Thursday, March 11th--Emerging Technologies Workgroup Meeting Notes

WG Members Present: Manojit "Mano" Basu Co-chair, Ruben Arroyo, Dan Cederberg, Gilbert Del Rosario, Adam Finch, Josh Friell, Brad Fritz, Rebecca "Becca" Haynie, Ramon Leon, Lauren Lurkins, Daniel Markowski, Dan Martin, Jacob Moore, Robby Personette, Damon Reabe, Karen Reardon, Margaret Reeves, Brian Satorius, Scott Shearer, Christina Stucker-Gassi, Nick Tindall

EPA: Ed Messina, Amy Blankinship, Shannon Jewell

OECD Drone Workgroup

- A consultant was hired by OECD to write a literature review report on the state of current knowledge and it is almost complete. It will provide good overview of the most current and relevant literature that exists today and will point to data and information needs.
- The report will form the basis for recommendations to be made at the June 2021 meeting.
- Industry has tried to anticipate what needs will be and has been reaching out to those with interest. Taskforce for test protocols? Industry drafted a LOI for task force formation.

Update on CERSA activities

- CERSA has formed an advisory board, which will direct CERSA in the future. The board will include academia, industry, NGOs and government. Amy Blankenship will represent the Office of Pesticide Programs. CERSA has had academic courses and workshops and are hoping to add more this year. They are looking for topics of interest. They seek to marry science to regulatory needs; to advance regulatory science in agriculture through education, research and engagement.

- ACTION ITEM: Have someone from CERSA provide an overview of the group during the April Emerging Technologies WG (ETWG) meeting.

Overview of member input from last meeting

(See Workgroup member input from X-Leap Software, page 2)

Technologies ETWG wants to work on?

- Potential Workgroup Products

  o Will have a list of emerging technologies with the name and 1-2 sentences detailing what it does

    - The WG discussed environmental improvement needing to be a priority and showing the metrics for what each technology is doing.

      Will the WG prioritize the list?

     o   Deep dive on drones/UAVs: where Risk Assessments fit in. What EPA oversight, data requirements will be from Agency perspective.

- The WG discussed enabling the emerging technologies, like equipment that will use machine language to turn labels on and off--how can labels accommodate that --how can this WG set the backdrop for that? What about see and spray application?

        Should WG put together a document for the agency?

- One more WG meeting in April before PPDC meeting May 12 and 13. What do we want to report out to, and get input on, from the PPDC?

     o   The WG needs the support of PPDC. WG will discuss possible deliverables and make sure the Committee is on board.

Workgroup member input from X-Leap Software

Technologies Workgroup Meeting Activities 2/11

Which technology do you think is most important for the workgroup to focus on?

- I think one idea which should be considered is the general concept of the controller systems in the various self-propelled sprayers like Raven or the systems, etc.
- It would be good to understand what they can do regardless of the platform where they are used. Some of the issues might be general capabilities, regulatory relief for drift management, application rate and chemical use management, integration of real time weather and documentation of application events. Similar to Damon's comments.

    Comments
      · Agree profusely
      · Agreed

- I would encourage everyone to think about the use of AI in pesticide application on land-based machines. See & Spray tech can be used for fungicides and insecticides as well.
- Agree with prescriptive application -- map driven approaches to management of inputs.
- Remote sensing is a key component of prescriptive application.
- Keep UAS - will be key to preserving effectiveness of GMOs by spot treating weed resistance/escapes.

Questions/other

What are the **regulatory relief possibilities** that EPA would consider, to encourage implementation of latest technologies?

Question for Ed/EPA - If companies can demonstrate game changers for growers/ applicators/ bystanders etc. for **chemistries.** At what point does EPA want to hear about these as we face 2022?

Any research into **inversion layers--**In my history air blast and inversions have caused many drift issues in California.

Comments
· in mosquito control, making applications at 200-300 ft, inversions are extremely important.

Brainstorm on technologies workgroup focus areas

1. Unmanned aerial vehicles, for pesticide application, etc.

Comments
· The intended **use patterns for UAV spray systems** (i.e. spot spraying, row crop spraying, small plot applications, single row, etc...) will determine the data needs and define how research studies are designed and the data interpreted.
· Unmanned - Aerial vehicles, but does this group need to consider recommendations for **land based applicators too**?

Prescription Technology

Comments
· Prescription for what? Is this a technology or a concept?
· With variable rate applications that significantly reduce application rate across a given area, there is a need to understand how the **pesticide label related to minimum application rates** will be interpreted.

- **Container traceability**
- Move to digital labels & labeling to enable linking label wording to pesticide application equipment via machine language; should enable local use and mitigations (e.g., endangered species)
- **Automated application parameter tracking/recording and reporting.**
- **Targeted Spray Technology for use in drones.**
- **Targeted spray technology for manned aircraft.**
- Are these all single product applicators? what about multiple product applicators?
- Need to support EPA with **criteria to better accept these technologies**?
    - Example: Targeted pesticide = reduced rate/closed systems = worker exposure bystander exposure.
    - **Goal must be tied to risk assessments.** What can these technologies do to keep more products on the market and pass risk assessments by changing end points but also alleviate all concerns that NGOs raise. Not Label driven but these technologies could really change risk assessments.

Brainstorm on work products/deliverables

List of technologies to focus on

- ⍰ Comments
  - · It would be great to have a full list of technologies and then prioritize

Should these be platforms or specific applications?