

Q&A from Pesticides & the Chesapeake Bay Conference December 2, 2020 – Day 3 Session

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

Questions from Dr. Tom Green's presentation

Asker: Emily Ranson

Question: How are decisions made on what pesticides are allowed, what practices are allowed?

Dr. Green Answer: Live answered

Asker: Emily Ranson

Question: Are neonics allowed?

Dr. Green Answer: Live answered

Asker: Emily Ranson

Question: How much does pesticide use fluctuate from year to year, and what are factors that influence that?

Dr. Green Answer: Great question! Yes it can, particularly fungicides to control diseases, the more rain, the more need for fungicide applications in apples and many other crops. As I mentioned, if we get more rain, we also have more apple maggot flies and need for insecticide applications.

Asker: Emily Ranson

Question: How many orchards were certified in 2020? And what keeps the program from growing to more orchards?

Dr. Green Answer: 24 in 2020, we have geographic limitations in both programs in part due to needing to have practical logistics, but also because of our desire to promote local. We are looking at geographic expansion through partnerships currently.

Asker: Luke Goembel

Question: Is there any chance we can attempt to change the perception producers have that consumers only want 'perfect as plastic' fruit and vegetables? I personally know of many who prefer imperfect looking fruit and vegetables grown with fewer pesticides than plastic poison drenched food.

Dr. Green Answer: Another great question, and several of our growers grow some organic apples for the people you reference. There are some programs out there that market "ugly" produce successfully. One issue is that if the produce is not uniformly "ugly", it's always the ugliest that gets left until last and sales plunge. So it takes a dedicated bin that identifies the product as low pesticide, and largely just has produce with generally the same level of defects.

Asker: Emily Ranson

Question: How do growers get introduced and become part of Eco Apple, for instance here in Maryland?

Dr. Green Answer: Unfortunately, Maryland is currently outside of our geographic scope.

Asker: Marjorie Roswell

Question: That makes so much sense. Don't spray if you don't have the insect problem. What percentage of farms use these traps?

Dr. Green Answer: All of our Eco Apple and Truearth growers do, there is not great data on how many growers do generally. USDA did watershed-based surveys in the last decade, and they reported only ~10% of growers used a high percentage of all of the IPM practices available to them.

Asker: Anonymous

Question: Why do you still see the need for neonicotinoids and chlorpyrifos? Are there not other substitutions?

Dr. Green Answer: We are prepared to do without chlorpyrifos. There are some challenges including that one of the alternatives, mating disruption for dogwood borer is not legal yet in Minnesota.

It's important to recognize that neonics are not equally toxic to pollinators, there are four that are highly toxic. One, acetamiprid, is orders of magnitude less toxic, and is one of the most effective options for apple maggot fly. And as we know, we can manage our use so that we still have abundant and diverse pollinator populations in our orchards.

In general, as my graphs showed, newly certified growers make progress over time, if alternatives are new to them, they are likely to experiment before adopting over the entire orchard.

Asker: Luke Goembel

Question: You didn't mention the use of kaolin, and organic pesticide, in your list of pesticides for IPM. Why?

Dr. Green Answer: Kaolin is on our list, I was showing a partial list. The full list is available in the protocol on our website, ipminstitute.org, and includes many organic-approved options including Bt, sulphur, copper, mating disruption.

Asker: Erroll

Question: What is the economic advantage to use your program

Dr. Green Answer: Access to wholesale markets is one - by working together, we are more successful in getting contracts with supermarket chains. By participating in the learning community, growers get valuable information that helps them grower more high quality, high dollar fruit. The shared branding, marketing, sales and packaging are all less expensive for our growers than each developing their own. There is sometimes a price premium that we can earn for growers, but not always. As I mentioned, production costs can be higher, and many of our growers are not driven by economics but because they want to do the best they can to protect health and environment.

Asker: Luke Goembel

Question: If neonics are the only thing that works, what did farmers use before 1990, before neonics were sold?

Dr. Green Answer: Neonics are very rarely the only option, and I can't think of any pests where neonics are the only option we have for apples. However, if we use the same pesticide over and over again, we accelerate resistance. So for many pests, we need to rotate pesticides used, or use

them in combination, so that we don't end up in a situation where we have only one or no options.

Asker: MMatsche

Question: Any success with promoting natural predators of some of the apple pests?

Dr. Green Answer: Absolutely - we rarely have problems with aphids, mites or leafminers for example, because we have eliminated pesticides that harm beneficials for those pests. Unfortunately, we are left with multiple pests that do not have effective natural enemies. For example, if you go seek out a wild tree in the forest, if it has any fruit, typically all will be infested with either plum curculio, codling moth or apple maggot, which we don't have good biological controls for.

Questions from Cleo Braver's presentation

Asker: Jen Eames

Question: Is the designation "pasture-raised" on food products indicative of the pasture animal production practice?

Cleo Braver Answer: Live answered

Asker: Art

Question: How is the methane production by animals balanced in the pastured land equation?

Cleo Braver Answer: Live answered

Asker: Sally Hornor

Question: Won't there be an upper limit where grass farming will no longer be able to sequester more C due to root density or some other limiting factor for grass growth?

Cleo Braver Answer: That would be a lovely situation to be in where there is so much root mass in the soil - which stores carbon - that none more can be stored.

Asker: Emily Ranson

Question: In addition to holding carbon, it sounds like these practices might also help Bay water quality by reducing runoff - is that so?

Cleo Braver Answer: Absolutely. Buffer strips and pastured animal production are permanent plantings which retain nutrients, water and sediment so they don't run off into the Bay and its tributaries. Pastured animal production has the additional benefit of ACTUALLY ALLOWING FARMERS TO KEEP PRODUCING FOOD, versus buffers which do take land out of actual food production, notwithstanding all its other benefits.

Asker: Emily Ranson/ D'Williams

Question: Could you talk a little about the excessive use of herbicides on many "Roundup Ready" crops?

Cleo Braver Answer: There are many studies in resources that address negative impact of roundup on soil. But it is probably fair to say that synthetic fertilizers and insecticides are lower hanging fruit that cause greater harm as general categories.

Asker: Erroll

Question: What is the status of carbon trading in MD?

Cleo Braver Answer: Indigo Carbon and others are already paying farmers to reduce synthetics and raise animals on pasture. These national carbon market makers will eventually reach out to Maryland producers if they have not already. We want to be ready for it when they do.

Asker: Art

Question: Would not having pasture-raised meat demand a major change in how meat is consumed, perhaps as a flavoring instead of as a perceived major protein source?

Cleo Braver Answer: Live Answered

Asker: HG Doebel

Question: I understand the awesome potential for C sequestration in soil. However, at one point there will all sequestered that can be. At this equilibrium level, no additional C will be removed from the atmosphere. So, this is just a bandaid in the short term, isn't it? And what about reducing meat consumption being a better approach, thus allowing soil to be used for growing vegetables and grains?

Cleo Braver Answer: Not Answered