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Environmental Protection Authority
Te Mana Rauhī Taiao

SUBMISSION FORM

Once you have completed this form
Send by post to: Environmental Protection Authority, Private Bag 63002, Wellington 6140
OR email to: submissions@epa.govt.nz

Once your submission has been received the submission becomes a public document and may be made publicly available to anyone who requests it. You may request that your contact details be kept confidential, but your name, organisation and your submission itself will become a public document.

Submission on application number:	APP202142
Name of submitter or contact for joint submission:	Joan Havemann
Organisation name (if on behalf of an organisation):	
Postal address:	[redacted]
Telephone number:	[redacted]
Email:	[redacted]

☒ I wish to keep my contact details confidential

The EPA will deal with any personal information you supply in your submission in accordance with the Privacy Act 1993. We will use your contact details for the purposes of processing the application that it relates to (or in exceptional situations for other reasons permitted under the Privacy Act 1993). Where your submission is made publicly available, your contact details will be removed only if you have indicated this as your preference in the tick box above. We may also use your contact details for the purpose of requesting your participation in customer surveys.

The EPA is likely to post your submission on its website at www.epa.govt.nz. We also may make your submission available in response to a request under the Official Information Act 1982.

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☐ I support the application

☐ I oppose the application

☒ I neither support or oppose the application

The reasons for making my submission are[1]:

First, here is what the US organisation Beyond Pesticides has to say in the leaflet Pollinators and Pesticides: Protecting honeybees and wild pollinators (available on the web at www.beyondpesticides.org):

Pesticides and Pollinators

Pesticides, alone and in combination with other factors [many of them, let us constantly remember, related to climate change! JH], have had a devastating effect on honeybees and wild pollinators. Pesticides commonly found in lawn and garden products and used in agriculture are known to be hazardous to bees –some killing bees outright and others with subtle effects that reduce a bee's ability to thrive.

Approximately 90 percent of all flowering plants require pollinators to survive. In agriculture, nearly a third of pollination is accomplished by honeybees. Cucumbers, almonds, carrots, melons, apricots, cherries, pears, apples, prunes, plums, cantaloupe, onions, avocados, kiwi, blueberries, cranberries and more depend on honeybee pollination.

Wild pollinators

Pollinators are "a bellweather for environmental stress as individuals and as colonies." Honeybees are perhaps the best known pollinators in the world and the primary managed pollinators, but they are by no means solely responsible for the pollination of all flowering plants. Both in non-agricultural settings and in agricultural crops, wild, native pollinators play an essential role in plant reproduction and food production.

Wild pollinators, which include bees, wasps, beetles, flies, butterflies, moths, birds, bats, and even some non-flying mammals, have suffered "multiple anthropogenic insults" in the last several decades. These include habitat destruction and fragmentation, pesticide use, land management practices and the introduction of non-native species and pathogens, all of which collectively threaten their existence. Pollination is a reminder that ecosystems, including agricultural ecosystems, are comprised of a series of interdependent relationships.

What is threatening pollinators?

Entomologists suspect that lethal and sublethal effects of pesticides are one of the many "anthropogenic insults" threatening pollinators. Pesticide risk mitigation measures intended to protect honeybees do not always constitute risk mitigation for other pollinators such as bumblebees because they have different foraging practices, social structures and genetics.

For example, spraying pyrethroid insecticides in the early morning or late afternoon, when honeybees are less likely to be foraging, is considered a risk mitigation measure for honeybees, but it actually endangers wild pollinators such as bumblebees, which are particularly important in light of the current honeybee crisis because they pollinate many of the crops that honeybees do. These distinct differences must be taken into account when considering pesticide risk assessments and risk mitigation measures.

How do pesticides affect pollinators?

* Lethal effects. Many pesticides are acutely toxic to bees and result in death. Carbamates, organophosphates, synthetic pyrethroids, chlorinated cylcodienes and neonicotinoids are highly toxic to bees.

* Sublethal effects. Pesticide levels that do not kill bees at significant rates may nonetheless have effects on performance that inhibit tasks such as olfactory learning, foraging, and reproduction, which affects hive survival.

