UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

PESTICIDE PROGRAM DIALOGUE COMMITTEE MEETING

MAY 3, 2018

Conference Center - Lobby Level

2777 Crystal Drive

One Potomac Yard South

Arlington, VA 22202

P R O C E E D I N G S

(Due to technical issues with phone line - transcript begins 2-3 minutes after meeting commenced.)

MS. ECHEVERRIA: -- request the court to not grant the extension. NMFS issued a final BiOp on December 29th. In order to continue the collaborative dialogue between the agencies, EPA initiated informal consultation on these chemicals in the (inaudible) of public comment period.

Specifically, we requested comment on scientific approaches and data sources used in the biological opinion. We also requested comments specifically on the reasonable included alternatives and reasonable included measures, whether they are feasible and whether other measures should be considered that achieve similar protection but are less burdensome.

Finally, we specifically requested comment on national and state usage data, in particular for nonagricultural uses such as wide area mosquito control, rights-of-ways, pastures, golf courses, and nurseries. And also usage information for Hawaii, Alaska, and the Territories, which is an area of uncertainty for us.

The Fish and Wildlife Service had also agreed

to issue a BiOp for these three pesticides by December 31st. However, the terms of their agreement has given them additional flexibility. In response to a request that we received back in November, EPA, and, in particular, our Biological and Economic Analysis Division, has been compiling additional usage data on these three organophosphates.

Additionally, the agencies have agreed and have established a technical working group which is collaborating to develop an approach to consider this usage information in the ongoing consultations.

I'm going to provide a very high-level overview of the biological opinion based on our very preliminary review. So, the biological opinion found -- this is NMFS's biological opinion -- found jeopardy to 38 species and adverse modification to 37 critical habitat units. This was for chlorpyrifos and malathion. The results are a little bit different for diazinon.

For species where they concluded jeopardy findings, the biological opinion presents reasonable and prudent alternatives which are identified to avoid jeopardy. Additionally, the biological opinion

identifies reasonable and prudent measures which are intended to minimize take of an individual.

Reasonable and prudent measures are nondiscretionary in the BiOp. They include measures for EPA to develop, EPA Endangered Species Protection Plan Bulletins to conserve listed species, and to develop a user education program and incident tracking and reporting system.

In addition to the nondiscretionary measures intended to minimize take, the reasonable and prudent alternatives in the biological opinion are focused on reducing exposure. They include options for limiting the frequency of applications to once per year, limiting the area of application for mosquito control and wide area uses, options in a point system intended to provide flexibility in reducing run-off and drift through a combination of use deletions, no spray buffers, drift reduction technology, enrollment in approved stewardship programs, and the use of vegetative filter strips and other best management practices.

Finally, the RPAs suggest for EPA to employ an effectiveness monitoring plan to ensure that the RPAs are

feasible, effective, and implemented.

So, in terms of our next steps, as I described, EPA is currently reviewing the BiOp and additional discussions with NMFS to understand more fully the scope and intentions behind the biological opinion. Additionally, we initiated a public comment period. As I mentioned, that comment period opened on March 23rd and was originally intended to close on May 22nd. We have received several requests and are likely extending that comment period.

Although Fish and Wildlife had a similar date, they have had more flexibility in this process. We have been collaborating with them and other agencies to incorporate the usage information in the ongoing consultations.

The Agency is committed to meeting the statutory mandates under both under both FIFRA and ESA. Carbaryl and Methomyl are the next two chemicals in the pilot process. Consultation has not yet been initiated on these pesticides, however, my team has begun our work on those biological evaluations.

The EPA is collaborating with the Services to

develop interim scientific approaches and create a sustainable process for completing consultations that meet requirements of both statutes. Our goal remains the same, and that is to streamline the process to a point where it's protective of species, timely for FIFRA registration review decisions, feasible within the agencies' resource constraints, and transparent to the public.

Finally, I would like to provide a brief summary of the Memorandum of Agreement that was signed by the agencies in January of this year. On January 31st, EPA, with the Department of Interior and the Department of Commerce, signed a Memorandum of Agreement establishing an interagency workgroup.

The working group is charged with reviewing statutory requirements, regulations, and case law, and making recommendations to improve scientific and policy approaches. In addition to the signators of the Memorandum of Agreement, the agencies have invited participation of the working group from USDA, the Council of Environmental Quality, and the Office of Management and Budget.

The working group is charged with providing recommendations to EPA, Fish and Wildlife Service, and NMFS leadership on improving the ESA consultation process for pesticide registration and registration review.

So, that concludes my update. I'm happy to answer questions, and I also welcome input from the committee as we move forward.

MR. KEIGWIN: Thanks, Marietta.

Questions from the committee? Lori Ann.

MS. BURD: So, I'm confused. My understanding is that the label is the law. Now you're saying that the analysis is on the actual use. So, which is it? Is the label the law or is the actual use the law? If we're going to be looking at actual use, are you also going to be factoring in a significant portion of pesticide use? (Inaudible) allowed on the label and with the legal use, we know about 50 percent of pesticide users don't bother to read the label. So, are you factoring that into your actual use analysis? If so, how will you?

MS. ECHEVERRIA: So, the label is the law. And our analyses include consideration of the label, certainly. That's always our starting point. The idea

is when you're moving away from a localized situation and you're trying to draw conclusions on a larger spacial scale and you're trying to make a determination of whether or not something is likely to occur -- we have best available information that is robust and informs us what is likely to occur based on actual usage information. That should be considered in the final determination. So, that is what the interagency working group is considering as we move forward. So, it's to answer that question of what is likely to occur.

MS. BURD: So, is the plan if there's a new pest outbreak requiring a new type of use, that you guys will reinitiate consultation every time the actual use shifts significantly? What will your threshold be for that? How will you continue to move through other pesticides if that is the process, looking at actual use?

MS. ECHEVERRIA: So, we have experts who have knowledge on pest outbreaks and the use of these chemicals under those situations. We're not just looking at sort of a one single data point of use but averages over time. So, we're considering that information to the best of our expert's ability to understand, how from an

entomological standpoint, how these pest outbreaks occur. That is part of the consideration when we're evaluating these data. So, that is certainly something that we are considering.

MS. BURD: So, in every other consultation process that happens in the United States, they look at the scope of the action, not the practice they imagine? Why is this different?

MS. ECHEVERRIA: So, I'm not an expert on other consultations. So, I'm not sure how to answer your question. I'd ask Gina.

MS. SHULTZ: So, this consultation isn't different. The action, as Marietta said, is the reregistration of the three OPs. In determining what the direct and reasonably certain to occur indirect effects of that action on threatened endangered species and designated critical habitat requires looking at not only the labeled use, but also the historic actual use and likely future use to determine the effects.

MS. BURD: So, does that then, since we're moving away from just the label being the action, wouldn't you be looking at the legal use as well?

MS. SHULTZ: So, the action is the reregistration per the label. The additional information is to determine what the likely indirect effects are, the reasonably certain to occur indirect effects from EPA's action of reregistering those labels.

MS. BURD: Can you give us a sense of how many of your calls in the BiOp will change as a result of your revamped analysis incorporating actual use? How will this actually change the determinations?

MS. SHULTZ I can't say that at this point because we haven't completed the analyses.

MS. BURD: Do you have a sense of whether it will change any of them?

MS. SHULTZ: Not at this point. I don't know.

MR. KEIGWIN: Other questions? Amy.

MS. LIEBMAN: This is an interesting discussion. I know it surrounds the Endangered Species Act. But it is an interesting approach that we're taking in response to a law. I just wonder why some of the similar approaches are not being taken when we look at the real use of what happens to workers, for instance, who are exposed to certain chemicals. We have a number

of documented exposures that occurred to workers in Hawaii, California, and Washington, and other places this year. I'm just curious if you can respond to how the EPA looks at the actual use when it comes to workers. I'll just throw in some of the epi studies as well that we have, and how does that impact how we look at humans?

MR. KEIGWIN: So, on the human exposure side, for example, when we're assessing dietary risks, we routinely incorporate pesticide use and usage information into those assessments. The Food Quality Protection Act specifically directs us to when we have best available data to look at things like anticipated residues in food, as well as percent crop treated.

We do something similar when we do our worker exposure assessments where we look at not only the labeled use but we look at typical use. Oftentimes, that could be an opportunity for us to look at, for example, the re-evaluation program opportunities for risk reduction where some thresholds might be exceeded or risk benefit balance is not in the same place as it was at the time of registration.

Incident data is oftentimes used as a line of

evidence in the risk assessment where we have incident data. It can also be used to help inform risk management. So, I think there are some parallels in what we do on the human health side that we're now exploring the utility of incorporating that on the ecological side effects.

MS. LIEBMAN: Thanks for your response. I also just wanted to encourage you to take a look at some of the states as well. I think Hawaii, for instance, has moved in an interesting direction in taking some actions where the federal government is failing. We just saw that Hawaii is (inaudible) to banning chlorpyrifos. They've had a really interesting and painful experience in terms of humans and workers being exposed.

MR. KEIGWIN: Let me see, is Sharon on the phone today?

MS. SELVAGGIO: I am. Can you hear me?

MR. KEIGWIN: I can. I wanted to make sure I gave you an opportunity to ask questions if you had wanted to.

MS. SELVAGGIO: I do have a few questions.

MR. KEIGWIN: Okay, go ahead.

MS. SELVAGGIO: Well, I'll start with this one. So at the PPDC meeting last May -- I think it was Marietta again, but I can't remember. EPA acknowledged that (inaudible) BEs completed for the carbamates and the original date was March 2018, so that was a year ago. We are curious, when will you release that BE to the public? Why haven't you released it yet? Seems (inaudible) you already completed that BE, at least stated that you had a year ago. So any information on that would be helpful.

MS. ECHEVERRIA: Hi, Sharon, it's Marietta. I'm not sure I caught all of it, but I think you're asking about the Carbaryl and Methomyl BEs that we had talked about last May. So, in response to that, we always intended for the pilot process to be iterative and to learn as we go through that pilot process. So, what we're doing with Carbaryl and Methomyl, we're taking stock of all of the input that we have gotten from the stakeholders leading up to the finalization of the first three BEs.

So, that included five stakeholder meetings, a requested public comment period. We're considering those additional areas of refinement for Carbaryl and Methomyl

going forward. We have not yet established a due date for those, in part because we're working still with Fish and Wildlife on the approach for incorporating usage information.

So, we want to ensure that we are still moving together with our federal partner in terms of our approaches moving forward. So, that is one of the areas that we're looking to refine, in addition to others that we've started to explore.

MS. SELVAGGIO: I have another couple questions. Is that okay?

MR. KEIGWIN: Yes, Sharon, go ahead.

MS. SELVAGGIO: Okay. So, it's been mentioned several times today that there is a need to focus on usage data. I just, a few months ago, went back and looked at the NAS report that was authored in 2013 upon request from the EPA and Services to get, really in our country, the best scientific minds just thinking about how to do consultation analyses. We recognize that they are really complex. I think we all should remember that these are done because we have a law, the Endangered Species Act, that requires us to protect our most

threatened and vulnerable species.

When you look at that NAS report, they specifically recommended that step one and two of the ESA consult should ensure that no potentially unsafe pesticide applications (inaudible) and that, therefore, an exposure model can only assume that a given pesticide is applied at the maximum allowable rate. If information were to be used to suggest that substantially lower applications were to be used, it had to be based upon supporting data, which should include the statistical descriptions of the spatially and temporarily distributed application rate.

