Senate Committee on Environment and Natural Resources
900 Court Street, NE
Salem, OR 97301

3/28/2019

Dear Chair Dembrow, Vice-Chair Olsen and members of the SENR,

To protect children's healthy development, safeguard against the loss of pollinators, and to keep Oregon's drinking water clean and safe, we write to you in support of SB 853. Beyond Toxics submits these comments on behalf of thousands of our members and followers. The goal of Beyond Toxics is to provide leadership for a clean and just Oregon. We work to protect vulnerable Oregonians – especially people of color, undocumented workers and children – who are disproportionately impacted and harmed by pollution in their communities and at work. We seek solutions to the root causes of pollution and advocate for environmental health and justice.

SB 853 would prohibit the sale and use of chlorpyrifos and would establish a class of systemic insecticides, neonicotinoids, as restricted use pesticides. SB 853 will also make it easier for Oregonians to be trained and licensed as professional pesticide applicators by reducing licensing fees by 50%. It would create additional funding for the Oregon Department of Agriculture by increasing the pesticide product registration fees for chemical companies who sell their products in Oregon.

Neonicotinoids:

Neonicotinoids are the most widely used group of insecticides in the world, neonicotinoids are compounds that affect the nervous system of insects, humans, and other animals. Neonicotinoids are deadly in small quantities to many beneficial insects such as bees, as well as soil microorganisms, birds and other wildlife. Lethal and sublethal impacts can occur from exposures to residues long after the product was used. A major concern is neonicotinoids are highly persistent in soils, wildflowers, streams and lakes (NIH: The Environmental Risks of Neonicotinoid Pesticides).

Once inside the plant, it becomes systemic and is found in vascular tissues and foliage. A major study undertaken to review the state of the scientific literature on neonicotinoids concluded:

> These water-soluble compounds are not restricted to agricultural crops, instead permeating most parts of the agricultural environments in which they are used and in some cases reaching further afield via waterways and run-off water. Field-realistic laboratory experiments and field trials continue to demonstrate that residual neonicotinoid traces can have a mixture of lethal and sublethal effects on a wide range of taxa.

(Wood, J. and Goulson, D., *The environmental risks of neonicotinoid pesticides: a review of the evidence post 2013*. Environmental Science and Research International, 2017)

The authors also concluded that only approximately 5% of the neonicotinoid active ingredient is taken up by crop plants (Sur and Stork 2003) and instead, most of the active ingredient disperses into the wider environment (Goulson, D. *Pesticides linked to bird declines*. Nature. 2014).

The ability of neonicotinoids to disperse into the wider environment, to persist in water and soils, and remain in plant tissue at levels that are lethal to wildlife is a strong reason to make sure only licensed applicators are legally allowed to use products with neonicotinoids as the active ingredient. Neonicotinoids should not be available to general consumers on store shelves, from grocery stores to home improvement stores.

Systemic chemicals are absorbed directly into the structure of a plant. What that means is that neonicotinoids can be present in pollen and nectar, making them toxic to pollinators that feed on them. The potentially long-lasting presence of neonicotinoids in plants is what allows these chemicals to harm pollinators - even when the initial application is made weeks before the bloom period - and for months and even years after an application. In addition, depending on rate and method of application, neonicotinoids can persist in the soil and be continually taken up by plants for a very long periods of time. In fact, neonicotinoid residues have been found in woody plants up to six years after soil drench application. The active ingredient in neonicotinoids moves through soil and can be transferred to other plants so that untreated plants have been found to absorb the residues of some neonicotinoids that persisted in the soil from the previous year. (Wood, J. and Goulson, D.. *The environmental risks of neonicotinoid pesticides: a review of the evidence post 2013*. Environmental Science and Research International, 2017)

What does this mean for bees and other beneficial insects? Bees foraging on nectar and pollen from neonicotinoid treated plants may die onsite. Honey bees exposed to sublethal levels of neonicotinoids can experience problems with flight and navigation, reduced taste sensitivity, and slower learning of new tasks, all of which impact foraging ability and hive productivity. Even at sublethal doses, bee larvae experience reduced survival, altered metabolism, and reduced olfactory response as adults.

What might unrestricted neonicotinoids in the environment mean for farmers? Published and peer reviewed research find that neonicotinoid use can unintentionally reduce biological control and crop yield by decreasing populations of beneficial insects that prey on damaging insects. (Douglas, M., et al. *Neonicotinoid insecticide travels through a soil food chain, disrupting biological control of non-target pests and decreasing soya bean yield.* Journal of Applied Ecology, 2014) Farmers need pollinators to pollinate one-third of the food crops grown and over 90% of flowering trees, plants and shrubs (Ollerton, Jeff, et al. *How Many Flowering Plants Are Pollinated by Animals?* Oikos, Feb. 2011). Globally, more than 40% of insect species

are declining and a third are endangered, an analysis published in 2019 reported. At this precipitous rate of loss, agriculture viability and ecosystem balance are thought to be severely threatened (Sanchez-Bayo, Francisco and Wyckhuys, Kris. *Worldwide Decline of the Entomofauna: A Review of Its Drivers*. Biological Conservation, Jan. 2019). If unsustainable losses of bees and other essential pollinators continue, it could lead to irreversible harmful effects on our food systems. The Food and Agriculture Organization of the United Nations published a report warning that the state of the world's biodiversity threatens our food security, nutrition, health, livelihood and environment (Belanger, J and Pilling, D. *The State of the World's Biodiversity for Food and Agriculture.* Food and Agriculture Organization of the United Nation, 2019*).*

