

My name is Anne Fairbrother, and I am here today to stand up for good science. This is what I have done throughout my 30-year career, half of which was working for EPA as a research scientist in their Corvallis lab, and the other half of which I worked as a consultant to industry and various governments on issues related to wildlife toxicology. I am a veterinarian by training, with a PhD in wildlife diseases. I have over 100 publications and have served on many national and international science panels, including a recent National Academy of Sciences panel that reviewed the process used by EPA, Fish and Wildlife Service, and NOAA for assessing pesticide risks to endangered species. Although I have consulted for the pesticide industry, I am now retired and am here today on my own behalf; I am not being paid to testify. I am asking you to carefully consider the large body of really **good science that shows that neonicotinoids are safe for fish and wildlife, that the alternative pesticides that would be used if these products are banned will cause bird and fish kills, and that problems in the US honey bee industry are not the result of pesticide use** but rather stem from market forces changing the manner in which bee colonies are managed.

Since the era of DDT, the pesticide industry has been focused on developing products that are less toxic to people and do not biomagnify in the wildlife food chain. The most widely used products are organophosphate and carbamate pesticides, which meet these criteria. Unfortunately, birds and many fish lack the enzyme that we and other mammals have to detoxify these chemicals, and we still see many bird deaths and fish kills when they are used. Pyrethroid pesticides are much less toxic to birds and fish (and to people), but do cause problems to the food chain if they build up in stream sediments. The neonics, which first came on the market in 1995, are designed to be very specific to insect receptors; so they do not cause problems to birds, bats, fish or other wildlife. And they degrade rapidly so do not remain in the soil or build up in the food chain. **If farmers are denied the use of these products, they will use the older pesticides, and we once again will see bird and fish kills.** In addition, the 2-year moratorium on neonic use across Europe that went into effect about a year and a half ago has caused huge problems for farmers as they try to find older pesticides to which the insect pests are not resistant. A flea beetle outbreak wiped out about 40% of the UK canola crop last year,

where in the past the neonics have been very successful at controlling this pest. This tells us that there can be negative consequences to agriculture from a ban on these chemicals.

In spite of what you have heard, neonics when applied to crops do not cause problems to honey bees.

Remember: The Dose Makes the Poison. The studies conducted in the laboratory that show effects on behavior, survival, and so on were conducted at concentrations much, much higher than what the bees are exposed to in the fields. This makes sense, if a researcher is trying to understand what the chemical could do – to show what is possible. But it does not tell you what is probable, or actually likely to happen under field conditions. For that, experiments need to be carried out at field-realistic doses, and whole colonies need to be exposed, not just individual worker bees which only have a 30-day life span. A recently published 3-yr study by scientists with USDA has convincingly shown no effects to bee colonies exposed in this manner. The pesticide was put into pollen which the bees took into their hive and turned into bee bread and honey which diluted the concentrations. It also degraded quickly. The field-realistic dose was at such low levels that there were no effects to the larvae or even to production of new queens. There also have been several field studies in Europe that showed the use of neonics did not affect wild honey bees in the areas around the crop fields, and when France banned the use neonics on sunflowers, their declining honey bee populations did not recover. Finally, I leave you with the reminder that the honey bee is not native to the U.S. It was brought to North America by the pilgrims to provide honey. In fact, bees were raised commercially for honey production until the late 1990's when the California almond industry expanded and started paying for pollination services. Without going into a lot of detail, let me just say that market forces, diseases, and basic husbandry problems are primarily responsible for difficulties the honey bee industry has faced in the past two decades. Pesticides are very low on the list of problems for these bees.

I hope you consider carefully what is known as fact, what is speculation, and what the trade-offs are when considering a ban on any pesticide. Science has a lot to offer; use it wisely. Thank you for your attention.