

Michael Palmer Testimony April 18, 2024

Senate Testimony H-706

Michael Palmer
French Hill Apiaries
Saint Albans

1974-2024

Beginning the 51st year of my beekeeping operation, 42 years commercially
President of Vermont Beekeepers Association for 5 years

Up to 1000 honey producing colonies in the Champlain Valley of Vermont
and New York

Honey produced 30-50 tons annually

Pollinated apples in Chazy New York for 20 years with 600 colonies

Gave up my pollination contract in 2001

Reduced the number of honey production colonies to 300 in 2021...all
located in Vermont

Now focused on:

- Production of honey

- Raising quality queen bees for the last 25 years for use and sales

- Involved in a stock improvement program with UVM

- Growing 350 nucleus colonies for use and sales

- *Nucleus colonies are my heifers for the following year

Over the last 50 years, I have developed honey bee management practices that are now used around the world. In the last 10 years, I have spoken to beekeeping groups in many countries, from New Zealand to the United Kingdom to Ireland to Canada to Chile to Mexico, and of course across the United States. My management practices have become so popular in Latin America that my work has been labeled, El Método...the Method. What an honor for a Vermont beekeeper to be so respected around the world.

In the last number of years, a problem has arisen in my apiaries. I'm losing high numbers of colonies for unexplained reasons. Our annual colony losses are no longer winter related. My honey bee colonies are now collapsing in the Autumn, never making it to winter in a survivable condition.

I have a question for Senator Starr...

In 2021, I enrolled in a pollen trapping study with UVM to assess the levels of agricultural pesticides in the pollen being used by my bees as their protein source. Today, the levels of herbicides, fungicides, insecticides, and neonicotinoids are more than concerning. I'm here to speak about the Neonicotinoid levels.

First, don't get the wrong idea. I'm not here to advocate for ending all pesticide use in Vermont agriculture. I realize the need and agree with the use of some pesticides in our agriculture. Planting corn in our cold, wet, clay soils in May, without fungicide would spell disaster for the Vermont corn crop. Look back into my testimonies before the House and Senate Agriculture committees. On a number of occasions, I have been asked by both groups for my opinions. I served on the Federally mandated Pollinator Protection Committee, nominated by Governor Shumlin. In all cases, I supported the Vermont farmers' right to protect their crops with appropriate pesticides. I supported the use of neonic seed coating on corn and soybean with Clothianidin on corn and Imidacloprid on Soy. This support was, in part, because the VAAFMM told me they found no Neonicotinoids in honey bee colonies. I believed what they told me. Unfortunately, I have since learned that the Agency's testing machinery is only sensitive down to 10 parts per billion. Far too high to give a realistic assessment of neonicotinoid contamination in honey bee colonies.

Traditionally, I'm used to losing 10-15% of my honey bee colonies in the winter. In the winter of 2014-2015, I lost 2% of my colonies. In 2015-2016 I lost 6%. But, in 2016-2017 I lost 40%. By the spring of 2023 I had suffered a 60% loss in my apiaries. I knew in September/October the bees were in trouble. They were fed appropriately to insure they had enough food for our long winter. Varroa mite populations were being followed closely, and I treated to eliminate that threat. Best management practices were followed as I had done for many, many years. Still the bees perished.

Talk about a devastating loss for my farm. What farm of any kind, in Vermont, could experience a 30-60% annual loss of livestock. None I would dare say. Yet, using those nucleus colony heifers to repopulate my dead hives I gained back 80% of what I previously had. Still a major farm loss as I wasn't able to sell any of those nucleus colonies...an

important income stream for spring startup expenses. At the time, I was at a complete loss to explain such high losses.

Once the pollen trapping results came in from the Cornell lab, the possible reasons for high colony losses came to light. In one apiary, I call the apiary the Decker Yard, there were high levels of Clothianidin present in the trapped pollen being fed to my larvae and pupae. Understand that this apiary is the most important apiary I have as it is where I raise my queen bees, so essential to my entire operation.

How do Clothianidin levels effect a honey bee colony?

At 1 part per billion (ppb), measurable damage to a honey bee colony can be observed.

At 5 ppb, nearly half the queens are lost.

The level of Clothianidin at the Decker yard? 10.75 ppb. That's more than twice the level needed to kill half my queens and more than 10 times the level to observe measurable damage in the colonies. I can only imagine what damage is being done to the thousands of queen bee pupae I raise in that apiary.

Pollen gathered for this study was trapped in May during and directly after corn planting. There was no corn tasseling this early in the season. No corn pollen available. And yet I have to ask, "Where is the contaminated pollen coming from"? When treated seeds are planted, talc is used as a lubricant so the corn seed flows easily into the planting disks. This creates a dust that has a high level of Clothianidin. This poisonous dust drifts across fields adjacent to the recently planted corn field. Non-target plants are contaminated and when they flower, their pollen is gathered by the bees. Take Dandelions as an example. Dandelion pollen gathered by the bees around the Decker yard contained 4.5 ppb of Clothianidin. Remember, Dandelions grow from untreated seeds. When treated seeds are planted in the ground, only 5% of the product enters the corn plant. The other 95% is in the soil where the chemicals can be taken up from the soil by neighborhood plants. We may as well look at Goldenrod as well. Goldenrod is the last pollen source the bees have available before winter. It is used by the bees, predominately in the spring, for colony buildup. Goldenrod tissue samples around corn fields are showing high levels of Neonics.

So, is this the smoking gun to explain my high colony losses over recent years? Seems like the best possibility I can come up with.

I'm here to ask you...plead with you...to reduce or eliminate the use of Neonicotinoid pesticides in Vermont. Other agricultural regions in the world have eliminated the products with good results. Watch the video with four Quebec row crop farmers, one being a dairy farmer. All grow corn in their rotation. Quebec banned neonicotinoid pesticides 5 years ago. Since then, surveys have been initiated, and continued. Treated and untreated corn field have bees sampled and evaluated for crop harvested. There have been no differences in crop tonnage between treated and untreated corn fields. None. For a better understanding of what the Quebec farmers are finding please watch the video:

<https://www.youtube.com/watch?v=N9OWx9XWIaE&t=38s>

So, with the experiences of the Quebec farmers taken into account...
With the studies done on the effects of neonicotinoids on kept and native pollinators...
With the extremely concerning list of pesticides in the pollen trapped in Swanton, Vermont, isn't it time to do something?

Please look at this with an open mind, and give us the help we need to survive as Vermont farmers. Remember, my livestock is as important to me as livestock raised by any other Vermont farmer in this Green Mountain State is to them.

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