And that some measures would have to be taken to ensure the use pattern could not dramatically increase in any particular season or locale (inaudible) for example, because of (inaudible) or as Lori Ann mentioned, a new pest. So, they concluded that for now without data at that level, pesticide use is probably an inaccurate input for exposure analysis and that registration and labeling are not well-suited for solving what they call exposure analysis bias.

I know that that was kind of a lengthy intro,

but I just wanted to remind everybody what the NAS concept said. So, my questions are, how do you intend to improve upon a process that was already reviewed and considered by the National Academy of Sciences?

Do you intend to have any new processes reviewed by the National Academy of Sciences? How can usage data become the driver of exposure now when the NAS recommended against it just five years ago? Usage data isn't more robust now than it was then. We know that California is the only state that requires actual usage reports.

MS. ECHEVERRIA: So, the NAS gave us general recommendations on a framework for moving forward with our coordinated interim approaches. There is much more detail, folks who are familiar with the biological evaluation process that was fleshed out in the interim approaches and also in our analysis plan for the biological evaluations. So, we are still considering the guidance from the National Academy of Sciences as we work on these requirements. That is still our framework.

What the team is doing is exactly what the advice was, to consider the variability in terms of the

spacial scale and the temporal scale and what assumptions are necessary to make or to approximate what is likely to occur. So, we're still following that advice. That is the framework. In addition to that, there is a lot of specific, more detailed information as part of our analysis plan. That's exactly what the experts across the agencies are working on right now.

MS. SELVAGGIO: So, just to follow up on that, I'm wondering how is EPA and the Services ensuring that the usage data that's used in consultation is accurate in a location-specific level. Because when we think about, for instance, salmon in the Pacific Northwest and California, we have species that have evolved to return to different watersheds. Each of the consultation determinations were made based upon those species ranges.

So, will EPA be requiring all pesticide users to report each and every application? Because location and timing of these matters a great deal. So, how will you ensure that your data captures not just the volume of use in general but specific locations and times?

MS. ECHEVERRIA: So, again, those are the

approaches. That methodology is currently being developed. But that is being considered. So, when you move from a very localized locale and then you increase your analysis to species location and then you move from whether or not there's likely to be an effect on an individual to whether or not there's going to be jeopardy to the whole species, different scales are appropriate to consider. That is exactly the methodology that we're currently working on and intend to make fully transparent so folks can ask questions and also to comment during the public comment period.

MS. SELVAGGIO: So, we've been hearing a lot in the past about the new information standards for the acceptance scientific data. So, what does this mean in a pesticide context?

MR. KEIGWIN: Sharon, this is Rick. I think this question also came up yesterday. It is a proposed rule. We're looking at how the proposed rule as finalized in its current form would be incorporated into the pesticide program evaluation activities. But I would stress that it's a proposed rule. So, we would invite you to submit any comments or concerns that you might

have about the proposal and how it would be incorporated into EPA's regulatory programs to the docket for that rulemaking.

MS. SELVAGGIO: My last question is about the working group that got established under the MOA, I think, in January of this year. So, I'm curious what documents are available for public review and whether there is any nonagency representation in that group?

MS. ECHEVERRIA: So, the MOA is publicly available for folks to review and to consider. I'm not aware of any other participation at this point. Right now it is still between the agencies, so it's EPA and Department of Commerce, the Department of Interior. We've invited participation from the USDA, Office of Management and Budget. I'm not aware of any other public documents that are available for review at this time.

MS. SELVAGGIO: I'm sorry, I didn't quite hear you. Did you say there are no documents available for public review except for the MOA itself?

MS. ECHEVERRIA: To my knowledge, that's correct.

MS. SELVAGGIO: Okay. I'm done, thank you.

MR. KEIGWIN: Thanks, Sharon.

Any other comments or questions on this? Lori Ann.

MS. BURD: When Administrator Pruitt announced the MOA at the NASDA meeting, he also announced that he was going to seek reinitiation on the NMFS biological opinion. This is just completely unprecedented and a shocking abuse of the public trust and taxpayer funds to get a BiOp and say we don't like its conclusions, so we're going to send it back. This I believe has never happened in the history of the Endangered Species Act for a just completed BiOp to be greeted this way. Because this was announced while the MOA was unrolled, we assume that this is sort of what the MOA group is going to be working on. Can you comment on the initiation of consultation?

I'll add one more comment to that before I close this question. We learned last year at the spring meeting that the biological opinions were done and there is no reason why they were not released except for the interference that we've seen. It's an unprecedented level of political interference which has caused these

endless refinements which result in nothing but endless delay, typically refinements mean you're refining the process and you're moving along.

You're getting documents out. Just like you're always refining your registration process and making it better. When you get new information, you incorporate it into future documents. You don't just keep sticking with one document, working on it endlessly year after year and claiming that it's really, really complicated.

It's just incredibly frustrating, and it feels like a true betrayal of trust in a good faith process, especially now that we're hearing that Administrator Pruitt would like to send it back. Can you comment on that at all in what you guys anticipate, that this comment period is just the first step in that reinitiation?

MS. ECHEVERRIA: So, we initiate informal consultation of NMFS to continue the dialogue and to do the public comment period. All of the agencies agree that it is important for our work to be transparent and for stakeholders to have input on drafts. As I discussed in the presentation, because of the court order, NMFS was

not able to actually publish a draft biological opinion, which they had intended to do.

So, we want to provide the public with an opportunity to comment at this time. We believe it's important to get input from stakeholders who had experience with these pesticide applications, growers who may be impacted by restrictions that come out of a biological opinion process, and then also experts with species conservation to provide the agencies with input prior to any further decisions regarding the biological opinions.

MS. BURD: So, we also believe that it's important to have lots of public input. This process has been the most transparent biological opinion and consultation process in all of history, and the most robust I've ever witnessed.

When you're saying that it's because of the court's decision that there wasn't an opportunity for comment, I'm a little bit confused. Because you said last year in the spring that the BiOps were done. So, are you saying that there was significant work done on the BiOps between spring and the end of the year when the

court made that decision?

MS. ECHEVERRIA: I'm not in a position to comment on what NMFS was doing in terms of their process. This is really a more appropriate question for the National Marine Fisheries Service.

MR. KEIGWIN: Any other comments or questions on this session?

(No verbal response.)

MR. KEIGWIN: So, why don't we transition, then, into the next session on the development of a communications plan on resistance management. Wynne Miller, the Director of the Biological and Economic Analysis Division will lead the session for us.

MS. MILLER: Good morning. As Rick mentioned, my name is Wynne Miller. I'm the Director of the Biological and Economic Analysis Division at OPP. It's my division that's been leading the effort looking at resistance management in regards to conventional pesticides.

Bill Chism is here to give a presentation to recognize that trying to develop a -- communications strategy is really important into tackling this issue.

So, I'll let Bill provide a little more background on resistance management to those folks who haven't heard this talk before and then where we're going with our communication plan.

So, hopefully, you'll have some good ideas, because we realize that it's really important that we target the right folks with a consistent message and make sure that that message is focused. So, let me turn it over to Bill and let him talk a little bit about what we plan to do.

MR. CHISM: Thank you very much. Nikhil Mallampalli and I have been here before talking about our work on resistance management, our pesticide registration notices on that topic. I'm really happy to be here again. We're moving along in this pattern.

We'd like to talk about our communication plan for resistance management. As Wynne mentioned, this is targeting herbicides. We sort of think of herbicides as one of the bigger problems right now. We've got a lot of cooperation from the weed science societies, so we're moving forward with that topic first. We're hoping to gain some knowledge along the way that would be helpful

for insecticides and fungicides as well.

So, we'll talk a little bit on the background of herbicide resistance. We'd like to talk about an overview of our resistance management communications plan. Then, what we'd really like to do is spend some time getting some feedback from everyone here as to ways to communicate the message, to target the message, when to target the message, et cetera.

Our background on herbicide resistance, weed resistance can be defined as a wicked problem. That's a term of art in sociology that we have borrowed. It means that it does not have a clear cause or a clear solution. Therefore, it's going to be very difficult to solve.

Resistance results from a variety of biological and technical and economic factors. It's driven by, as David Shaw says, the vagaries of human decision-making. I'd just like to point out that the end of our presentation has a number of references. We have a reference and a link to pesticide registration notices. We have a link to David Shaw's publication. We also have a link to a review by our Office of Inspector General.

The impacts in the US, there's over 70 million

acres impacted with herbicide resistant weeds. That number, unfortunately, is continuing to rise. It affects all major crop groups in the US. It's present across all agricultural regions. Resistance is more prevalent now than it was ever before. We'll show you a little example on slide 5. The cost to US growers is estimated to be about two billion dollars per year. That's out of Vince Davis at the University of Wisconsin. So, this is having a major impact on agricultural processes.

As we have said before, there has not been a new herbicide mode of action registered in over 30 years, which is unfortunate. In 2017, the Office of Pesticide Programs published two pesticide registration notices on resistance management. I'll talk a little bit about those coming up, trying to address what we could do to help with the resistance plan, the resistance issue.

We have now gone on to develop a communication plan, and we're hoping to work with outside groups. We have been working with outside groups for years now. We think this communication plan would be helpful to reach a variety of stakeholders. Also, we'll talk about what we're hoping to address with the communication plan.

I just want to point out that resistance is a problem for weeds. Here's a nice picture of Palmer Amaranth down in Georgia, diamondback moth, and powdery mildew. It applies to all disciplines. We're targeting herbicides right now because we think we have a lot of good cooperation, and we can make some headway with that.

I mentioned that the number of resistant weeds is continuing. The acreage is continuing. This is a slide from Ian Heap's website just showing the number of unique cases of herbicide resistant weeds by year. We're over 160 weed species. A unique case means there is a weed resistant to a herbicide. Unfortunately, that number is continuing to climb. The first herbicide resistant weed was identified in the late 50s, so it's been an ongoing problem.

This is some work by Mutha Bagavathiannan and Jason Norsworthy. They made an estimate of how much Palmer Amaranth would spread. This is a worst-case scenario by 2020. There's shading of the map. As you get to the darker colors, they're estimating that up to 50 percent of some farmland will be infested with Palmer Amaranth. Areas along the Mississippi, areas between

Alabama and Georgia, and the two Carolinas are predicted to be heavily infested. This weed, unfortunately, is transformative. It can cause people to change their agronomic practices and have huge economic loss.

So, why is OPP involved? A number of years ago stakeholders asked us to take a more active role in resistance management to see what we could do in terms of labels and communications. Our goal is to extend the useful life of herbicide products. We have a limited number of products. We'd like to extend their life span as much as possible. We'd like to help reduce the economic loss due to resistance. If we can slow the spread of resistance, potentially, we could reduce herbicide usage and unnecessary pesticide loading in the environment.

This issue requires cooperation across many, many different groups of stakeholders. We'll talk about that in a little bit. We're hoping to provide a consistent message with information on how to manage resistant weeds.

I just wanted to point out the little picture there is glyphosate resistant horseweed. You see two

dead individuals and one living one. That's a typical example of early onset resistance where you're getting one individual surviving and reproducing. That's by Brad Hanson out of UC Davis.

Recently, we had a review conducted by our Office of Inspector General. Again, there's a reference in the back of this of that final report. They wanted to review our management and oversight of resistance issues related to herbicide resistance in genetically engineered crops. So, it was a pretty specific categorization and category.