* Synergistic effects. Often pesticides have more toxic effects in combination than alone.

[1] Further information can be appended to your submission, if you are sending this submission electronically and attaching a file we accept the following formats – Microsoft Word, Text, PDF, ZIP, JPEG and JPG. The file must be not more than 8Mb.

* Food availability. Herbicides used in fields, along rights-of-way and in forests tend to reduce the number of flowering plants. This reduces the amount of food available for native pollinators, making their survival more difficult. This has effects throughout the food chain, as reduced pollination leads to reduced fruit on which birds and other creatures depend.

Colony Collapse Disorder (CCD)

Colony Collapse Disorder is unlike other ailments that have affected honeybees in the past because worker bees simply disappear rapidly, never returning to the hive where the queen still lives with a small cluster of bees amidst pollen and honey stores in the presence of immature bees (brood). It has been reported that losses of honeybee colonies across 21 states in the winter of 2007-8 averaged 35%.

Many indications point to CCD being induced by pesticides, especially neonicotinoid insecticides, as well as pathogens, nutritional deficits and environmental stresses. Ongoing reasearch into the cause of CCD at Penn State University has identified more than 120 different pesticides contaminating hive samples from 23 states. While none of the chemicals themselves were at high enough levels to kill bees, the researchers believe the combination and variety of pesticides may play a role, but a mechanism has not been determined. Continued debate about the cause of CCD threatens to induce "paralysis by analysis" in a situation that necessitates action.

Pesticides are likely to be a part of the CCD equation and a precautionary approach must be taken. Solutions to the loss of bees are clearly within our reach if we engage our communities and governmental bodies. We know how to live in harmony with the ecosystem through the adoption of sustainable practices that simply do not allow toxic pesticide use. Because our survival depends on healthy pollinators, we must do everything in our power to solve this problem.

Solving the Crisis

The forces affecting both honeybees and wild pollinators are numerous and complex. A multi-faceted approach to ensure a healthy and diverse pollinator community, which will in turn contribute to a sustainable food system, must look at the effects of pesticide use on pollinators. From the use of neonicotinoids that are implicated in CCD, to the synergistic effects of certain pesticides on honeybees and the reduced food availability for native pollinators as a result of herbicide use, pesticides have taken a toll on both honeybees and wild pollinators.

The situation necessitates a multi-pronged strategy to address honeybee health and encourage native pollinators —from planting backyard gardens that encourage pollinators and getting neighborhoods to end toxic pesticide use and fixing a flawed federal regulatory process. The CCD crisis provides the perfect opportunity to exercise what many have long advocated as the proper approach to pesticide regulation —the precautionary principle. CCD may well be the result of a combination of factors, but certain pesticides' documented toxicity to bees calls for severe caution.

Going Organic to Protect Pollinators

Protecting pollinators is just one of the many reasons to eat orgainc food. Beyond Pesticides' Eating with a Conscience database shows that nearly all conventional crops may be treated with pesticides known to kill bees and other wildlife. View this information by crop at www.EatingWithAConscience.org. Follow the links to detailed information about individual pesticides on the Gateway on Pesticide Hazards and Safe Pest Management at www.beyondpesticides.org/gateway.

For more information on the impact of pesticides on pollinators, as well as information on backyard beekeeping, contact Beyond Pesticides, 202-543-5450. A fully cited version of this brochure is available online at www.beyondpesticides.org/infoservices/pesticidesandyou

BEYOND PESTICIDES

701 E Street SE, Washington DC, 20003 202-543-5450/info@beyondpesticides.org www.beyondpesticides.org

[End of leaflet]

In view of concerns about synergistic effects of different pesticides in combination in the environment, I also include here the complete list of pesticides Beyond Pesticides provides on the Gateway on Pesticide Hazards and Safe Pest Management page of their web site:

