Bayer CropScience

March 26, 2015

Subject: Oregon Legislative Assembly – Senate Bill 882

Honorable Senator Chris Edwards, Chairman Senate Committee on Environment and Natural Resources and Committee Members

Dear Chairman Edwards and Committee Members,

This letter is in response to the proposed Oregon Senate Bill 882, which if enacted would unnecessarily and unreasonably restrict the use of neonicotinoid insecticides ("neonics"). On behalf of the many farmers, lawn and tree care professionals, and consumers who depend on these products, Bayer CropScience strongly urges the Committee on Environment and Natural Resources to reject this proposed legislation.

Senate Bill 882 is based on several misleading and incorrect assumptions about neonics. The purpose of this letter is to provide this Committee with accurate information so that it can make a more informed decision regarding the use of these important products. We believe this information will clearly show that this bill is counterproductive and unnecessary. Furthermore, if ratified, it would have severe and unintended consequences.

Contrary to the language in Senate Bill 882, the scientific evidence supporting the safe use of neonics is overwhelming. With hundreds of studies conducted, ranging from small laboratory tests to large, long-term field trials, we know more about neonics and bees than any other class of insecticides in use today. Recent scientific reviews conducted by many independent scientists have looked at studies conducted over 15 years of research and concluded the risk of neonics to honey bee health is negligible (Attachment 1).

There is little evidence that uses of neonics have any measurable adverse impact on fish, birds, bats or other wildlife. This is precisely one of the major reasons these products have become the most popular insecticides in use worldwide. Neonics are generally considered to be reduced-risk compared to many other products, and have low toxicity to mammals, birds, and fish compared to some other types of pesticides. Claims that neonics have widespread impact on aquatic food chains or bird populations have not been substantiated.

Populations of hawks, eagles, and falcons which feed at the top of aquatic and terrestrial food chains have increased greatly over the last 40 years. Similarly, duck populations, which breed mainly in the prairie pothole region where neonicotinoid use is widespread, have exhibited large

population gains over the last two decades. Moreover, there has not been a single confirmed bird death associated with neonic use in 20 years, according to the American Bird Conservancy's own monitoring records.

The proposed legislation assumes the presence of even trace amounts of neonic residues somehow violates existing regulations. This is clearly incorrect, as our federal regulatory system permits food commodities to contain certain levels of residues that are safe for human consumption. This is true for all pesticides, not just neonics, and it is unreasonable to expect that such small traces represent any concern to human health. The same is true for environmental residues. Neonics do not bioaccumulate in animals and studies show that the small amount of residues that do not quickly degrade will bind tightly to soil, thus reducing their availability for leaching, runoff or uptake into plants. [1,2,3]

Senate Bill 882 suggests that neonic residues found in pollen increases risks to honey bee health, but actual evidence says otherwise. Studies have shown that less than 7 percent of the pollen samples collected from U.S. colonies contained neonic residues, making them among the *least detected* of all pesticide residues found in bee hives. [4,5,6,7] This month, results from a three-year bee study conducted by scientists from the University of Maryland, the U.S. Environmental Protection Agency and the U.S. Department of Agriculture confirmed what other research has already shown – that field-relevant exposures of neonicotinoids have negligible effects on honey bee colony health. [8]

There is no mention of the benefits of neonics in this bill, which is perhaps the most important consideration in any discussion regarding the merits of this legislation. Neonics have become the most widely used insecticide because of their effectiveness and favorable environmental profile when compared to the older products they replaced. That is why they are used to protect crops, homes, recreational spaces, and even pets. Multi-year research conducted by independent economists and scientists recently concluded that neonics are a primary tool used in integrated pest management programs, significantly increase crop yields, and bring billions of dollars to the U.S. economy, benefiting not only farmers, but entire communities. [9]

In summary, there is no scientific justification for the restrictions on neonics in Senate Bill 882. If enacted, it would deprive users of one of the most important and innovative technologies available for modern pest management, without providing any appreciable benefit to wildlife or the environment. The loss of these products would bring serious economic and environmental consequences, and necessitate a return to older products that lack the favorable benefits neonics have to offer. Bayer CropScience joins with many Oregonians in strongly urging this Committee to reject the proposed legislation.