They looked at the EPA processes and practices, the steps we were taking to consider the risks from herbicide resistance, and how the agency collects herbicide resistant data. That review was completed in June of last year. One of the recommendations out of that report was that OPP establish a process to increase communication and collaboration regarding herbicide resistance with our stakeholders.

So, the next step that we're embarking on how, and this is with help from Skee Jones, Jonathan Becker, and Nikhil Mallampalli, we've developed a communication

plan. I'd like to go over it and hopefully get some good feedback and suggestions from the audience.

So, the topics I'll cover are the background and current situation, the overall objectives of our communications plan, the target audience and the key messages, methods of communication and promoting the method, the message, and some performance metrics. You'll trust me when I say I'm not very good in communications, so this whole process is new to us. So, any feedback would be greatly appreciated.

We've gone over the background, just sort of some information from our communication plan. Resistance is a major economic, biological, and technical problem. It affects many important crops. It's present across all agricultural regions. The problem is especially challenging because its causes and potential solutions depend on the collective behavior of many individuals. You can't have one grower doing everything right with the neighbors not doing everything right. It's really, unfortunately, a community problem.

Managing weed resistance to herbicides may have an economic cost. Growers may be forced to spend more

money to control these weeds. Although there's a history of educational efforts to address the problem, the problem persists and it's worse than ever before. The geographic scope of the problem and the diversity of US agriculture have limited effective national communications on this topic.

So, the current situation in terms of what OPP has done, I mentioned we have two pesticide registration notices. PRN 2017-1 updates an earlier pesticide registration notice from 2001 and provides general guidance for pesticide labeling to promote resistance management practices. The second one provides specific guidance for herbicide resistance management. It's a much more targeted list of options.

We have been going through ongoing discussions with the USDA, the Weed Science Society of America, academics, crop consultants, and grower groups on this topic.

So, the overall objectives are to leverage the combined resources and outreach capabilities of government agencies, commodity groups, cooperative extension services, and industry to focus on the problem

of weed resistance to herbicides, and to develop an effective strategy for communicating to US farmers the importance of practicing a diversified weed control program. We're hoping that that can significantly delay the onset of weed resistance to herbicides. Without new herbicide modes of action coming on at the market, we have to husband what we have as best we can.

Communications objectives, the first one is to develop a consistent message across stakeholders. We've been told time and time again from user groups, from farmers and commodity experts, that the communications are coming from many directions and they aren't consistent. Users, crop consultants, et cetera, are saying they're getting so many different messages from different groups and that they aren't always consistent. So, it's leading to confusion.

So, one of the things we -- I don't think we can develop a great communications plan, but I think we can get people together and cooperatively develop a communications plan. Our first goal is to see if we can make it consistent across the different sources of information.

We'd like to build awareness of the problem and its potential solutions among a wide range of stakeholders. Key stakeholders include growers, herbicide users, including custom applicators, commodity groups, retailers, researchers, extension personnel, and state and federal government agencies. I think they all have a hand in this problem.

Secure the commitment of these stakeholders to an understanding of the problem, its severity, and to work together to address the problem by delivering a consistent message to the target audiences.

Through the collaborative efforts of the stakeholders, advocate for resources and policies to address the problem of weed resistance to herbicides. Identify ways to encourage participation among the entities with the ability to positively affect the outcomes.

Stress the importance of early identification and reporting of suspected resistance. Facilitate communication regionally to spread awareness of specific instances and suspected resistance. One of the things that we're trying to focus on is we've heard of cases

where the first resistant species was thought to exist. They've started doing testing. It's taken as long as five years to confirm resistance. We think of those early years as being a golden opportunity to attempt to control those weeds. So, we think that early suspected resistance is a key point.

(Interruption from the phone operator.)

So, the crop consultants are one of our target audience. Clearly, the growers, the custom pesticide applicators, the soil conservation agencies, registrants, academic researchers, extension agents, state and federal agencies, and commodity groups.

One of the things -- just as a side note, in discussions, we've heard comments from the retailers, for example. They say if they don't know what a resistance management plan is, they won't have the product in their warehouse. If they don't have the product in their warehouse, the grower can't use it. So, everybody sort of needs to understand the plan and how they might be helpful towards that goal.

So, the key message we're hoping to be able to have each member of the target audience receive a message

tailored to their specific needs, and we hope this can be developed in consultation with all of our partners in this effort.

Clearly, we won't be the ones developing this message. We need a lot of help in outreach figuring out how to develop the correct message and what that message would be. But we're confident we can convince a bunch of people to come into a room and talk to us, because it's a big problem.

Methods of communication in promoting the message, we'd like or we have done presentations at national and regional scientific meetings, the Weed Science Society, the Southern Weed Science Society, national meetings, working with commodity groups, registrants, to develop training materials, social media and Twitter. Facebook might be available. Seek assistance of organizations who regularly communicate with key stakeholders. One of the groups we would like to work with is the National Association of County Agricultural Agents. We can also use our existing agricultural news bulletin, which is published out of our EPA Region 7.

Another thing that we count on heavily I don't mention here is the Resistance Action Committee. We're meeting in a couple weeks with the Insecticide Resistance Action Committee. We've met recently with the Herbicide Resistance Action Committee, and they have great programs. We use their communication material and their help quite extensively.

The performance metrics, we'd like to say our new chemical decisions will rely on and conform to the information we've talked about or we talk about in the PRN 2017-1 and -2. All of our exclusive use extension determinations that involve resistance management, we'd like those programs to look at our PR notices and incorporate those elements that are appropriate to those pests.

Also, we have been working with the Weed Science Society and receive regular updates on the status of resistance management. We've gotten advice from them, and we meet with them annually on policy advice and the situation with herbicide resistance.

So, we have a bunch of questions, and we're hoping to get some good feedback and insight on some

things. So, one of our thoughts was that we could get some input on an appropriate way to communicate with stakeholders. One of the things -- I personally harbor the thought that if we can get communications from the crop groups, it would be so much more effective than if something comes out from us. I just have that thought. So, if you have thoughts on ways to communicate the message, if anybody has thoughts on the most effective ways to communicate with stakeholders -- I don't know, shall I go through them all? Okay.

Another question we had was how long should our message be? Is short better? I mean, is several pages way too long? We'd like some thoughts on that.

What time of year is best to communicate with growers? I'm pretty sure between now and the next few months, they're not listening. They're planting. They're getting a whole bunch of things done. So, time of year I think is critical.

General feedback on the approach? Do you have recommendations for how EPA can participate, given its limited authority? Do you have recommendations for other stakeholders that should be included? Are there other

resources to tap that we have not considered?

MR. KEIGWIN: Thanks, Bill.

So, I see Andy, Amy, and Liza.

MR. THOSTENSON: So, a suggestion that I have would be obviously trying to engage with and visit with the agricultural trade publications, the major ones. Many of their reporters are very competent and very comfortable in dealing with this particular issue. I think they would be more than open to doing more in-depth type interviews and engage with EPA on trying to spread the message. They've already been doing a certain level of this, especially over the last year or two. But certainly hearing directly from EPA on this issue would be welcomed by their readers as well, I believe.

The other question that popped into my mind literally was in the first slide or two where you said there hasn't been a new mode of action released in over 30 years, and that's unfortunate. Now, I understand that there are a whole variety of reasons why that's the case, but I wonder if some of them may be regulatory impediments that can be identified and dealt with on some level to facilitate the introduction of new modes of

action.

While some folks may suggest that that may be counterproductive in terms of reducing pesticide use, the problem is that under the current regimen, we are actually seeing an escalation, at least in my opinion, of the number of pesticides that are used in the environment, with some of them with rather adverse effects.

So, it seems like that point, that fact, that 30 years we've not had a new mode of action, why is that? Is there an ability or desire by EPA to sit down with industry and other people and try to identify any kind of impediments to the release or the bringing out of new modes of action?

MR. CHISM: So, thank you very much. That would be a good point for us to check with the Ag communications folks. We'll follow up on that.

The second thing, I'm afraid I do not have a sense from the registrant's point of view what the impediment to a new mode of action is. They clearly could address that much better than I.

MR. KEIGWIN: Okay, Amy, then Liza, then Andy.

MS. ASMUS: First of all, I would love to commend you for working together in community. We've been working on this issue forever, it seems like. I'm not old enough to remember when we started. But this approach is great because I am the first one that would say keep the government out of my business. But there are so many cats to herd in this and so many different conversations that we have. I really appreciate the fact that you are willing to step in and use some of the tools and influence that you have to bring this group of stakeholders together and include the group of stakeholders in working towards management of this wicked problem. So, I want to start off commending you with that.

I really want to point out the importance of working with state agencies. I know I can speak for the State of Iowa. We have been working for the last three-plus years on putting together an Iowa Pest Resistance Management Plan. I really hope you coordinate with your state and regional people and your universities as well so that everything works in concert and, again, we don't find another place where the message is confusing.

It’s very important for us to work on the national level, but also at the local level, so that we can talk about the nuances between cropping systems, row crops, annual crops, permanent crops, the pest spectrum, the mobility within the environment, the environment influences on it. It’s really a wicked problem because there’s not one solution across the way. So, I really encourage you to work on a local level.

What’s the best time of year to communicate with growers? Can I answer that one because I sit across the table from a lot of growers as a retailer? The best time to communicate with growers is when they’re willing to listen. That is why it is so important to get the information to their trusted advisers. You say this time of year may not be the best to communicate with them, but this is the time of year when we’re implementing all the work we’ve done with our management programs throughout production with them. Guess what? Technology has provided them with tractors that drive themselves, and they just have to turn on the corners. So, I get a lot more phone calls than I ever got.

Hang on a second, Amy. I’m at the end rows.

I've got to turn around. Turn around.

Okay, so, now, when are we going to do this? So, they're a captive audience. Technology has allowed them to communicate even in those periods of times when we thought were not traditional times to reach out to producers and growers. So, I think a great communication plan would be a trained, trusted advisor type of plan where instead of going direct to the growers, go to the grower's network of their trusted advisor. Then, when the grower is ready to listen, they're armed with the tools to actually have that conversation with the growers.

I could go through and answer most of those. You know I've been working with this a very long time. You have my ear. So, I'll let everybody else speak, but I just wanted to say thank you for your role in this because I do think you're the chief cat herder in all of this. You've recognized the role of other stakeholders, and that's very important for all of us to work together to at least manage this wicked problem. So, thank you.

MR. KEIGWIN: Liza, then Andy, then Layla.

MS. TROSSBACH: I'd like to build on the

previous comments. I think your state, tribal, and territorial regulatory officials are certainly one of the groups that you want to reach out to. I agree with you need to do this on a local level, and your regulatory officials not only have direct contact to those individuals that they certify as pesticide applicators, but also normally with their pesticide safety educators, their extension services.

So, that would be a good way to get a consistent message to those individuals working through the regulatory officials to the pesticide safety educators to your extension agents, which is often the first call that an agricultural producer will make, also to retailers, certainly. But I think the extension agents probably have that best direct contact. That would also contact growers that are not required to be certified but use pesticides but don't use restricted use pesticides. So, I think that would be a great way to get a consistent message.

In addition, of course, you have your Association of Pesticide Safety Educators which Andrew represents, AAPCO which I represent. So, I think those

are probably a really good group that you want to get on board as well. I would offer NASDA because it deals with the commissioners from all of the state departments of agriculture.