1-naphthaleneacetic acid

1,3-Dichloropropene

2-Phenylphenol

2,4-D

Abamectin/Avermectin B1

Acephate

Acequinocyl

Acetamiprid

Acethion

Acetic Acid (Vinegar) *

Acetochlor

Acibenzolar-S-methyl

Acifluorfen Sodium

Alachlor

Aldicarb

Alkyl dimethyl benzyl ammonium chloride (ADBAC)

Allethrin

Ametryn

Aminopyralid

Amitraz (BAAM)

Arsanilic acid

Atrazine

Aviglycine

Azinphos-methyl

Azoxystrobin

Bacillus Thuringiensis (Bt) *

Bendiocarb

Benfluralin

Benomyl

Bensulide

Bentazon

Benthiavalicarb-isopropyl

Bifenazate

Bifenthrin

Bitertanol

Boric Acid *

Boscalid

Bromacil

Bromadiolone

Bromoxynil

Buprofezin *

Butralin

Butylate

Cadusafos

Captan

Carbaryl

Carbon Disulfide

Carboxin

Carfentrazone-ethyl

Castor Oil *

Cedarwood Oil *

Chlorantraniliprole

Chlorfenapyr

Chloroneb

Chlorothalonil

Chlorpropham (CIPC)

Chlorpyrifos

Chromated Copper Arsenate (CCA)

Cinnamon Oil *

Citric Acid *

Citronella Oil *

Clethodim

Clofentezine

Clomazone

Clopyralid

Clothianidin

Clove oil *

Copper Sulfate

Corn Gluten Meal *

Corn Oil *

Cottonseed Oil *

Coumaphos

Crotoxyphos

Cryolite

Cyazofamid

Cycloate

Cyfluthrin

Cymoxanil

Cypermethrin

Cyprodinil

Cyprosulfamide

Cyromazine

Dacthal (DCPA)

DEET

Deltamethrin

Desmedipham

Diazinon

Dicamba

Dichlobenil

Dichlorvos (DDVP)

Dicloran (DCNA)

Dicofol

Difenoconazole

Diflubenzuron

Diflufenzopyr

Dimethenamid

Dimethoate

Dimethomorph

Dinocap

Dinotefuran

Diphenylamine (DPA)

Diquat Dibromide

Disodium Methanearsonate (DSMA)

Disulfoton

Dithianon

dithiopyr

Diuron

Dodine

Dried Blood *

Ecolyst (N-N-diethyl-2-(4-methylbenzyloxy) ethylamine hydrochloride)

Emamectin Benzoate

Endosulfan

Endothall

Epoxiconazole

EPTC

Esfenvalerate

Ethaboxam

Ethalfluralin

Ethephon

Ethofumesate

Ethoprop (ethoprophos)

Ethoxyquin

Etoxazole

Eugenol *

Famoxadone

Fenamidone

Fenamiphos

Fenarimol

Fenazaquin

Fenbuconazole

Fenbutatin-oxide

Fenhexamid

Fenoxycarb

Fenpropathrin

Fenpropimorph

Fenpyroximate

Fenthion

Fenvalerate

Ferbam

Fipronil

Flonicamid

Fluazifop-P-butyl

Fluazinam

Flubendiamide

Fludioxonil

Flufenacet

Flufenoxuron

Flumioxazin

Fluometuron

Fluopicolide

Fluoxastrobin

Fluridone

Fluroxypyr

Fluthiacet-methyl

Flutolanil

Fluvalinate

Folpet

Fomesafen

Forchlorfenuron

Formetanate hydrochloride

Fosamine Ammonium

Fosetyl-aluminum

Fosthiazate

Garlic oil *

Gentamicin

Geraniol *

Glufosinate ammonium

Glyphosate

Halosulfuron-methyl

Hexaflumuron (Sentricon)

Hexazinone

Hexythiazox

Hydramethylnon

Hydrogen peroxide *

Imazalil

Imazapyr

Imazethapyr

Imidacloprid

Indoxacarb

Ipconazole

Iprodione

Iprovalicarb

Isofenphos

Isoxaben

Isoxadifen-ethyl

Kasugamycin

Kresoxim-methyl

L-Lactic Acid *

Lactofen

Lambda-cyhalothrin

Lemongrass Oil *

Linalool *

Lindane

Linuron

Malathion

Maleic hydrazide

Mancozeb

Mandipropamid

Maneb

MCPA

MCPB (4-(2-Methyl-4-chlorophenoxy) butyric acid)

