Attachment B

Colorado State University Extension

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To: Members of the Colorado House of Representatives
From: Thia Walker
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RE: Comments regarding HB20-1180 Protect Pollinators through Pesticide Regulation

If the intent of this bill is to protect pollinators, it will fail. Why would I say that?

- There are many contributors to honey bee health but researchers agree that the number one stressor on honey bees is Varroa mite, not pesticides. These parasitic mites not only reduce the bees' immune system, making them more susceptible to environmental factors but they also vector at least five debilitating diseases, including RNA viruses like the Deformed wing virus (DWV).

- The USDA National Honey Bee Health Survey surveys for bee diseases, parasites and screens for over 174 pesticides. Since 2011, results in Colorado show that Varroa mite was present in 80% of the hives sampled and 95% of all honey bee colonies sampled contained at least one of four viruses vectored by Varroa mite. A honey bee pathogen, Nosema, was found in 43% of the hives sampled. And the most common types of pesticides found in CO are pesticides used by beekeepers to treat Varroa mites and Nosema disease. No neonics have been found in any of the hives sampled in Colorado. So is there an issue with neonics?

- The neonics have been used for more than 20 years in the United States. They are registered through EPA's Reduced Risk Program for products that pose less risk to human health and the environment. Australia, the only continent free of Varroa mites, has a thriving population of honey bees even though neonics are widely used.

- By far, my greatest concern is that by exempting several types of applicators from this bill, the burden is placed on the homeowner. They have limited availability of insecticides to control pests in their home and landscape. If their access to the neonics is eliminated, the homeowner will resort to more toxic chemistries: the organophosphates and pyrethroids. Both of these classes of insecticides are more toxic to the applicator, to children and pets, to wildlife and to the environment. This is a move backwards if pollinator protection is the issue.

- Lastly, I would ask how you intend to measure the 'success' of this bill in improving pollinator health. If there is no intent to measure the impact on pollinator health, this legislation appears to be just a 'feel good' action with no measureable outcomes.

I hope that this committee is not relying on advocacy research that generates "evidence" to support a pre-determined policy. I would like to offer Dr. Whitney Cranshaw and myself as a resource for additional information or future discussions on legislation that may actually help protect pollinators.

# National Honey Bee Health Survey

The National Honey Bee Health Survey, sponsored by USDA and the Bee Informed Partnership, began several years ago to document the presence or absence of bee diseases, parasites and pests of honey bees. The Survey also samples pollen for the presence of over 174 pesticides. Colorado has taken part in the survey since 2011 and the data we are collecting is helping us to understand the major issues facing honeybee health. CDA is committed to continue to participate in the National Honeybee Health Survey, to further our understanding and strengthen the data so that we can make meaningful decisions toward protecting the future of pollinators in the State.

49 Colorado beekeepers from across the State in Alamosa, Arapahoe, Boulder, Delta, Denver, Dolores, Eagle, El Paso, Fremont, Garfield, Jefferson, Kit Carson, Larimer, Montrose, Mesa and Pueblo Counties have participated in the study. Samples of bees, larvae and pollen were collected by CDA inspectors and sent to the Beltsville Bee Lab in Maryland.

Varroa mite, considered to be honeybee enemy number one, was present in 80% of the hives sampled to date. Varroa mites are parasitic animals that feed on the hemolyph (blood) of bees and vectors bee viruses.

95% of all the honeybee colonies sampled contained at least one of the four viruses vectored by Varroa mite.

4 previously undetected viruses were identified:

Israeli Acute Paralysis Virus (IAPV)

Kashmir Virus

Chronic Bee virus

Acute Bee Paralysis Virus (ABPV)

A honeybee pathogen called Nosema ceranae was also present. Nosema causes diarrhea in honeybees and was found in 43% of the hives sampled in Colorado.

The most common types of pesticides found nationally and in Colorado are pesticides used by beekeepers to treat Varroa mites and Nosema disease.

Complete survey results for all 32 states that participated in the National Honey Bee Survey can be viewed at https://beeinformed.org/wp-content/uploads/2015/07/2013-2014-NHBS-Report.pdf

beecheck Apiary Registry by FieldWatch

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# Apiary Program Summary of Accomplishments

**The Colorado Department of Agriculture promotes the health and well-being of all pollinators.** Priority is placed in two areas based on legislative mandates:

- Pesticide application in a manner safe to the public and the environment as mandated by the Pesticide Appliators' Act and the Pesticide Act.
- Honeybee health as mandated by the Bee and Bee Products Act.