It would certainly be another way to make that top-down approach that we really want to focus on resistance management. This is the message that we want to get out. So, not only could the Departments of Agriculture or whatever agency that pesticide regulation is in could do it, but they can do it from an agency perspective and then work with extension as well.

As far as the best time of year, I agree that retailers and different groups have different times of year when they're working really closely with their growers. As far as a regulatory agency and probably extension, I'm going to go out on a limb here. I would say probably in the fall into the early spring, that's when you have your certification and recertification courses, your continuing education credits. That's a good way to have a captive audience.

Agents are always looking for that good information to give to their growers. In addition to

their pesticide piece, they offer a variety of topics, and that would be the perfect opportunity to talk about resistance management.

It is talked about now. I go to many courses where they talk about resistance management. I mean, that's a huge issue, certainly. Our concern from a regulatory official side is when you have resistance management you set up -- there's a potential for misuse because a product is not working. So, they're either going to use more, they're going to try to use something else, potentially be tempted to use something off label. That's a huge concern for us, so we certainly want to talk about that.

That's a good kind of time to really talk about that. I think you have a lot of education already going on about resistance management across the country. I know I can speak for Virginia specifically. There's a lot of focus from our Virginia cooperative extension. But I think a consistent message would be fantastic to have, to have all the different stakeholders in and all those different things.

So, I agree. I applaud the agency for doing

that, to make sure that we're all talking about the same thing, but also give states the ability to talk about what is specific to their state and their weed issues. That can also foster -- maybe you can bring in -- while you have a national message, states can talk about, for example, the research that's going on in their state for their specific pest issues and what they're seeing is working or not working.

So, again, I would just encourage you to go through your state departments of Agriculture, your pesticide regulatory specialists, and of course AAPSE as well.

MR. KEIGWIN: Thanks, Liza. Andy, then Leyla, then Jay.

MR. WHITTINGTON: Okay, so, bravo. This is a topic that's near and dear to my heart, so I will be happy to provide you some input. This goes along with a lot of what some of the others have said, but I'm from Mississippi so I'm from ground zero of a lot of this. I know that Bill knows most of my weed scientists very well.

So, in the southern states, extension model is

still keen. It is the driver. I know that the extension model has changed somewhat in a lot of the other states, but in the southern states that's still the most trusted source of information, along with the independent crop consultants. If you're going to be in the southern states, you're going to have to go through the extension agency.

Your message? Your message should be short. Your message should be that it's very important to address weed resistance. But the message should be you need to follow a weed resistance management plan. Your management plan could be more extensive, but it needs to be consistent. The message needs to be consistent, and it needs to be consistent from all of the different places that it comes from. I would encourage you to work with all of the groups that you have listed to develop that very consistent message.

The best time to communicate? Start in the south and work your way up north. Amy is in Iowa. She's still got snow on the ground. If it wasn't for the rain, we'd be pretty close to through planting. So, we have a ton of meetings in January and February. That's when we

hit most of our row crop short courses. The Ag Consultant Associations, that's when they get together. That's when everybody is going through the field trials and variety trials and deciding what their recommendations are going to be throughout the year. So, I think that is the time that needs to be focused on.

I can tell you that even though we don't have the new mode of actions, there have been a couple of developments that we're pretty excited about. One is (inaudible) for rice. We are extending it with a rice soybean rotation. Whatever we can take care of in the rice year, we don't have to address in the soybean year. Also with (inaudible) peanuts. It's also going to help in that same framework.

So, while we may not have a new mode of action, we are finding new ways to use what we do have in order to address some of those problems. I think it stresses the importance of having multiple tools in the toolbox that we can use.

I also want to stress that the ultimate goal as a producer is to spend zero money on this and to not spray a thing. They would love to put Damon's group out

of business because that airplane costs about $7.00 an acre every time it goes up. That's before you put anything in it.

So, whatever we can do to manage these weed problems so that we don't have to use any product, that would be very beneficial. I think the growing community is as open to this conversation as I've ever seen. Thank you.

MR. KEIGWIN: Thanks, Andy. Leyla, then Jay, then Dan.

MS. McCURDY: Thank you. First let me say that you really put a really good communications plan in front of us. You were very humble about it. You said you didn't know this topic really well, but I believe it's a really good one.

Of course, I want to acknowledge all the expertise around the table. It seems like major stakeholders are here. That doesn't mean obviously this is it. But all the comments that were made are right on target. So, I just want to say yes to consistent messages coming from trusted sources is really key. I don't want to belabor everything that was said.

Obviously, those are all great points.

A couple things I wanted to add from my experience. Regarding the process, there may be a model for you to look at coming right out of OPP. You mentioned that -- I don't know exactly -- I can't recall how you said it. Just excuse my rephrasing it. But you didn't want EPA to be kind of appearing as the lead, but you wanted stakeholder engagement speaking for this, which obviously we all agree. I think that's a good way to look at it.

One model that is again coming from OPP, the National Strategies for Healthcare Providers Pesticides Initiative from Kevin Keaney's shop, at the time, I was at the National MR Mental Education Foundation. I led that effort with OPP. So, the way that worked is that EPA gave a grant with trusted nonprofit who had expertise in this area. The role of the nonprofit was to bring all the stakeholders together. That worked extremely well. So, I would suggest considering that type of an effort. Of course, EPA is a key player in this, again, but you had a trusted nonprofit partner who is leading it. That, I think, adds to the credibility of the effort from your

perspective, which I agree.

The last thing that I am going to say is that my assumption is that as we get more resistance, we are using more herbicides, right. So, that means more exposure for everybody. So, think about the untraditional stakeholders like the health community. I definitely support that state agriculture departments should be part of this. Obviously, they are a key.

But think about also state departments of health and departments of environmental quality as well as other health professional groups like the American Academy of Pediatrics and some of the others that we can easily engage in this if we had a health message that goes along with this.

I'm happy to work with whoever wants to continue this dialogue. Thank you.

MR. KEIGWIN: Thanks. Jay, then Dan Kunkel, then Stan.

MR. VROOM: So, I'd like to also echo the commendations that have already been expressed to EPA's positioning on this and the work that you've done. We obviously had a keen interest in seeing a lot of

stakeholders together, but the agency has predominant expertise in so many of these areas with regard to the registered chemistries. It's important that your leadership is as it has been and continues.

Certainly, the principal issues of large acre crops and successful weed control technologies that were easy to use and were easy to repeat year on year are major drivers of a lot of this. But there are a lot of assumptions that aren't always correct.

Leyla, you just said that the assumption is that resistance leads to more pesticide use. In fact, we know there's plenty of agronomic evidence to show that at least a secondary driver has been farmer use reduced below the maximum label rate that has actually added to the evolution of some resistance in some environments. So, there's no one standard answer to this. It certainly isn't putting more on always is part of the problem.

Another example of an unintended consequence is the success that the agency has led, along with industry and grower and applicator and dealer support and engagement of reducing drift. Drift reduction technologies have been very successful and have developed

a lot of common practice by pesticide applicators to follow standard practices that reduce drift.

One of those is, in many cases, with regard to herbicide technology, increased droplet size. But there's also now research that proves that some resistance has been accelerated because larger droplet size as opposed to smaller droplet size with the same amount of application rate results in less coverage of weed leaf surface and has accelerated resistance.

The great news about cover crops adoption for so many other environmental benefit outcomes also can increase the spread of weed seed because cover crop seed can contain weed seed contamination. I know that's on the radar of the seed's industry, so I'm hoping that you're reaching out and engaging the American Seed Trade Association and seed companies in this work, because the acceleration of the demand of cover crop seed sources is going to require more attention to making sure that seed purity is a factor in ensuring that we're not unintentionally spreading weed seed, some of which will be resistant weed seed through the pursuit of other well-intentioned undertakings. The practice of tillage can

also enhance resistance outcomes. So, there are so many factors to take into account.

A couple of questions have been raised about why don't we have more new modes of action. The simple truth is that all the easy to find substances have been discovered. The good news is that our industry, particularly at the discovery level, is practicing a speed of science that no one could have imagined 5 or 10 years ago because of computational toxicology and other testing means and just information management, robotics in research and development, and so many other things that have sped up science. So, we're closer at the speed of we're moving with science and discovery and innovation than we ever have been before with finding new modes of action. But there are modes of action that are available.

I know of one compound that made it many years through EPA review process back in the 90s and finally was withdrawn by one of our member company applicants for reasons with respect to certain standards of regulatory science here in the United States. I just checked on the Internet. This product is now being used by farmers in

Belarus. I'm sure it is contributing to the management of weed resistance in Belarus.

So, Bill, I might ask, have you had a chance to look at the inventory of herbicide compounds that are not currently registered for use by American farmers? Is it worth going back to look at that inventory of products to think about are there creative ways to take another run at seeing if a limited focused registration for some of those modes of action might be considered, given the magnitude of the weed resistance problems that we've got in the United States? So, that's a thought.

Lastly, I just wanted to ask a question about the second PR notice that you referenced. I think there is some confusion about whether that's intended to be specific to just one compound in herbicide resistance or is it applicable to all weed resistance and all herbicides, the PR 2017-2.

MR. CHISM: Our intention with 2017-2 was to look at all the herbicides, the conventional herbicides for agronomic crops but not homeowner products.

MR. VROOM: That might be an opportunity to more clearly communicate that because I think there's

some opinion that that was just about one particular herbicide product.

MR. CHISM: Thank you.

MR. KEIGWIN: Okay, Dan, then Stan, then Damon.

MR. KUNKEL: Thanks, Rick. I agree with a lot of the comments made about communicating with the growers putting information in trade magazines and communicating at the grower meetings that are often in January and February.

One question I have is if you could take advantage of some of the regional offices, so greater use of some of the staff at the regional offices. I know there's a publication that you mentioned from Region 7, but can they be used for greater outreach and maybe solidifying some of the partnerships with the extension and other state people that work there as well.

MR. KEIGWIN: Stan, then Damon, then Donnie.

MR. COPE: I'm going to make my remarks as if I were the first one to go. Otherwise, I wouldn't have anything left to say. I really find refreshing your willingness to come here and bare all and to say that you need help with this. I don't think there's a person in

this room who at some time or another has had experience and probably struggled with writing a proper message and then figuring out how to communicate it.

In the military, we get a lot of experience with that. I'm going to use my colleague over there, Captain Hoffman, as an example. He might get all of 15 seconds with the surgeon general of the Navy to explain to him why Navy medical entomology shouldn't be abolished. You better be able to package that message or your program could be gone.

So, that being said, I think crafting these messages is a little bit of -- it's a lot of science because -- and that's probably the easy part. There's a little bit of art to it, obviously, and then there's just plain good luck that has to go into it too to get it right.

So, one thing I would urge you to think about is if you can -- with all these targeted audiences that you have, I'm not a supporter of trying to send one key message to each of those audiences. I think that will still keep it somewhat fragmented. But if you can come up with two or three, let's say three, key overarching

short, impactful, bulletized messages that apply to all of these people, that will become the flag that they're all going to be waving. Then, either you can help them or they can come up with their own individual key messages that apply to their group. That will build unity. It will build a consistent message.

Mosquitos kill one million people a year. In the last 10 years, 9 new mosquito pathogens have emerged. There's been a three-fold incidence in vector borne disease in the last 10 years in the United States, boom, boom, boom. Weeds are bad. Weeds cost this much money. Weeds are taking over, something like that, that everybody can latch on to. If everybody can hitch to that same wagon, then the rest of the prey behind them can be them in their own little individual wagons of what message applies to them.

