Office of Senate Floor Analyses
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THIRD READING

Bill No: SB 602
Author: Allen (D) and Wiener (D)
Introduced: 2/17/17
Vote: 21

SENATE ENVIRONMENTAL QUALITY COMMITTEE: 5-2, 3/29/17
AYES: Wieckowski, Hill, Lara, Skinner, Stern
NOES: Stone, Bates

SUBJECT: Pesticides: neonicotinoids: labeling

SOURCE: Bee Smart California

DIGEST: This bill requires labeling, as specified, of commercially available seeds and plants sold at retail establishments, and prohibits the noncommercial use of neonicotinoids as specified.

ANALYSIS: Existing federal law provides, under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), for federal regulation of pesticide distribution, sale, and use.

Existing state law:

1) Authorizes the state's pesticide regulatory program and mandates the California Department of Pesticide Regulation (DPR) to, among other things, provide for the proper, safe, and efficient use of pesticides essential for the production of food and fiber and for the protection of public health and safety, and protect the environment from environmentally harmful pesticides by prohibiting, regulating, or ensuring proper stewardship of those pesticides.

2) Requires every manufacturer of, importer of, or dealer in any pesticide, as specified, to obtain a certificate of registration from DPR before the pesticide is offered for sale.

3) Requires DPR, on or before July 1, 2018, to issue a determination with respect to its reevaluation of neonicotinoids, and to adopt control measures necessary to protect pollinator health within two years, as specified.

This bill:

1) Requires, on and after July 1, 2018, labeling of commercially available seeds and plants sold at retail establishments, excluding noxious weed seeds and plants, that have been treated with a neonicotinoid pesticide.

2) Specifies that "treatment" includes foliar and granular treatments, in addition to seed coatings.

3) Defines "neonicotinoid" as imidacloprid, nithiazine, acetamiprid, clothianidin, dinotefuran, thiacloprid, thiamethoxam, or any other chemical designated by DPR as belonging to the neonicotinoid class of chemicals.

4) Prohibits the use of noncommercial neonicotinoids in California as of January 1, 2019.

5) Exempts pet care products and indoor pest control products meant for inside pests from the above prohibition.

6) States that noncompliance with the labeling requirements of this bill is a violation of Business and Professions Code unfair business practice provisions and prohibits the use of neonicotinoid pesticides, and exempts certain uses.

Background

1) *Neonicotinoids.* According to the US Environmental Protection Agency (US EPA), neonicotinoids are a class of insecticides with a common mode of action that affects the central nervous system of insects, causing paralysis and death. Some uncertainties have been identified since the initial registration of neonicotinoids regarding their potential environmental fate and effects, particularly as they relate to pollinators. Data suggests that neonicotinic residues can accumulate in pollen and nectar of treated plants, potentially exposing pollinators to high levels of the chemicals. Adverse effects data and bee kill incidents have also been reported, highlighting the potential direct and/or indirect effects of neonicotinic pesticides on pollinators.

2) *Bees.* Bees were once found in large parts of the Eastern and Midwestern United States, but the bees have suffered a dramatic decline in the last two

decades due to habitat loss and degradation, along with pathogens and pesticides.

The bee was found in 31 states and Canadian provinces before the mid- to late-1990s, according to the final rule published in the Federal Register. But since 2000, it has been reported in only 13 states and Ontario, Canada. It has seen an 88% decline in the number of populations and an 87% loss in the amount of territory it inhabits. This means the species is vulnerable to extinction, even without further habitat loss or insecticide exposure.

Pollinator decline is a global trend. A United Nations sponsored report drawing on about 3,000 scientific papers concludes that about 40% of invertebrate pollinator species (such as bees and butterflies) are facing extinction. Since some 75% of food crops rely at least partially on pollinators, that raises serious concerns about the future of the global food supply.

In October 2016, the United States Fish and Wildlife Service gave endangered status to seven species of yellow-faced bees native to Hawaii, the first time any U.S. bees received this kind of protection. In 2017, the rusty patched bumblebee was additionally added to the list of endangered species.

3) *Pollinators and neonicotinoids.* Factors affecting pollinator health and bee colony losses due to Colony Collapse Disorder began to be identified in 2006. A National Research Council report in 2007, Status of Pollinators in North America, documented the decline of pollinators and discussed some of the possible causes as well as research and other actions needed to address the issue.