In the picture above a CDA Inspector sample hives for the National Honey-bee Health Survey

beecheck Apiary Registry by FieldWatch

Apiary Registry by FieldWatch

This site is a voluntary communication tool that enables crop producers, beekeepers, and pesticide applicators to work together to protect speciality crops and apiary through use of mapping programs. It is not a substitute for any state regulatory requirements.

Communication + Cooperation + Collaboration

=

Successful Co-existance

## Pollinator Protection

CDA is in the process of updating the state's Managed Pollinator Protection Plan (MP3) to promote the health of managed and native pollinators and is working with advisory groups to complete the plan in 2016. The plan will include the following:

- Best Management Practices (BMP) for pesticide applicators, land owners, and beekeepers.
- Pollinator habitat enhancement information for farmers and urban dwellers.
- Continued pollinator protection awareness training for pesticide applicators.
- Partnerships with other state conservation and educational agencies.

## Pollinator Workgroup

*The Colorado Pollinator Workgroup has been established to represent pesticide applicators, beekeepers, land owners, pesticide registrants, and other interested stakeholders. The mission of the workgroup is to communicate, educate and cooperate by clarifying existing practices used by stakeholders to prevent pollinator decline, provide updates on new research and identify improved methods of communication.*

## State Apiary Program

*CDA is reviewing and auditing the Bee and Bee Products Act which mandates that the Department focus on pests and diseases affecting commercial and managed honeybee hives. Registration, funding and enforcement provisions for this act were rescinded in 1990. CDA is working with advisory groups to determine how the Bee and Bee Products Act can be made relevant to current pollinator health issues.*

March 4, 2020

To: Members of the Colorado House of Representatives

From: Whitney Cranshaw
Professor/Extension Specialist
Colorado State University

RE: Comments regarding HB20-1180 Protect Pollinators through Pesticide Regulation

I am unable to attend this meeting in person, but I have asked that this letter be entered into the record and, if time permits, to be read by Thia Walker.

I am writing since I have difficulty understanding what positive effects could reasonably be expected to result from HB20-1180, and am very aware of many negative effects. Presumably the idea behind this bill is the assumption that the retail sale and use of neonicotinoids by those individuals not exempted by Section II C poses such an clear, high risk to the pollinators by the use of these pesticides on the property of the affected individuals (e.g., homeowners) that their use must be eliminated by making them a Restricted Use pesticide, the "nuclear option" of pesticide regulation.

I have many concerns about this, but I would like to start with a bit of history. Having spent my career, including 37 years at Colorado State University, working to identify effective ways to best manage insect pests on various horticultural crops/landscape plants in ways that minimize adverse environmental impacts, I have seen many changes with pesticide use. One of the biggest of these was the introduction of the neonicotinoid insecticides, which provided an alternative that eventually allowed the elimination of previously used insecticides, mostly organophosphates and carbamates. Inherent in most all products within these latter two classes of insecticides were high risks to vertebrates, including humans. These were the nerve poison insecticides that killed people, slaughtered birds – and did a good job devastating pollinators, although that was not as big a public concern 30 years ago and was given far less scrutiny.

The neonicotinoids, because of their clearly far low hazard to vertebrates were then, and can still now be, considered "reduced risk" pesticides, particularly when compared to the organophosphates/ carbamates. Because they became available, we have been able to clear the retail shelves of the organophosphates – chlorpyrifos, diazinon, dimethoate, disulfoton - and in the process have been able to provide equivalent, often improved, ability to manage insect pests in our landscape plantings and fruit/vegetable crops. Because of their high safety to mammals these uses also extend to control of pests on pets (e.g., imidacloprid/Advantage) and (by professionals) indoor uses to control of bed bugs.

The "Restricted Use" classification is something I have always seen used almost entirely on products – like many organophosphates and carbamates – that posed extreme risks of acute toxicity to humans, pets and/or wildlife. This bill seems to be a perverse use of this classification.