So, that's just a suggestion on a technique. Keep it as short as you possibly can and think about the impact. They'll all jump in the pool.

MR. KEIGWIN: Damon, then Donnie, then Nichelle.

MR. REABE: Thanks. I'll probably be taking it

in a slightly different direction. In your presentation, you mentioned -- in the context, we're talking about weed resistance, but this would apply to pathogens and insects as well. I just want to make sure that there's a broader look at -- during the registration process, the impacts on resistance and the speed at which resistance develops when you cannot make an application to control a pest in a timely manner and how that relates to aerial application.

We want to make sure that the Office of Pesticide Programs is keenly aware that that is a tool that is used by integrated pest management practitioners, and it's an important tool, because, obviously, there are going to be scenarios where soil conditions aren't going to allow for ground application. If the producer does not have the opportunity to use aerial application to control that particular pest at that critical time, the likelihood of their being resistance survivors increases. I think Palmer Amaranth is probably one of the best examples of that. The window at which you can control that weed is extremely small. So, that's my first point.

The next point I'd like to make is the

importance of maintaining products in specialty crops. Weed seeds don't know what crop they're growing in. They don't know what field they're growing in. So, we've seen a lot of products go by the wayside for various reasons in these smaller markets. A lot of those smaller markets are serviced by aerial application because they're non-GMO crops. So, they need to control the pests using the pesticides. As we see labels disappear, that accelerates the resistance of that pest, which ultimately increases pesticide usage. There's nobody here that wants to see that.

The final point I'd like to make is when going through the registration process -- and I believe this is already being considered at the Office of Pesticide Programs, but it should be, I think, restated. The use of buffer zones in and of itself is one of the most effective ways to speed up pesticide resistance because you're going to expose individuals to low doses of the pesticide which is, in fact, how pesticide resistance is developed.

So, that needs to be a major consideration when making these applications. It's not just about

controlling the weeds; it's actually about reducing pesticides, pesticide usage, and protecting the environment. These two things actually go hand in hand.

MR. KEIGWIN: Donnie and then Nichelle.

MR. TAYLOR: So, looking at your bullet point number two, I just recommend that it be shorter than a PPDC meeting, just to get started.

On point number four, your target audience, I'd recommend you add the retailers to that. You mention them in the third point but not the fourth. You may also want to look at adding certified crop advisors to that as well. I think they actually have a program where you can get certification in that area. So, they may be a group that can help you as far as your concern.

I'm not sure if this is happening or not, but we may want to look at color-coding labels as far as mode of actions are concerned so that when a producer is getting ready to pour product and put product into a tank, they can say, well, these two have the same color; that means they're the same mode of action. Therefore, I'm not accomplishing what I'm hoping I'd get accomplished based on our training. So, you may want to

look at that as well.

As far as communication, always look at radio. There's a great Ag radio network out there. Make sure you put your commercials in your farms reports because the rest of the time, as Amy said, they're watching Netflix. So, make sure you do it around the crop reports so you make sure you get heard that way.

I think we also need to investigate alternatives, meaning I know there's been some experimentation with gibberellic acid added to certain products. It's actually crossed over and prevented the resistance from occurring or at some time taken a resistant weed and making it susceptible again. So, I think we need to look at our expansion and our technology and what may be available if we can figure out a way to enhance the crossover of those modes of action.

MR. KEIGWIN: Nichelle.

MS. HARRIOTT: So, I think you guys got all your questions answered, so I'm not going to add anything to that, except to say that when it comes to communications, I think we need clarity and consistency across the board so that everyone that is tasked to do

this on the ground is speaking the same language, that growers are concerned on getting different messaging from different places.

I do want to take issue with one of your earlier slides, slide number 3, where it says that it does not have a clear cause for weed resistance. I think some have already touched on it in this comment session right here.

It's well documented that selected groups have questions about what is actually the cause of weed resistance. You use the same herbicide with the same mode of action over and over and it leads to resistance. I think you know by now that that takes three to five years of happening. So, we do know that there is a cause of weed resistance. This is something to maybe hopefully reword in your slide if you were to give this presentation again.

I do have two questions. Given that we know that herbicide overuse is a leading cause of weed resistance, how much of the agency's work is focused on nonchemical strategies for addressing the issue? And does the agency take the resistance issue into

consideration when going through section 3 reregistration review process in terms of ecological impact? I say this because glyphosate's comment period just ended and there wasn't any mention about glyphosate impact on the onset of weed resistance in the assessments.

MR. CHISM: Thank you. I was just going to say that one of the reasons we say that the problem of resistance isn't so clear cut, there's a lot of cases of nontarget site resistance where weeds are resistant to herbicides that they've never been treated with before. That's an ongoing problem that's sort of a new wrinkle for us.

In terms of the registration review process, we do look for resistance problems. To your point, you're right. Most of the time we look at maintaining tools to combat resistance; we don't really look at the impact of a specific product on resistant weeds and the numbers of acres that may be infected with that.

MR. KEIGWIN: Komal, and then Amy, were you coming back? Okay.

MS. JAIN: Amy, you might want to go first. I'm going to shift the conversation a little bit.

MS. ASMUS: I just was writing down a little bit in a gap analysis kind of thing, so hopefully I don't repeat things that people said. But our conversation is around ag land, and I believe that we really need to also focus on commercial, turf, residential, and any infrastructure, right-of-way lands, to make sure that we're not reading our next weed infestation on those lands. So, we have to think bigger than ag and ag land, which then leads me to my next comment.

Leyla talked about the importance of the health system as it relates to how we apply pesticides and handle resistance management. But they are also quandering with the same issues with pharmaceutical resistance and that type of thing. Are there other things outside of the ag world that also deal with resistance? Do we need to use them in a consultative role to say what have you done and are there any crossovers from what you have learned and what you have applied that apply to our situation? Is there anything that we have conversely applied that worked that would apply to their situation as well? So, again, it's not just a conversation about ag, ag land, and resistance of

ag issues, but it’s a resistance management over a lot of things.

And I just wanted to point out, it was kind of touched upon, this approach we’re using the stakeholders and they work in community to have an effective approach. We also have to understand that resistance management is a system. It’s like that community. Each part has their own roles and their own tasks to play. Resistance management, even though you deal with labeling and everything, is not going to come in a jug. It’s not going to be the easy button that you push. Just as we have to work as a community, management needs to be done in an entire system.

MR. KEIGWIN: Komal.

MS. JAIN: That’s actually a good lead in, thank you.

So, as we’re talking about resistance and pesticides, I want to just turn it towards antimicrobial pesticides and talk about antibiotic resistance. As many of you might know, it’s well in the news, there is greater and greater allegations of links between biocide use and antibiotic resistance. I’m not here to say that

that’s not a critical issue, but I do think that there needs to be some greater evaluation and some messaging.

On the topic, the UN environment and WHO has put out a publication, and I think it’s got some potential for great global regulation or the influence for greater regulation. So, it’s really just an ask of EPA. And you have the full support of the biocides panel to look into this. Maybe that can be an agenda item for later meetings. I know Anita is not here, but you could pass that along.

MR. KEIGWIN: Dominic.

MR. LAJOIE: So, I am a grower. I just want to share my grower perspective. In my area, a lot of the growers make decisions based on cost. It’s unfortunate that it happens that way, but I’m surrounded by a lot of contract growers. Their income is kind of fixed. We’ve been getting squeezed in our contracts by the processors for a long time. You’ve got to cut -- in other words, you’re going to get less revenue, so somewhere you’ve got to cut costs.

So, herbicides, a lot of guys will take the risk of using products that weeds are resistant to, but the cost

per acre is half of the other cost. So, they'll take that risk and squeeze through the season and say, well, we'll control it next season. It's unfortunate because they're just creating more resistance. In my county where the processor is set up, if you drew a map, you would see this resistance centering where the processor is and kind of going out from there.

I'm just a few years away from getting resistant weeds on my farm. So, it is something that I'm watching closely. But, like you said in the beginning, if one farmer works at it and the rest don't, it's not going to happen. So, the cost is a big thing. Thank you.

MR. KEIGWIN: Let me just check to see if any PPDC member on the phone had a comment. I think today Sharon is our only member participating remotely.

MS. SELVAGGIO: Can you hear me? This is Sharon.

MR. KEIGWIN: Yes. We can hear you, Sharon. Did you have a comment or a question?

MS. SELVAGGIO: I did have a comment. I appreciate especially what Dominic just said. I think

when we talk about the system, as many people have alluded to, a kind of understanding the cost and economic issues from a grower perspective is just so important and what that really means.

So, kind of going back, I really appreciated the presentation. I thought it was an excellent presentation. I'm not sure if it was William or Bill who was the presenter, but you shouldn't downplay your communication skills. You did a great job.

I see resistance as a perfect example of what happens when there's an overreliance on pesticides. The resistance issue is worse than ever before. The graph shows an accelerating problem of resistance. There's an overreliance on pesticides that's developed in farming for decades.

When you look at the goals that you described on I think it was slide 7, I saw something missing. I think it really is important that it be added that really the primary goal is to prevent resistance from happening in the first place. You really have your golden opportunity where resistance hasn't yet happened in a broad scale way yet.

So, as important as it is to work on problems like Palmer Amaranth and some of the other weeds that have already developed resistance, it's even more important to think about what's happening in places where growers have been relying on the same tools, there's a large agricultural sector, bad land use and all of that.

So, I don't have the answers. I'm glad that EPA is working on this. It seems to me that really important is research on those diversified weed management practices because insanity is doing the same thing over and over again and expecting different outcomes. So, really understanding and having more research and hopefully support, as Dominic alluded to the need for support, so that growers actually can implement those diversified weed management practices.

So, that's all I want to say. Thank you.

MR. KEIGWIN: I think we may have successfully got ourselves back on track. So, I'm going to take the last three cards that are up. So, Nichelle, then Andy, then Lori Ann.

MS. HARRIOTT: So, just to follow up, because I don't think one of my questions got answered. So, I know

everyone in this room is looking to find new chemistries that have different modes of action to deal with the weed resistance problem. But how much of EPA's work is focused on nonchemical strategies to deal with the problem?

MR. CHISM: I apologize for not answering that. In our PRN number 2, we talk about best management practices. About half of those are nonchemical best management practices. They're clearly targeting annual crop production practices. We talk about crop rotation, we talk about cultivation. Those are not relevant for a perennial crop. It's not relevant for turf, not relevant for trees where you can't really rotate. But in the best management practices, we do try and emphasize nonchemical control methods.

MS. HARRIOTT: Hopefully, that's communicated in our communication.

MR. KEIGWIN: Andy.

MR. WHITTINGTON: So, as a procedural point, I wanted to compliment Bill on the way he has designed and presented his information. Anytime that the EPA can provide specific questions, since this is a dialogue

committee, anytime you can provide specific questions that can guide the dialogue to get you the information back that you need to continue the work that you're doing, I think that's an appropriate way to address that.

And to be more specific, to address Nichelle's comments, I think we are moving along with that. One is the use of cover crops I think is becoming a much more widely accepted practice. A lot of that is to manage weeds.

We also, in the past several years, have moved to a much earlier planting date and trying to lap the mills as quickly as possible. That's as much a weed resistance thing as it is to try and get an early harvest.

