in the United States is imported. Another member commented that Secretary Vilsack's concept of embracing diversity in agriculture and the future of agriculture would fit very well in the preamble of the new report, and would set out why coexistence is important. She also noted that a positive unintended consequence of the development of joint coexistence plans might be to provide information to some farmers about potential new ways to diversify their operations. Another member noted the many opportunities that are likely to arise when Cuban trade opens up and the likely rapid pace of change that will follow.

Dr. Schechtman offered an assessment of the discussions thus far and of topics on which further committee input was needed. He noted:

- That there was a sense that two workgroups should be established—one on models for farmer to farmer cooperation and how they might be used to bring stakeholders to the table, and the other on a developing a guidance document (he also indicated that it was an open question whether the committee would develop a framework for the document or populate it with detailed information);
- That AC21 members should articulate what types of information they would like USDA to gather for them for the next meeting;
- That further input was needed on outside speakers that should be invited to address the committee in the next meetings.

He indicated that he had a sense from discussions of members' interests in the two workgroups and would assign members to achieve balanced representation of views. He noted that many types of models and experts had been discussed over the course of the meeting, but that there was a need to be parsimonious in invitations because of time constraints. He also noted the difficulties in finding appropriate times to hold three more meetings in upcoming months.

An AC21 member suggested that there was a need for a third workgroup to discuss who might facilitate conversations on coexistence at the State or local level. Another member suggested that the committee needed additional information about what USDA agencies like NRCS are already doing locally. Another member supported the idea of having a third workgroup. Another AC21 member thought that having that third workgroup think strategically about what key organizations the committee or USDA may wish to engage in these discussions could be important to facilitate uptake or delivery of the joint coexistence plan concept. Dr. Schechtman agreed that a third workgroup made sense.

Dr. Schechtman also noted that one unresolved issue that would probably need further discussion by the full committee is the scope of topics under discussion between farmers in the development of joint coexistence plans.

Another member noted that she would be interested in having USDA provide information on existing joint conservation plans and on state pollinator programs. Another AC21 member echoed that interest.

Mr. McKalip noted that he had checked overnight on a topic discussed the previous day, that of the possibility of USDA release of data about planting intentions, and that such release of data was prohibited. He did indicate that USDA would find information on examples of joint conservation plans that have been developed. One member suggested that water conservation districts might provide some examples. He added that it might be useful to get some information about the potential role of equipment technology in helping to facilitate coexistence. Another member inquired of Mr. McKalip whether there were any prohibitions against having NRCS soil and water conservation districts from convening meetings. Mr. McKalip noted that such districts are authorized in state statute entirely separate from NRCS, and they are not prohibited from taking on such a task if they were willing and County and State leadership were supportive.

Another AC21 member suggested that presentations about relevant RMA and AMS programs might also be useful. Secretary Redding noted that further discussion around incentives would also be important and wondered whether one of the three workgroups could take that on. Another member offered the view that workgroups 1 or 3 could take that task on, but that the remaining challenges would be to craft the narrative on joint coexistence plans and to provide a reason for all of the relevant stakeholders to want to participate. He suggested that some stakeholders would not want to participate if the conversation was solely about the needs of organic producers. If the conversations were about mitigation strategies more generally, they

would be more likely to do so. Another member expressed some reservations that such conversations would turn into tit-for-tat exchanges and potentially create more divisions. The previous speaker noted that all farmers are guilty of doing things that have impacts on their neighbors and this context could actually defuse some concerns. Secretary Redding agreed that the narrative part of the report could also help in defusing difficult situations. Another AC21 member offered the view that the guidance document would serve a key role in defusing tensions, but that the scope of discussions called for around coexistence should be narrow, around unintended GE presence. She noted that equipment cleanout and seed purity were two factors on which information sharing would be useful between neighbors, and that it would be important to have third parties convene the relevant conversations. Another member noted in response that the new charge does not mention the word “biotechnology” and that it would be a healthy development to facilitate broader conversations between neighbors. Secretary Redding noted that the definition of coexistence in the previous report refers to multiple different production practices. Another member noted that the work of the committee has dealt with the coexistence of biotechnology with other production practices. An AC21 member offered the view that if conversations were to be limited to mitigating adventitious presence, participation would be limited on the non-IP side. Secretary Redding noted that the scope of BMPs laid out in the guidance document would also be important, as well as identifying clearly the problem we are trying to solve.

Another AC21 member noted that if a farmer through manure he uses brings in noxious or serious weeds, a broad coexistence conversation with neighbors is likely to ensue. Another member offered the view that if adventitious presence and pollen movement are insufficient to bring in all parties, these conversations will need to be an evolving process. She also suggested that it would be useful at the next meeting to get USDA’s thought on where within the Department there would be an office that would turn its attention to this work. Mr. McKalip suggested that NRCS, AMS, extension, and RMA had been mentioned and that USDA would give the matter some thought.

Secretary Redding turned discussion back to the topic of outside speakers to invite. He noted earlier mentions of speakers from the seed trade and others from industry who might have useful ideas on incentives. Dr. Schechtman noted that he thought that having a representative from NASDA come and speak would be very useful.

Dr. Schechtman then discussed the scheduling of future meetings and noted that beyond mid-September it would be getting too close to election times to do more work. He indicated that preferred windows for the three meetings would then be roughly March, June, and late August/early September. A member noted the difficulties for some in participating in



September, owing to crop harvest time. Dr. Schechtman indicated that he would take that into account as possible. He noted that workgroups would be scheduled to each meet twice before the next plenary session and workgroup members may have some information gathering tasks before the conference calls.

## **XI. Closing Remarks and Adjournment**

Secretary Redding then briefly summarized the previous discussions and requested of members that they continue to think about models and incentives and about what the role of technology might be to facilitate these conversations.

Mr. McKalip noted that in this, his first AC21 meeting, he had been very impressed with the quality of the dialogue and thanked Secretary Redding for his efforts. Secretary Redding in turn complimented USDA on the breadth of its response to the previous significant AC21 report. He also noted that the dialogue within the committee had advanced as well, and that the new charge posed great challenges, not the least of which is the time crunch. Dr. Schechtman also offered his thanks to committee members and noted the spirit of cooperation in the discussions.

The meeting was then adjourned, around 3 pm.