   The prevailing theory among scientists in US EPA, United States Department of Agriculture (USDA) and the global scientific and regulatory community is that the general declining health of honey bees is related to complex interactions among multiple stressors including:

   - Pests (*e.g.*, varroa mite), pathogens (*e.g.*, the bacterial disease American foulbrood) and viruses.
   - Poor nutrition (e.g., due to loss of foraging habitat and increased reliance on supplemental diets).
   - Pesticide exposure.
   - Bee management practices (e.g., long migratory routes to support pollination services).
   - Lack of genetic diversity.

In California, beekeepers lost 40% of their hives in the last year. Since 2006, there has been an average loss of 30% of California hive. Wild bee populations have declined by 23% between 2003 and 2008 in the United States.

Historically, US EPA's pesticide risk assessment process for bees has been qualitative (i.e., not measured). The process relied primarily on developing an understanding of the types of effects that might be caused by the pesticide (hazard characterization), based on toxicity studies.

In 2011, US EPA began expanding the risk assessment process for bees to quantify or measure exposures and relate them to effects at the individual and colony level. This involved identifying additional data that would be needed to inform that process.

In November, 2012, US EPA, in collaboration with Health Canada's Pest Management Regulatory Agency and DPR, presented a quantitative risk assessment process for bees and other insect pollinators to the FIFRA Scientific Advisory Panel.

US EPA has begun to employ its new risk assessment framework for bees as part of its regulatory decision-making process for all pesticide chemistries. The new framework relies on a tiered process.

In June 2014, President Obama issued a memorandum establishing a Pollinator Health Task Force, co-chaired by USDA and US EPA, to create a National Pollinator Health Strategy that promotes the health of honey bees and other pollinators (including birds, bats, butterflies, and insects).

US EPA has taken action to protect pollinators from pesticide exposure.

In January, 2016, US EPA and DPR released their draft assessment focused on how one of the most prominent neonicotinoids—Bayer's imidacloprid—affects bees.

This was the first of four risk assessments conducted by the US EPA and DPR on the class of pesticides known as neonicotinoids.

Reviewing dozens of studies from independent and industry-funded researchers, the US EPA's risk-assessment team established that when bees encounter imidacloprid at levels above 25 parts per billion—a common level for neonicotinoids in farm fields—they suffer harm. "These effects include decreases in pollinators as well as less honey produced," the US EPA's press release states. California already prohibits use of the chemical on almonds and limits its

application for other crops during bloom periods when bees are most likely to be present.

"Clearly, as a result of this, there might be more restrictions coming," said Charlotte Fadipe, spokeswoman for the California Department of Pesticide Regulation.

In January 2017, US EPA published preliminary pollinator-only risk assessments for the neonicotinoid insecticides clothianidin, thiamethoxam, and dinotefuran and also an update to its preliminary risk assessment for imidacloprid, which was published in January 2016. The updated imidacloprid assessment looks at potential risks to aquatic species, and identifies some risks for aquatic insects.

The assessments for clothianidin, thiamethoxam, and dinotefuran, similar to the preliminary pollinator assessment for imidacloprid showed: most approved uses do not pose significant risks to bee colonies. However, spray applications to a few crops, such as cucumbers, berries, and cotton, may pose risks to bees that come in direct contact with residue. In its preliminary pollinator-only analysis for clothianidin and thiamethoxam, the US EPA has proposed a new method for accounting for pesticide exposure that may occur through pollen and nectar.

Along with the preliminary risk assessments, the US EPA is also issuing an updated registration review schedule for the four neonicotinoids to reflect the data being submitted in 2017.

According to DPR, DPR continues to work with US EPA on the risk assessments for certain neonicotinoids. As DPR moves closer to assessing the potential harms of these pesticides, it may warrant mitigation efforts. There are multiple ways to mitigate the potential harm from a pesticide, including a label change through US EPA, or DPR regulatory action, and others. At this time, DPR states that it has put a placeholder on the 2017 rulemaking calendar for a potential neonicotinoid regulation in case it determines that there is a need to begin mitigation this year and there is a determination to mitigate through regulation.

Comments

Purpose of bill. According to the author, "The labeling of neonicotinoid-treated plants will help to protect bees and other pollinators, one of the most critical components of our fragile ecosystem. Research – including a recent analysis by independent scientists at Sussex University – confirms that toxic neonicotinoid pesticides are not only harmful to honey bees, but also to a broad range of other animals, including bumble bees, butterflies, birds and water insects, posing a

serious threat to the food system, the livelihood of beekeepers, and to the environment.