Thank you.

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Attachment 1 - Recent Scientific Reviews of Neonicotinoids and Bees

Comprehensive reviews of multiple studies and databases comprising 15 years of research involving neonicotinoids and pollinators have been published recently by a diverse group of researchers. These reviews, which analyzed the abundant information available regarding pesticide-pollinator risk assessment, all infer that neonicotinoid insecticides are unlikely to be a significant factor when assessing bee risk. It is informative to highlight some of the relevant conclusions of these reviews:

- A 17-member consortium of university and federal bee labs, observed that "Bee mortality is negatively impacted as the percentage land use in agriculture increases, but this is not associated with any identifiable trend in pesticide use" and noted that although dust from seed treatments in corn can pose a threat to insect pollinators, older chemicals "pose a 3-fold greater hazard to the colony than neonicotinoids."[1]

- Using the well-established Hill's epidemiology 'causal criteria', Cresswell et al. (2012) reviewed dietary exposure in nectar and pollen and concluded "dietary neonicotinoids cannot be implicated in honey bee declines."[2]

- In reviewing environmental residue levels of neonicotinoids, Blacquiere et al. (2012) found residue levels to be lower than known acute or chronic toxicity levels and observed no sublethal effects in field studies conducted using realistic dosages.[3]

- Evaluating the relevant information on neonicotinoid uses in the United Kingdom, the UK Department for Environment, Food and Rural Affairs (DEFRA) concluded from the accumulated evidence across several independent studies that it "supports the view that the risk to bee populations from neonicotinoids, as they are currently used, is low."[4]

- 19 honey bee experts chosen to reflect a diversity of field of expertise in honey bee health and to represent the academic, business, and government sectors in North America and Europe, provided expert input to a causal analysis comparing 39 possible candidate causes of the reduced honey bee colony survival rates observed in North America since 2006. These experts classified neonicotinoids as "unlikely" causes, while Varroa mites and viruses were considered "probable" factors, and nutrient deficiency was considered to be a "likely" factor.[5]

- A report from the EcoHealth Alliance (2014) examined the drivers of honey bee colony decline and annual losses. Regarding neonicotinoids, this report concluded "scientific studies examining the overall impact of neonicotinoid pesticides on managed honey bee colony loss are yet to demonstrate colony level losses in field settings at field doses."[6]

- In its recent 92-page report, the Australian Pesticides and Veterinary Medicines Authority examined the impact of that country's extensive use of neonicotinoids, concluding "the introduction of the neonicotinoids has led to an overall reduction in the risks to the agricultural environment from the application of insecticides" and that "Australian honeybee populations are not in decline, despite the increased use of this group of insecticides in agriculture and horticulture since the mid-1990s."[7]

- A review by Fairbrother et al. (2014), criticized the overreliance of laboratory studies in evaluating risk, noting "Assessing risks only under worst-case conditions with individual honeybees, divorced from properties provided by colony interactions, serves only to understand potential mechanisms of action of different chemicals but not their actual risks." When considering the extensive body of existing research, the authors concluded "it is not reasonable, therefore, to conclude that crop-applied pesticides in general, or neonicotinoids in particular, are a major risk factor for honeybee colonies."[8]

Conclusion

These comprehensive review papers, all published in the past 3 years, provide a stark contrast to unsubstantiated claims against neonicotinoids as a cause of honey bee decline. By all objective measures, the evidence shows no relevant long-term impact of neonicotinoids on colony health, whereas there is substantial evidence linking other factors, such as the spread of the parasitic Varroa mite and its associated diseases, to colony declines.

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