Q&A from Pesticides & the Chesapeake Bay Conference

November 19, 2020 – Day 2 Session

Some questions were answered live and those answered below were typed in by presenters.

Asker: Richard
Question: If correlations are with both agriculture and population, what do the two environments have in common?
Dr. Blazer Answer: Live answered

Asker: Ian Hartwell
Question: Your analyses concentrate on chemical concentrations. Do you have data on relative potency of the pesticides and metabolites on the biological endpoints you're using?
Dr. Blazer Answer: Live answered

Asker: Roger Williams
Question: Do you see any changes on the ground in mitigating the flow of pesticides particularly in PA?
Dr. Blazer Answer: How effective ground is depends much on the soil type and geology. For instance, in karst areas many of these can get into groundwater and this groundwater can get back into the streams. Many of the high concentrations were due to storm events and hence most likely runoff. Hence BMPs such as stream riparian zones can mitigate flow during runoff but may also help with any that aerosolized. Over the time we do seem to be seing some decreases in the very high concentrations and we are examining BMP effectiveness.

Asker: Sally Horner
Question: Are you measuring these compounds in sediments as well and do you see differences there?
Dr. Blazer Answer: We did do some sediment analyses and there is a difference. Things like atrazine are more common in the water. On the other hand, compounds like bifenthrin are rarely found in water but are in sediments.

Asker: Jody Johnson
Question: Currently the EPA regulates on individual compounds (right?) but is it more foresightful for future efforts to regulate pesticides based on classes of compounds instead of individual compounds? Is Europe regulating on classes of compounds or individual compounds?
Dr. Blazer Answer: Yes, it is my understanding EPA regulates on individual compounds. Not sure if there are sufficient studies to know for instance if all triazine herbicides would have the same effects. I am not sure about European regulations.

Asker: Mark Matsche
Question: Have you noticed any declines in fish population abundances in any of these sites?
Dr. Blazer Answer: Yes, PA documented significant population declines there is some evidence they may be rebounding. John Mullican (MD DNR) indicated they are seeing poor recruitment in the last few years in the middle Potomac.

Asker: Arthur Milholland
Question: How does the legislature use and respond to this information?
Dr. Blazer Answer: I think the MD Pesticide Network has had some success with the MD legislature. I also think education is especially important.

Asker: Simin Rezai
Question: Atrazine application is banned in the EU and Switzerland. A Swiss company is the big producer and exporting to the USA. As you mentioned in your previous presentations, it is also the cause of small mouth bass intersex in Susquehanna River. Why not banned in the USA.
Dr. Blazer Answer: That is a good question - I don't have an answer for it.

Asker: Eric Duce
Question: Is there any evidence of pesticide active ingredients, soaps, and adjuvants reacting with the chemicals from medications secreted in wastewater? Such as estrogen from birth control medications and others?
Dr. Blazer Answer: I haven't seen any studies that address such interactions, so I don't actually know a definite answer for your question. Sorry.

Asker: Kai Abelkis
Question: How important is friction to killing the virus? How long should you rub your
Dr. Rule Answer: Live answered

Asker: Paul Hlavinka
Question: Is cleaning of food required? For instance, a rinse in chlorinated water?
Can you confirm if the use of UV lights to kill a virus in the air is effective?
Dr. Rule Answer: If you need to clean your food, soap and water is preferred. SARS-CoV-2 is mostly a respiratory virus. Yes, UV light used correctly has been shown to be effective in killing virus in the air"

Asker: Arthur Milholland
Question: Are wipedowns in restaurants safe for customers... for employees?
Dr. Rule Answer: It depends on the products used. Hydrogen peroxide would be safe--it breaks down into water and oxygen. Bleach and quats may leave a residue on the surface and shouldn't be used as a spray around customers due to their respiratory irritation.

Asker: Lisa
Question: My school board is focusing on dilution and pH... even when diluted quat disinfectants are toxic?
Dr. Rule Answer: There is very little information and I would say, based on the precautionary principle, from what we know on animals, that yes they are potentially toxic.

Asker: Arthur Milholland
Question: Wipedowns inside cars safe?

Dr. Ichniowski Answer: I suggest wiping with a safe chemical or soap if you suspect your car has been infected. If surface is soiled, wash with soap and water first. Hydrogen peroxide products would be safe to use for wipedown to disinfect surface if necessary.

Asker: Lisa
Question: My board is comparing quat disinfectant and hydrogen peroxide disinfectant and saying the quat is safer because the pH is 8.8 vs. 3.
Answer: I would love to see what other data the board is looking at… pH is not the only characteristic involved in deactivating the virus.

Asker: Luke Goembel
Question: Does your research take into account the rapid introduction of pesticides due to days of rain, etc., that might increase the concentration of given pesticides for a certain amount of time, and thereby increase it enough to be the 'lethal dose' for organism?
Dr. Blazer Answer: We have tried to get a handle on that by sampling after rain events and/or high flow periods. There is no doubt that certain chemicals - for instance the high peaks of the herbicides were generally after rain events. In some cases, the concentrations declined rather quickly but we also saw that multiple rain events can maintain those higher concentrations for days to weeks.