"These harmful pesticides are now the most widely used class of insecticides in the world and their use continues to grow. Research has shown that consumers often overuse neonicotinoids. Products approved for home and garden use may be applied at rates up to 120 times higher than what is approved for agricultural uses. Consumers also may be unaware that many 'bee friendly' garden plants and vegetable seedlings sold at home garden centers have been pre-treated with these bee-killing pesticides.

"SB 602 is an opportunity to have a tremendously positive impact on this issue by empowering consumers to decide for themselves which plants to buy for their gardens. This bill takes a consumer protection approach by requiring all neonicotinoid-treated plants to be labeled as such when sold in nurseries."

Related/Prior Legislation

SB 1282 (Leno and Allen, 2016) would have required labeling of all commercially available seeds and plants treated with neonicotinoid pesticide and stated that it is a violation of Business and Professions Code unfair business practice provisions not to do so and prohibited the use of neonicotinoid pesticides, and exempted certain uses. SB 1282 passed the Senate Committee on Environmental Quality on a vote of 4 to 2. The bill failed passage on the Senate Floor on a vote of 18 to 15.

AB 1789 (Williams, Chapter 578, Statutes of 2014) requires, on or before July 1, 2018, the DPR to issue a reevaluation of neonicotinoids and requires, within two years after making the reevaluation, DPR to adopt any control measures necessary to protect pollinator health.

FISCAL EFFECT: Appropriation: No Fiscal Com.: No Local: No

SUPPORT: (Verified 3/30/17)

Bee Smart California (source)
American Bird Conservancy
California League of Conservation Voters
Center for Biological Diversity
Center for Food Safety
Defenders of Wildlife
Ecological Farming Association
Environmental Working Group

Friends of the Earth
Good Earth Natural Foods
Pesticide Action Network
Pollinator Stewardship Council
Sierra Club California
Slow Food California
Transition Berkeley
Urban bee San Francisco
We Bee Gardeners
Xerces Society for Invertebrate Conservation
Three individuals

OPPOSITION: (Verified 3/30/17)

Agricultural Council of California
Almond Alliance of California
American Chemistry Council
California Agricultural Aircraft Association
California Association of Nurseries & Garden Centers
California Chamber of Commerce
California Citrus Mutual
California Cotton Ginners & Growers Association
California Farm Bureau Federation
California Fresh Fruit Association
California Grocers Association
California Hotel & Lodging Association
California Manufacturers and Technology Association
California Seed Association
Consumer Specialty Products Association
Responsible Industry for a Sound Environment
Western Agricultural Processors Association
Western Growers Association
Western Plant Health Association

ARGUMENTS IN SUPPORT: Supporters assert that "there is a wealth of scientific literature showing adverse impacts to bees and other pollinators from uses of neonicotinoids, and the EPA has confirmed that these systemic insecticides can adversely impact bees. In their 2015 proposed action, 'Proposal to Mitigate Exposure to Bees from Acutely Toxic Pesticide Products,' the agency notes, 'Systemic pesticides and/or pesticides with prolonged residual toxicity may result in residues in pollen and nectar at levels that can impact bees and hive health.'

These adverse impacts to bees and hive health can cause direct harm to growers as a result of decreased pollination services. In addition to killing bees outright, research shows that even low levels of these toxic pesticides cause serious harm by impairing bees' ability to learn, find their way back to the hive, collect food, produce new queens and mount an effective immune response. Additional studies on impacts to bumblebees show that exposure to neonicotinoids is associated with fewer queen bees, reduced reproduction, and impaired foraging and homing abilities."

ARGUMENTS IN OPPOSITION: The opposition argues that "SB 602 creates serious problems for others in the agriculture industry. First, by changing the status of the entire class of neonicotinoids to restricted use, this bill threatens the future existence of California's $3 billion citrus industry. California citrus farmers have been fighting the spread of the Asian Citrus Psyllid (ACP) for a number of years because of its ability to transmit the deadly disease Huanglongibing (HLB), which has no known cure and is the singular cause for destroying citrus industries in other parts of the country and world."

Prepared by: Rachel Machi Wagoner / E.Q. /
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