Those are two of the issues that popped in my head right now. We try to keep a cultivator out of the field, one because you're just burning diesel and two is the soil health issue and trying to maintain that soil on the ground.

MR. KEIGWIN: Lori Ann.

MS. BURD: Nichelle alluded to this earlier,

but I just wanted to again reiterate that it would be -- the risk assessments at reregistration would be an excellent place to incorporate the increased load in pesticides for things that are really heavily used. We addressed this in our glyphosate comments, but assessing glyphosate or dicamba or 2,4-D or other pesticides that are used in these systems much more heavily than a typical pesticide, just as a regular pesticide, without factoring in that increase load seems like a real missed opportunity. I hope for future risk assessments you would look at that increased load, especially for dicamba and 2,4-D.

MR. KEIGWIN: Okay. So, we are back on track. Let's take a break and we can reconvene at 11.

(A brief recess was taken.)

MR. KEIGWIN: -- topics to discuss. So, if I could ask folks to take their seats.

I'd like to introduce Arnold Layne who is the Deputy Director for Management for the Office of Pesticide Programs and Julie Spagnoli from the Public Health Workgroup to give us an update on their progress.

MR. LAYNE: Good morning, and thank you, Rick,

for that introduction. So, in the spirit of cooperation and collaboration, the Public Health Workgroup that was formed at the request of the full PPDC, we have formed a great group. We work in collaboration. There's a lot of commitment to this effort. So, in the spirit of cooperation and collaboration, I thought it would be a great opportunity and somewhat unusual but, what the heck, to ask the workgroup members if anyone wanted to provide a readout with me at the full PPDC meeting. Julie was the first volunteer, so that's why she's here.

So, as I mentioned, for those of you who were not on the PPDC when this was talked about, the PPDC charged and challenged us to form a public health working group. They gave us a pretty broad mandate around this important topic. I do want to thank each of the members of that workgroup. We've done quite a bit of work.

So, this PPDC Public Health Workgroup has met four times since the last PPDC to discuss, frame, and offer recommendations to you all, the full PPDC. Today, we are proposing the creation of a pesticide emergency preparedness action plan and want to share with the full PPDC our progress to date on the key ideas, key elements,

and recommendations to the PPDC that the workgroup continue as we have.

We also would like to hear your advice, guidance, and thoughts as we move forward towards our specific deliverable. We seek approval from the PPDC to continue this work and to form additional detail on the framework -- in other words, put some more meat on the bones of the framework that you'll see shortly -- and provide an annotated outline and ultimately a final product that we all could be proud of and something that is going to be useful for this very important topic.

The purpose of the Pesticide Emergency Preparedness Action Plan is to establish a guide for use by EPA's Office of Pesticide Programs to allow us to respond during our pest related emergency. Also, allow us to interact with other agencies and communicate with a diverse set of stakeholders including the general public.

The workgroup believes that a preparedness plan would ease the way for coordinated, sound science-based response to emergencies and emergent pests that involve IPM, integrated pest management, as well as pesticides. The workgroup discussed past public health emergencies

and some of the lessons learned in response to them, notably the Anthrax incident, West Nile Virus, something that I was intimately involved in and led for the Agency, for EPA, which was Zika, and hurricane responses, for example. These emergency responses could have been more efficient with proactive planning and just readiness. That's what this is really about, readiness.

The group notes that while there is a focus on disease vector control, we're not limited to mosquitos at all. Hurricane responses, for example, can include rodent and mold control, and microbial outbreaks can occur in the healthcare and other facilities. Bedbugs and ticks are still also significant public health pests, should there be a major outbreak or disease occur.

I just want to bring your attention to, if you have not seen it, that just this week the New York Times had a front page story on citing the Centers for Disease Control's concern about the spread of tick and mosquito infections. So, this is real. This is probably very important and appropriate that we take these steps and that this workgroup continue doing its work. We certainly will ask for your advice and guidance and

thoughts on that.

So, the workgroup believes that the stakeholders and audience for this plan is quite large and diverse, as I stated before. That includes governmental level, state, local, travel, and the federal level to the public health community, NGOs, to registrants, and to members of the general public.

As we discussed at our last meeting, the workgroup has determined that this plan will address the role of IPM and pesticides or pest control in different types of emergencies such as new diseases, disasters such as hurricanes and floods, human error, or even bioterrorism. This plan will also cover any pests from microbial to insect to mammal.

At this juncture, I'm going to turn it over to Julie who is going to talk to you about the elements of the plan.

MS. SPAGNOLI: Hello. I participated on the PPDC for a number of years and have also participated in a number of PPDC workgroups over the years. I just want to start out by saying I've seen that the PPDC workgroups are one of the most effective ways a lot of times of

getting work done. We've done a lot of work through PPDC workgroups that comes back then to the PPDC. So, I'm very encouraged by this workgroup and the work that it's done.

As Arnold said, we're in the process of developing an emergency preparedness plan. We've kind of decided on five key elements that we think to include in the plan. We say the names of these elements may be temporary because as they get defined more clearly, we may end up kind of revising the name of the element.

The first one is EPA roles and responsibilities. This will just clarify the roles that EPA will play in the plan, who they may be interacting with, and what their responsibilities are to interact with other parties such as other agencies like CDC, state agencies, other groups. So, it's just kind of defining those roles and responsibilities.

The one element that we really struggled with coming up with a name with, because we knew what we wanted it to be about, but we just kind of struggled with getting a name. It was pesticides, IPMs and other control tools. This is how do we in a response plan

identify the control tools that are going to be appropriate for responding to that emergency, and to relay that information to the users, to the public, and to other agencies, and states.

This would include what tools are available and what EPA processes may be used to access other tools. This could include Section 18 exemptions such as reviews in the Anthrax response, it could include 24Cs, some of which were used in this Zika response. But knowing the processes of how to access those additional tools so that people can do it efficiently. We heard that in the Zika response that sometimes people weren't always aware of what the actual process was. So, that's going to be one of the key elements of the plan.

Identifying and engaging stakeholders, this will, of course, be relevant to what the response is, to what the emergency is. If it's a hurricane response, it may be different than if it's a new disease vector. So, we want to be sure to engage the proper stakeholders, identify who they are, and then make sure that we engage them. That would be identified through the plan.

Communications is a really large focus area,

topic area. Again, this will probably kind of depend on the type of emergency, the type of information that needs to be communicated, who do we need to communicate it to. Again, this will address various topics to the public. What actions can the public take for IPM and protecting themselves, but also looking at all the other aspects such as endangered species and what risks there might be. It's communicated to people that what are the actual risks -- if you're applying a pesticide to control mosquitos, what are the actual risks, so that it's communicated clearly.

And then, the last element we're calling technology, innovation, and science. What this really means is we want this plan to be a living plan. We'd never just say, here it is, and that's all we're ever going to do. It would always incorporate any kind of new technology, innovation, new practices, if there's a new IPM practice that has been identified. So, this would be a periodic review of the plan that then can incorporate any of these new ideas and new technologies.

So, those are the elements that we've identified. As Arnold said, these are the bones. We

still obviously need to put a lot of meat on the bones, but I think we feel we're off to a good sound plan.

With that, I'm going to turn it back over to Arnold. He's got a few questions for you.

MR. LAYNE: As you know, the role of the PPDC is to provide advice, guidance, and input. We thought that it was very important to get your input, advice, and guidance as we move forward.

Before I do that, Julie talked about awareness. One of the key things that the workgroup thought and talked a lot about was awareness from everybody, everyone's perspective, and education. We've seen in examples where even industry, for example, in emergency situations tend not to know what to do in terms of getting something registered or a Section 18, or whatever the case may be, from the general public to not understanding why something is being used to control a particular pest or vector.

So, awareness and education with a sound communication plan is very, very key to the success of this. There are different levels and different ways in which to communicate and different kinds of people to

whom we need to communicate. So, you would not communicate to the general public the same way that we communicate to industry, for example.

Then, on the technology, under one of the elements, here in the pesticide program, we are making or trying to make strides in improving technology and innovation, all for the sake of bringing about efficiency in the world of registration and reregistration and just the whole operation of the pesticide program. That will lead to, I'm hoping, increased efficiencies.

So, even in the cases of emergencies or an emergent pest or doing analysis or data mining and such and having those capabilities and being on the forefront of those emerging technologies, that they will come in handy as we try to figure out what's happening, what's going on. That in conjunction with other partners, we'll be able to respond in a much more effective and efficient way from a registration aspect to the communications aspect. So, that was our thought about the fifth element.

In that regard, I'm going to jump to the questions for the full PPDC. So, the first one is, does

the PPDC agree that this is an important product for the workgroup to continue to work on? Any comments, advice, recommendations?

I see Jim and then Lori Ann. Jim and Jay.

MR. FREDERICKS: To answer your question directly, yes, I do think it's important for the workgroup to continue the work. I happen to be a member of the workgroup, so I have some self-interest there.

I'd encourage the PPDC to let this group continue their work for a couple of reasons. One of those, not the least of which, is the fact that this group really is a diverse group but I think really works well collaborating and having productive discussions in an environment that we're able to get some work done and hash some things out. So, I think that in the beginning steps, that was really encouraging to me personally.

OPP really plays an important role in public health. So, I think this is important that this group thinks about this emergency preparedness plan and continues to build one for whatever the next public health emergency may be, whether it's a vertebrate emergency or a microbial emergency or it happens because

of some sort of a natural phenomenon or it's a disease outbreak.

OPP's role in public health is not only assuring that pesticides are available to control some of these pests that may arise but also, on the flip side, ensuring that the pesticides that are used are not a risk to public health. So, it's really an important role, I think.

I would note that one of the points that Arnold made about we were kind of working on each of these elements and what the elements were called, one actually had in parentheses a temporary name. That's certainly one that we spent a bunch of time. Even in this one, you see that we have broken out IPM and pesticides as two separate things. Obviously, pesticides are part of IPM. So this kind of stuff is in flux.

But I would encourage the -- in fact, I think I would even encourage some thought going into expanding the group, because I think if someone like Stan, who I don't believe is a member of that group and I think probably has some important and unique perspectives, that could be contributed.

So, that's my thoughts.

MR. LAYNE: Thank you, Jim.

MR. KEIGWIN: Jay and then Leyla.

MR. VROOM: So, I'm not a member of the subgroup, so it's even easier for me to say yes. I understand that one of these natural disaster pest control challenges in the last year was frustrated in part because follow-up treatments didn't take into account known information about insect resistance. So, that's a piece that you may have already touched on, but it sounds to me like there's opportunity for getting some of those kinds of known facts and geography reaches of resistance to certain chemistries dialed into the planning process in advance.

MR. LAYNE: Thank you for that, Jay.

MR. KEIGWIN: Leyla, then Liza.

MS. McCURDY: Thank you. To answer your question this definitely seems like a no-brainer worthwhile effort. I fully support this.

Actually, I have a question about the membership. I joined the PPDC. I guess was it November's meeting was my first one. I didn't get a good

sense of how this group came about and what the direction was. I wasn't given a clear answer as to who is on the committee. I still don't have a list of committee members. When I inquired about it, I was told I can't join. So, I'd like to get a little bit of the clarity about the group.

MR. LAYNE: So, as I mentioned at the outset, previous PPDC -- this was an area that the full PPDC felt was a very important topic to take on. We thought that a workgroup would be the best approach. That gave us a little bit more flexibility with regard to being able to go away and do some work and bring it back to the Agency.