Mecoprop (MCPP)

Mefenoxam

Mepanipyrim

Mepiquat chloride

Mesotrione

Metalaxyl

Metaldehyde

Metam sodium

Metconazole

Methamidophos

Methane arsonic acid

Methidathion

Methomyl

Methoprene

Methoxychlor

Methoxyfenozide

Methyl bromide

Methyl parathion

Metolachlor

Metrafenone

Metribuzin

Mevinphos

Monosodium methanearsonate (MSMA)

Myclobutanil

Naled

Naphthalene

Napropamide

Naptalam

Nicosulfuron

Nitrapyrin

Norflurazon

Novaluron

O-Naphthaleneacetamide

O-Phenylphenol

Oil of Lemon Eucalyptus *

Organophosphate insecticide

Oryzalin

Oxamyl

Oxyfluorfen

Oxytetracycline

Para-dichlorobenzene (PDCB)

Paraquat/Paraquat dichloride

Parathion/Ethyl parathion

PCNB (Quintozene, Pentachloronitrobenzene)

Pendimethalin

Penoxsulam

Pentachlorophenol

Peppermint Oil *

Permethrin

Phenmedipham

Phenothrin

Phorate

Phosalone

Phosmet

Phosphine

Phosphorothioic acid

Picaridin *

Picloram

Pine Oil *

Piperonyl butoxide (PBO)

Primisulfuron-methyl

Procymidone

Prohexadione Calcium

Prometryn

Pronamide/propyzamide

Propamocarb hydrochloride

Propargite

Propetamphos

Propiconazole

Propoxur

Propylene glycol

Propylene oxide

Propyzamide

Prosulfuron

Pymetrozine

Pyraclostrobin

Pyraflufen-ethyl

Pyrethrins

Pyridaben

Pyridalyl

Pyridate

Pyrimethanil

Pyriproxyfen

Quinoxyfen

Quizalofop-ethyl

Resmethrin

Rimsulfuron

Rotenone

Sabadilla *

Sethoxydim

Siduron *

Simazine

Sodium lauryl sulfate *

Soybean oil *

Spinetoram

Spinosad

Spirodiclofen

Spiromesifen

Spirotetramat

Spiroxamine

Streptomycin

Sulfentrazone

Sulfluramid

Sulfur *

Sulfur dioxide

Sulfuryl fluoride

Tebuconazole

Tebufenozide

Tefluthrin

Tembotrione

Terbacil

Terbufos

Terrazole

Tetraconazole

Tetramethrin

Thiabendazole

Thiacloprid

Thiamethoxam

Thiazopyr

Thiencarbazone-methyl

Thiobencarb

Thiodicarb

Thiophanate-methyl

Thiram

Thyme oil *

Thymol oil *

Tolylfluanid

Topramezone

Tralomethrin

Triadimefon

Triadimenol

Triallate

Trichlorfon

Triclopyr

Triclosan

Tridemorph

Trifloxystrobin

Trifloxysulfuron

Triflumizole

Trifluralin

Triphenyltin Hydroxide/Fentin Hydroxide (TPTH)

Uniconazole

Vinclozolin

Warfarin

Zinc phosphide

Ziram

Zoxamide

* denotes Least-Toxic Chemical

[asterisk used here to replace the green leaf symbol on the original]

In light of information provided by, eg, Beyond Pesticides, the Soil Association in the UK and also Friends of the Earth -- and in light of the sheer number of different pesticides of varying degrees of toxicity and the potential for the magnification of their toxicity due to unforeseen, untested and dangerous synergistic effects (one of which is increased temperatures!) -- environmental protection authorities and agencies must apply the precautionary principle when it comes to regulating the use of pesticides (as has been done recently with neonicotenoids in Europe).