As a second point, I would like to point out the benefits to those who may wish to use the products that will be effectively banned by this legislation, essentially imidacloprid and acetamiprid. These are insecticides that have the ability to move systemically in the plant and there are no alternatives to these since they allowed for the permanent removal of the systemic organophosphates (e.g., disulfoton, acephate, dimethoate) that formerly filled this role.

The neonicotinoid insecticides can provide effective control of many key insects and methods of application that are very useful. Regarding the latter, these can provide a means of applying an insecticide by soil application, something that eliminates the need to spray a tree or shrub. Because of the availability of these products there has been an enormous reduction over the past 25 years in the spraying of trees/shrubs – and with it, a reduction in problems with chemical trespass/drift and effects on desirable species killed by spraying. Also, there are not effective retailed alternatives available for many uses of the neonicotinoids, from being able to control whiteflies and soft scales on houseplants to aphids and elm leaf beetles on their shade trees. One new use for Colorado that will be eliminated by this legislation will be the ability of a homeowner to treat their own tree for emerald ash borer with imidacloprid. This is something that can easily be done by a homeowner for under $40/year. With this legislation this application will have to be done by a professional, who may use the same material, but will cost the tree owner $100-$200/year.

Getting to the basic assumption behind this bill, that this will provide significant protection of pollinators, I think that is quite debatable. Undeniably some kinds of uses of some of the neonicotinoids in some sites can pose a significant risk to pollinators, particularly bees, through movement of the insecticide into nectar and pollen. And there are very important concerns about declines of many pollinating insects, with most attention being focused on health issues related to the honey bee, the non-native insect we are quite dependent upon for pollinating the many non-native crops on which we depend.

I have tried to follow this issue closely since these concerns emerged into widespread public consciousness a decade or so ago and regularly attend symposia at the Annual Meetings of the Entomological Society of America that present recent findings related to health of honey bees and native bees. Always I come away from the meeting with an appreciation of how many things are contributing to honey bee health declines. It is a long list, always starting with the enormous impact of the varroa mite along with other newly introduced parasites (viruses, *Nosema ceranae*, small hive beetle) that have spread quickly through North America. Habitat destruction and lack of available high quality food resources is very commonly high on the list of concerns. Poor genetics due to inbreeding of North American honey bees is another. And,

of course, pesticides are listed as a contributor. Pesticides that include those used to control varroa mite, fungicides and bacteriacides that weaken the honey bee microbiome, and insecticides, including neonicotinoids.

This legislation would affect the exposure to pollinators from one kind of pesticide that has shown detrimental effects on honey bees. And it would restrict only an extremely minute use, a use of likely marginal – at most - effect on Colorado pollinators.

There are risks that the homeowner use of imidacloprid could produce, specifically when they are applied to a type of plant at or before flowering that is subsequently heavily used by bees. There are some examples of this, use on linden trees is perhaps the clearest risk. Identifying these types of uses in Colorado and providing directions that alternative management is required in those situations has been a steady message I have always put forward in my Extension programming. And label directions have changed greatly in recent years with the high-hazard neonicotinoids, providing clear directions on pollinator protection to eliminate high-risk uses. People are getting the message, although education in pollinator protection will always be necessary.

But most homeowner uses of imidacloprid are not on plants where there could be significant exposure to a pollinators. Often they are applied to plants never visited by pollinators, as they do not produce attractive flowers. And the number of plants affected by these applications in total are extremely small, likely involving less than 1%, of the flowering plants bees are utilizing as nectar/pollen sources at any point in the season

Which brings up one final point, that this is a blanket restriction on all neonicotinoids. (And, curiously, sulfoximes, which are not now and likely never would be used in the types of applications restricted by this legislation.) There are neonicotinoids that have demonstrated potential risk to pollinating insects, notably chlothianidan, thiamethoxam, dinotefuran and, the primary one available retail, imidacloprid. But there are neonicotinoids that pose far, far less hazard to bees, such as acetamiprid. One of the least bee hazardous insecticides to ever hit the retail shelf. All of these are treated identically.

So, it is my recommendation to the committee that, in the interests of actually providing significant protection/conservation of pollinating insects, this bill be reconsidered and rewritten. In a future bill, which I would support, legislation would target *specific* high-risk uses of pesticides that pose significant effects, support efforts in pollinator protection, and work to improve habitat and alternative food resources for pollinators within Colorado.