We can certainly get you a list of the membership. People volunteered to be on the membership. We did not want a group that was super large because we felt as though we may not be able to get the consensus and the collaboration and what was needed in order to make this group hum and to get to a point where we would have a final work product. We were only given a year in which to do so. So, we're moving at a fast clip, but we would be happy to get you the workgroup members' names.

The process that was followed was followed from

the direction of folks who know FACA. This is a side workgroup from FACA, so we followed those procedures. That's how the workgroup was formed.

MS. McCURDY: I kind of sense a little bit defensive response. My intent was not to put you on the defense.

MR. LAYNE: Oh, no.

MS. McCURDY: I've served on other FACAs. I'm very familiar with that. I think for transparency sake, for example, can we have a show of hands here who is on the committee?

MR. LAYNE: Sure.

MS. McCURDY: As a new member to the PPDC, I wasn't given an opportunity to be able to participate in this group, which my background is totally public health focus. So, I'm just trying to understand -- not that I'm begging to be on. The point is how transparent is it, how inclusive is it. I understand concerns about keeping it small so that you can get to a point. But, on the other hand, wouldn't it be more amicable or friendly if new members join to the PPDC to give them an opportunity to be part of it. I don't know. I think these are the

kinds of things we should be able to discuss if we are going to be working collaboratively in a group like this.

Can we have a show of hands? Who is on this committee, on this workgroup? So, you have people outside the PPDC?

MR. LAYNE: Yes, that's the beauty of a workgroup outside of the main PPDC.

MS. McCURDY: Right, I understand.

MR. LAYNE: You can have people from outside of the PPDC be on the workgroup. That's not the total people.

MS. McCURDY: Yes, I'd like to see a list. I think everybody should have a copy.

MR. LAYNE: Sure. It's on the website.

MR. KEIGWIN: The website has the list of the workgroup members, Leyla. Certainly, any work product of the workgroup before it can be formal advice back to EPA has to come before this body. So, all PPDC members can contribute when it comes here towards amending or enhancing the work product that comes out of the workgroup.

MR. LAYNE: Every PPDC so far we've provided

updates. That's another opportunity to give us direction and feedback which is what we were hoping to get today.

MR. KEIGWIN: Liza.

MS. TROSSBACH: I echo the other comment regarding that this is an important product. I think it's certainly appropriate. I think it's best to be as proactive as you can. Obviously, you don't want to be trying to figure out what to do when the emergency arises.

I do have a question, if I can, just for clarification. You talked about pesticides and IPM and it's not just going to be focusing on vectors of disease but a whole variety of pests. I'm curious, is the plan going to be pest specific or emergency specific like a hurricane versus something else? How is that going to be formed? That may help get additional information from the committee. Is it just a broad-based these are the steps that you want to take? I'm trying to understand a little bit about what the plan is going to entail?

MS. SPAGNOLI: The specific plan for OPP is really kind of focusing on the role OPP would play in an emergency response, so it wouldn't be the total emergency

response. As we know, in a hurricane response, it's not just mosquitos. It can be rodents, it can be moles. There's a lot of factors that go into it that wouldn't possibly involve pesticides and the need for pesticides. So, that's I think how they're looking at it. What role does OPP play and who do they need to reach out with to make that element of that plan?

MS. TROSSBACH: Okay, thank you. I appreciate that.

MR. LAYNE: Those areas are also going to be talked about in the background section of this plan because they come into play, obviously. It will help us get to where we need to be in the pesticide program in the event of an emergency.

MS. TROSSBACH: Thank you.

MR. LAYNE: Mm-hmm, thank you.

MR. KEIGWIN: Okay, Tim, then Charlotte, then Stan.

MR. TUCKER: Yes, Arnold. Did I hear you correctly that this emergency preparedness planning would be in a subgroup of the group, the workgroup?

MR. LAYNE: No. The workgroup itself is going

to develop it to put the meat on the bones to that preparedness plan.

MR. TUCKER: Because it seems like there's so many categories and the scope is so broad that you might consider that a benefit.

MR. LAYNE: Yes. We've actually talked about taking members of the workgroup and having them deal with specific elements.

MR. TUCKER: Exactly.

MR. LAYNE: So, in that respect, yes. But I thought you were referring to taking an element and then forming a separate --

MR. TUCKER: Subgroup, right, to deal with hurricanes, to deal with pest issues. There's a real need for expertise as well.

MR. LAYNE: So, we'll consider that along the way. But right now, we're working as a team and trying to get your approval on are these the right elements before we sort of venture any further. And then figure out how best to get that done from a resource perspective.

MR. TUCKER: So, I did mean to say also that I

think it's a great idea.

MR. LAYNE: Thank you.

MR. TUCKER: I think it's an ongoing topic that might involve -- you can't ever have enough planning for emergencies. If you didn't, then we've got real issues.

MR. KEIGWIN: Charlotte and then Amy.

MS. SANSON: So, I agree with everybody. Going on to question 2, or 3, I'm not sure which one my question relates to. I saw the information there about communication plans, outreach. But I was curious as to what's the mechanism for receiving information, information coming into the workgroup, so looking at intelligence efforts for pending threats and other regions of the world that could end up here in our country, that sort of thing. So, what's the mechanism and intelligence effort do you see playing a role?

MS. SPAGNOLI: Well, I think that's sort of that fifth element where this is not going to be a static plan as new information is made available or new technologies are available. I think that's part of the technology side of it, how do you best gather that information.

MR. LAYNE: If I may, and correct me if I'm wrong, for the workgroup members that are here, we did look at documentation from a number of sources to help us get underway. We will continue to do that as the workgroup progresses and its work progresses. So, we've looked at a number of situations that have taken place, a number of test issues, a number of emergent issues to help feed into what this was actually going to be. We struggled with what this was going to be so that's not so cumbersome, but also to make sure that it's something that's going to be useful to all involved. But we will continue that effort and stay abreast of what's going on and feed that into the plan that Julie said will be a living document.

MR. KEIGWIN: Amy.

MS. LIEBMAN: Thank you for your update. I do think this workgroup is addressing some important aspects.

One comment that I've made at several PPDC meetings has to do with the overall title of this group. While I get it that we're kind of looking at pesticide used for like public health purposes in terms of vector

control, I think it's misleading to sort of just call this the public health workgroup because there's so many public health components of pesticides. When we look at the worker protection standards, when we look at other aspects, there's always public health involved. So, I think it's just a little bit a misnomer. I really could encourage you to consider changing it and maybe focus more on the emergency preparedness or something that that fits it, because public health is so broad and this is just one component of that.

MR. KEIGWIN: Thanks, Amy.

MR. LAYNE: Thank you.

MR. KEIGWIN: Aaron.

MR. HOBBS: Thanks. So, I would just like to reiterate that several of the comments, Jim in particular, that there is a lot of expertise that exists that does currently have the opportunity to participate. So, again, I make the request that those opportunities be provided to people that have expertise, on the ground expertise, that were intimately and personally involved in emergency response within the last 18 months. You do have some of that, but additional expertise exists.

Create a product that is truly valuable to all stakeholders. I think having people that have actually had that on their hands, if you'll let me use that analogy, would be valuable. So, I would like to see the workgroup expanded. I think that's my second request for expansion of the workgroup, so I just want to get that on the table.

And then a concern I have just generally about the dialogue yesterday and today as it relates to IPM. IPM is an integrated approach to pest management. It concerns me that we continue to say IPM is here and pesticides are there. Pesticides are a part of IPM, and I guess that's particularly pointed feedback for our EPA colleagues. As we proceed in the dialogue, let's keep the two together.

An integrated pest management strategy includes all the tools in the toolbox. I think maybe the visual representation of having IPM on the screen next to pesticides as them not being the same thing sets the wrong tone.

So, let's remember that an integrated pest management strategy includes all the tools, social,

cultural, mechanical, and pest control. So, let's keep those two things together. Thanks.

MR. LAYNE: Thank you. We actually thought about that. We just wanted to make sure that the full PPDC understood that we were taking IPM into consideration here, the full suite of things associated, not just pesticides. We get the flip all the time as well that you only focus on pesticides. We want to make sure that we said specifically IPM. So, thank you for that.

MS. HOBBS: Well, great. So, this is the pesticide program dialogue committee. Also, the definition of IPM, the statutory definition of IPM, speaks to all the tools. So, the two things are intimately related. I'm just concerned that there's a continual division or separation of one of the tools out of the toolbox and not just to focus on IPM, which I believe everyone here supports. That's the best way to manage pests in any setting.

MR. KEIGWIN: Let me just check, Sharon, if you had any questions or comments on this topic.

MS. SELVAGGIO: No, I don't, thanks.

MR. KEIGWIN: So, what we'd like to do for a few minutes is just to get your initial thoughts on some possible discussion topics for the next PPDC, which would be sometime this fall. This certainly is not the only time that you all can provide us with suggestions for topics. Things inevitably will come to mind over the course of the next several months. The Agency will likely also have some topics that it will want your feedback on that might even be different than those that we might think of today. So, just a quick initial thought or ideas for discussion topics for next time.

I see Nina's card is up, so why don't we start there.

MS. WILSON: Yes, thanks, Rick. I could have made some comments on the last couple of topics, but I'm going to save them. I think for biopesticides we would like to hear, or I would in our community that works in pesticides, would like to hear about the biopesticides. There are products based on nationally occurring that are very low toxicity. I think that their benefits speak to everybody around this table.

To put this in context, something that we go to

everyday in our coffee or our tea, something like caffeine, would not be considered a biopesticide because it's considered too toxic. So, it would be considered a conventional product. So, that tells you the bar of safety that biopesticides have.

I want people to understand that and want people to understand how it's used in programs. Because of this low toxicity, they can be difficult sometimes -- and I think you alluded to that -- that there is a certain way to use them and that they can be tricky and maybe takes a little bit of extra work.

But I think growers certainly seem to be wanting a more IPM focused approach which include biopesticides. They use them because they are seeking a lower risk for their workers, lower risk for the environment. The challenge of getting them to work I think is something that we'd like to hear more about because I think we could have examples for a lot of those topics about how they're used.

I would like people to understand that when they talk about pesticides, that includes biopesticides, including mosquito control. And IGR, that's considered a

biopesticide. There are a few registered under them. I know that in Puerto Rico when they have the issue with mosquitos, they elected not to use a pesticide and they elected not to use an IGR which has very low toxicity. That probably could have helped the problem and the benefit probably would have outweighed the risk that they have with their mosquito issue there.

Again, they're not considered a complete program. They're considered part of an IPM or resistance program as well. We are designed for organic production as well. I think it would be interesting to look at that and understand how people are using those products and those programs and why and how difficult it is to achieve either the safety target that EPA set forth as well as the organic component.

The US has got one of the most stringent organic components for biopesticides. They go down to the actual how it's made and what's in it. Other countries don't go down to that level, and yet the produce from organic is considered -- there are reciprocal agreements for everything, although we have the highest bar. So, I think that's something that a lot

of us would be interested in. People don't really understand the context of what they are.

MR. KEIGWIN: Thanks for that suggestion.

Amy.

MS. LIEBMAN: Thanks. So, I've offered a number of topics via e-mail when requested, as did many other stakeholders. Those topics were either not important to the PPDC planning committee or ignored. I'm not sure what happens. I'm not quite sure how worthwhile it is for me to suggest other topics the next time. So, I'm just a little disappointed with agenda planning. I would like it to be more inclusive and represent all stakeholder's needs not just a few. So, that's the first comment.