The New Zealand EPA's proposal to extend non-contact periods for organophosphate and carbamate pesticides does not go far enough not only to protect bees but also to protect bumblebees and other pollinators (including those with different foraging patterns, social structure, genetics etc) -- and indeed to protect from harmful pesticide residues all consumers of foods exposed to pesticides. Please refer to Beyond Pesticides' Pesticide-Induced Diseases Database http://www.beyondpesticides.org/health/index.php for information on the links between pesticide use and common diseases including (by no means restricted to) asthma, cancer, diabetes, Parkinson's and Alzheimer's diseases.

It is clear that we need, in New Zealand as much as anywhere, to abandon the flawed risk-assessment approach to policy which has failed to look at 'chemical mixtures, synergistic effects, certain health endpoints (such as endocrine disruption), disproportionate effects to vulnerable population groups, and regular noncompliance with product label directions'; we urgently need, instead, assessments of more benign alternative strategies if we are to end dependency on toxic pesticides, phase out their use as quickly as possible, and replace them with non toxic or least toxic alternatives. The benefits of an alternatives assessment approach are obvious:

'An enlightened policy approach to proposed or continued toxic chemical use, in an age where the adverse effects have been widely and increasingly documented, is to first ask whether there is a less toxic way of achieving the toxic chemical's intended purpose. Simply, "Is there another practice that would make the substance unnecessary?" This approach does not preclude and should demand the prohibition of high hazard chemical use, those chemicals that are simply too dangerous.

'The alternatives assessment approach differs most dramatically from a risk assessment-based policy in rejecting uses and exposures deemed acceptable under risk assessment calculations, but unnecessary because of the availability of safer alternatives. For example, in agriculture, where the database shows clear links to pesticide use and cancer, it would no longer be possible to use hazardous pesticides, as it is with risk assessment-based policy, when there are clearly effective organic systems with competitive yields that, in fact, outperform chemical-intensive agriculture in drought years. Cost comparisons must take into account externalities such as water pollution and water utility expenses, associated with chemical-intensive farming. The same is true for home and garden pesticide use and defined integrated pest management systems with prescribed practices and only specific substances as a last resort.

'[Beyond Pesticides' Pesticide-Induced Diseases Database] suggests clearly that we must take strategic action to shift away from pesticide dependency. Public policy must advance this shift, rather than continue to allow unnecessary reliance on pesticides. Regulatory restrictions must be tied to alternatives assessment[s] that move chemicals off the market or prohibit their marketing as safer approaches and technologies emerge.' (http://www.beyondpesticides.org/health/index.php)

Unfortunately, too many food producers put profit before both human health and the health of the environment, producing non-organic foods that appear to be cheap but have hidden externalised costs to consumers, the environment, the health service and indeed the economy.

Personally, I strive to eat organic foods whenever I have that option, and I wish that organic farming and horticulture were better supported and that organic food was more plentiful and more widely available in this green and pleasant land that is New Zealand. Growing food organically should become the norm rather than the exception.

The EPA's raison d'etre is to protect the environment -- not to protect the profits of agrochemical producers, nor even the profits of farmers and food producers if their short-term profits come at the expense of bee populations, environmental health and longterm sustainability (not to mention human health). Although I credit the EPA with genuine concern for protecting the environment, any half-hearted exercise in controlling pesticide use by regulating totally unenforceable contact periods after application appears to me totally inadequate as a response to the current crisis of bee loss and related threats to the sustainability of crop production. Such regulation as is proposed in the EPA's application will do nothing to discourage farmers, professional gardeners, homeowners, schools, councils etc from the continued blithe use of pesticides at a time when a shift to greener, safer alternative practices and products is long overdue.

☒ I wish to be heard in support of my submission (this means that you can speak at the hearing)

☐ I do not wish to be heard in support of my submission (this means that you cannot speak at the hearing)

I wish for the EPA to make the following decision:

I would like the EPA to make the regulations on pesticide use as stringent as possible for the sake of the bees, other pollinators, consumers, the environment and ultimately the New Zealand economy. All toxic pesticides must be phased out as soon as possible.