The second comment that I'd like to express is a little bit about process when we're doing our meetings. The last November meeting I thought was actually a very productive meeting with a lot of important dialogue, a lot of different stakeholder input. The way that our comments were misconstrued and presented was not okay.

We put together a letter, many of us, on March 2nd and submitted it to Charlotte Bertrand as well as

other OPP and EPA employees. We haven't heard a thing back from that letter.

So, I am questioning the utility of my presence here as a public health stakeholder. Sure, I found ways to sort of talk about meaningful topics of public health, protection of workers, protection of children within this very sanitized agenda.

But, I'm just not sure we're being heard, and I'm not sure you're listening to the stakeholders equally. It just might be the agenda of the EPA and this administration that is anti-worker, anti-environment, and this is what we're seeing. If you want our input and you ask our input, then I would like to have some inclusion.

MR. KEIGWIN: Damon.

MR. REABE: I'd like to reiterate Nina's point. The aerial application industry is very interested in biopesticides. We think that our industry is going to play a very critical role in getting those products out in a timely manner so that they are effective.

I do want to go on the record. I hope that my statements yesterday weren't misunderstood. There are a lot of new manufacturers that have not been in the

pesticide realm and don't have a lot of experience going through the registration process, unlike Alan, for instance, that are bringing some biological pesticides to the market.

So, my comments yesterday were really just to ask the OPP to really guide them through the process of understanding maybe that they're coming with less experience. And having these labels be of a format that is extremely similar to the conventional products that we're using. It will simply make them easier for us to find the information so that we can handle the products appropriately.

MR. KEIGWIN: So, continue to think about what topics you would like to discuss. Please get them to Dea. We can't always include every topic on the agenda, given the day and a half that we have. So, we do prioritize based upon areas where we feel we need advice or want to provide you all with an update. There are times that we can't fit everything, but we will do the best that we can, as we always do, moving forward.

We do have two public commentors who wanted to give some remarks. So, I'd first ask Cindy Smith from

Gowan (phonetic) to come forward.

MS. SMITH: Thank you, Rick. I tried to get Bill to go first, but he told me I had to go first. So, I said maybe I'd reserve the right to talk to him after.

But I really appreciate the opportunity to address the committee. As Rick said, my name is Cindy Smith. I'm the Ag Relations Director for Gowan USA. I've been attending PPDC meetings for a little over 20 years, for some of those years, as a member of the PPDC. By and large, I think they've been very productive meetings, and I hope helpful to the Office of Pesticide Programs.

But the last few meetings have been troubling to me because they seem rather than forum for constructive dialogue, they've become public shaming of EPA, particularly Office of Pesticide Programs, and sometimes members of the PPDC, and when members speak up, their comments and sometimes mode of their questions and even ridiculed on social media. I get it.

Over the last 24, 24 really, 12 or 20 years, there have been very different views on topics. I fully respect that all of us come here and the reason that we

come here is to be able to express our views. There's been very understandable passion on all sides.

But it feels a bit different to me now, and I would just really encourage members of the PPDC to be here to provide advice to the career staff at OPP who day in and day out make decisions based on their mandate. In my experience, EPA career staff take seriously their mandate to protect people and the environment, and there are always ways that we have and other ways that we have to address the political appointees.

I also would like to talk about just a few items that were on the agenda, the worker protection standard. I really sincerely believe that everyone in this room wants to ensure workers are protected. I don't believe that anyone here is trying to gut the worker protection standard. I think there are few target items for which people are seeking clarification.

I actually agree, Amy, with what you said about the November meeting. I think there was some very productive dialogue about two of those topics at least, the minimum age and the designated rep. I think that there are workable solutions.

So, I would hope that we can wait and see before we predetermine that it will be a complete rolling back of WPS. To my knowledge, none of it has been released yet publicly, so we don't know what's in there. Unlike when the WPS rule was released before and a designated rep position was slipped in after the public notice and comment period, I believe, and I take Rick at his word, that when that rule is released later this year, that we'll all have an opportunity to comment on what's in there. EPA will have to consider those comments. If it's still finalized and people are unhappy with it, there are processes that you can follow to address that.

With respect to PRIA, because I think it's critically important to the continuation of the Office of Pesticide Programs, the first three PRIA laws were passed with agreement by a PRIA coalition that was made up of industry and NGOs. They very successfully passed each time because all the parties agreed to keep the PRIA legislation free of any issues not related to PRIA.

Industry certainly could have tried to get things slipped into PRIA but we didn't to support the

interest of the coalition. Now that PRIA 4 is being held up for nothing to do with anything that is in PRIA, as was publicly discussed yesterday, it's being blocked because of concerns related to WPS and chlorpyrifos, it is what it is. But who suffers is the Office of Pesticide Programs, the very people who we want to make the decisions on new products, products and registration review, and biologicals that, as pointed out yesterday and just now by Nina, are often products that are seen as largely lower risk.

People are leaving OPP already due to the lack of certainty regarding their jobs, and they're losing good people, and it doesn't need to be happening. If people want to challenge the decisions made around WPS or even chlorpyrifos, I think there are ways to do that without holding up PRIA. I would really encourage for OPP's future work we go back to PRIA being about funding OPP activities and providing dollars for WPS implementation and leave it clean so that we can continue to have that program.

I feel like I have to address the numerous we-all-know statements that have been made about

chlorpyrifos or 50 percent of pesticide use being illegal or people don't follow labels. Those statements are not supported by facts. We don't all know that and we don't all agree.

On chlorpyrifos specifically, there are very credible scientists, and I'm not talking about industry scientists, I'm talking about some of EPA's own science advisory panel members and other experts in the epidemiology who have looked at these epi data and do not conclude that there is additional risk to children, neither do other regulatory authorities around the world.

Yesterday, EPA was encouraged to look to EFSA and Europe action regarding neonics. That same EFSA said about these epidemiology data at the heart of the chlorpyrifos assessment, that the epidemiological studies in their current form are not ready to be implemented into risk assessment. So, my point here is that we can't pick and choose when we want EPA to do what other countries do or don't do. We're not Europe.

The laws regulating pesticide regulation here in the US are different than those in Europe. The Office of Pesticide Programs is seen as a regulatory leader

around the world. They participate in the discussions with their counterparts in Europe, Canada, Australia, and other countries. And they have to make their decisions based on the standards in US law, which is utilizing the best available science and reliable and available data.

I certainly don't always agree with their decisions or their positions, but I believe they are making those decisions on what they believe is protective of humans in the environment. Thank you.

MR. KEIGWIN: The next public commentor is Bill Jordan.

MR. JORDAN: Thanks, Rick. Thanks for the opportunity to make a comment. I'm Bill Jordan. I'm a consultant on pesticide issues. I work with advocacy organizations, pesticide companies, law firms, and the like. I'm not speaking on behalf of any of those organizations today, but rather just offering my views as a citizen who is interested in the work of EPA and the pesticide program.

I want to comment about five issues briefly. The first is I commend the work that EPA is doing on smart labels, eCSF, electronic confidential statements of

formula, also the work that you're doing on non-animal alternative methods of evaluating pesticide risks. I think this is important, not only to make the agency more efficient, but also to have the agency in a position to make better decisions concerning protection of human health and the environment. It's work that goes under the radar screen largely, and it's important to continue to put resources into that work.

The second topic is the risk resistance management communications plan. I want to speak in favor of regulation. I know that there are a number of people who thought the communication plan was great just because it was only working with stakeholders to try to get them to do different things to change their behavior. But there is a role for regulation in this field. EPA is the regulator.

Amy Asmus talked about lessons that could be learned from the antibiotic resistance issues. In that area, the federal government has put in place regulatory requirements restricting the use of antibiotics in animal husbandry area. That has made, according to a lot of people, the most significant impact on addressing

antibiotic resistance issues.

I'm not saying that EPA ought to put in place heavy-handed regulations, but there are things that EPA has asked industry and agricultural sectors to do and that those folks have not done. Adding mode of action information to pesticide product labels is in place by many of the large companies, but many of the smaller companies have not done that. I think it's a disadvantage to the companies that have followed EPA's good guidance on that point for those small companies to be left out of compliance with that good guidance.

Similarly, there are programs that have been put in place through registration decisions affecting enlist, duo and dicamba to address resistance management. Those programs are promised to be very effective, but they are only two of the herbicides that have consistency issues. That program should be expanded and it will require probably regulation to other herbicide issues.

The third thing I want to talk about is the reg review program. I commend the work again that EPA is doing on that front. The agency, however, in its interim decisions, is not addressing the effects that the

pesticides may have with regard to endocrine disruption. That's a provision that was put into the Food Quality Protection Act over 10 years ago. The Agency is still somewhat behind in addressing that.

They have the ability through the Tox 21 program to do assessments. They had collected data through data call in to evaluate at least 40 of the chemicals. Yet, those results of those programs is not being reflected in the regulatory risk assessments that are being prepared. I encourage the Agency in adding that as soon as you can.

The next area I want to talk about is endangered species. I agree with Lori Ann Burd that the Agency's work in this area has been painfully slow. I know from having worked at the Agency how much effort they are putting into it. One of the very significant reasons I think work has not moved ahead as quickly as it might is because it requires so much resources. When that's the case, I think it's important to set priorities so that the Agency and the Services work on the most important risks to endangered species.

So, I strongly encourage the Agency to try to

establish clear priorities, both about which pesticides may be of the most concern and about what types of risks may be of the most concern. If you focus on those, the protections that are needed for species will be more easily and more quickly identified and put in place.

And I think it might be following Cindy's recommendation about a more cooperative consensus building effort by this committee. It might be an appropriate thing for this committee to consider creating a workgroup to try to identify such priorities, if not this committee then I hope perhaps that's one of the things that the interagency workgroup looks at.

The last thing I want to talk about is the worker protection standard. The worker protection standard and the certified pesticide applicator rules were developed through a long process of consultation and communication among the effected stakeholders. I think it resulted in a very strong factual record basis to support those rules.

Yet, the kind of changes that are being proposed, considered at least by the Agency, have not had that same kind of consultation and development. I think

that’s a mistake, and I think it has led to proposed ideas about proposals that will weaken the rule.

I have yet to hear any strong arguments made in favor, for example, of lowering the minimum age. To the extent that the Agency is going about it without continuing that kind of consultation process, I think it’s missing an opportunity. I hope that the Agency will consider reaching out to all effective stakeholders in trying to find solutions, as has been done in the past, and that the rulemaking will reflect that kind of broad input. Thank you.

MR. KEIGWIN: I want to thank you all for your participation over the past day and a half. We do appreciate the feedback.

I first want to thank Dea Zimmerman for all of her help in organizing all of this over the past day and a half. Shannon Jewell who has been apprenticing under Dea and a big help in moving things along, I want to thank her. Dozina Taylor and the conference center staff (inaudible) thank you to her (inaudible) for whatever magic was done. And then Deborah Leftridge of the travel center staff for helping get many of you here

(inaudible).

Our next meeting is scheduled for Halloween, so Wednesday the 31st and Thursday, November 1st. Thank you all and safe travels. Talk to you soon.

(The meeting was adjourned.)

CERTIFICATE OF TRANSCRIPTIONIST

I, Marilynn H. McNulty, do hereby certify that the foregoing transcription was reduced to typewriting via audiotapes provided to me; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were transcribed; that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

MARILYNN H. McNULTY, Transcriptionist