What impacts do neonicotinoids have on human health? The impact of neonicotinoids exposure on aquatic species is well covered in the literature. However, studies on mammalian toxicity are nascent. A new area of scientific inquiry is the presence of neonicotinoids in drinking water. Researchers have documented for the first time two known metabolites of imidacloprid in drinking water. Desnitro-imidacloprid was present above the lower level of detection (0.03 ng/L) in 67% of samples from drinking water systems but detectable in all samples (up to 0.6 ng/L). Although concentrations of desnitro-imidacloprid were lower than concentrations of the parent neonicotinoids, desnitro-imidacloprid exhibits significantly greater mammalian toxicity than imidacloprid. These new chlorinated contaminants are untested, untracked and potentially harmful. In other words, their potential impacts on human health could significant. Other types of disinfection byproducts in drinking water are highly toxic, linked to a risk of cancer and birth defects. (Klarich Wong, K., et. al. *Chlorinated Byproducts of Neonicotinoids and Their Metabolites: An Unrecognized Human Exposure Potential?* Environmental Science and Technology Letters, January, 2019). The Oregon DEQ has detected imidacloprid in Oregon streams at levels magnitudes over the aquatic health benchmark.

After 242 scientists from around the world cited an "immediate need for national and international agreements to greatly restrict their use," the European Union recently banned the outdoor use of three neonicotinoids (Butler, D. *Scientists hail European ban on bee-harming pesticide*. Nature April 2018). Connecticut, New York, Minnesota and Maryland have already passed legislation to ensure that neonicotinoids are eliminated or restricted so that only trained, licensed professionals are able to buy and apply neonicotinoids. Ten other states are considering similar action in their legislatures.

In conclusion regarding neonicotinoids:
The scientific literature is very clear that neonicotinoids pose unacceptable risks to pollinators, birds and other wildlife. A burgeoning area of scientific study is the presence of neonicotinoid metabolites in drinking water and their possible carcinogenic properties.

Neonicotinoids are effective because they are systemic, are absorbed by the entire plant and spread through soils and are capable of killing a variety of pests. Those same characteristics are what makes it imperative to classify neonicotinoids as restricted use pesticides so that

untrained general consumers are not using these products in urban settings. Recognizing the inappropriateness of selling neonicotinoids to general consumers, more than 140 garden retailers, nurseries and landscaping companies, including the two largest home improvement retailers in the world, Home Depot and Lowe's and one of the largest consumer outlets, Walmart, are taking steps to eliminate neonicotinoids from their stores.

The application of a class of highly toxic and extremely environmentally persistent neuro-damaging insecticides should be restricted to trained and licensed professionals. Pesticide licensing makes sense as a way to protect health, safety and property, in the same way that Oregonians are required to take a test and hold a driver's license to drive; in the same way that a plumber is required to be licensed; in the same way that a teacher is required to be certified and licensed by the state. Classifying neonicotinoids as restricted use pesticides is a responsible way to ensure that farmers, landscapers and nurseries have the pesticide tools they need and the training to use them properly. Sensibility dictates that the State makes sure general consumers are not spreading systemic insecticides in urban environments where they will accumulate in soils, storm water run-off and backyard gardens.

Chlorpyrifos:

Chlorpyrifos is an organophosphate pesticide developed during WWII and is in the same family of chemicals as Sarin gas. Today, this former chemical weapon is used to kill a number of pests including insects and soil organisms such as worms.

Chlorpyrifos is a nerve agent, which attacks chemical pathways and causes a breakdown in the ability of nerves to communicate. You can be exposed to it by inhaling it, eating it, or getting it on your skin. This insecticide has been determined "toxic" to birds and "extremely toxic" to fish according to the National Institutes of Health (NIH). The NIH has also determined it is "extremely toxic" to non-target insects, like bees and butterflies. (*Chlorpyrifos*, National Center for Biotechnology Information. PubChem Compound Database, U.S. National Library of Medicine, July, 2009)

What makes chlorpyrifos so dangerous for children? The US EPA has studied chlorpyrifos extensively. The agency found a single application of chlorpyrifos poses significant risks, especially to endangered species; and it determined that there is no safe level of chlorpyrifos exposure in food or drinking water. In 2016 under the Obama Administration, the EPA was set to recommend a nationwide ban on chlorpyrifos. Changing leadership within the EPA instead reversed this ban despite serious scientific concerns and substantive process gaps in the amended action. (EPA, March, 2017)

Two years after the proposed EPA ban was reversed, a major study undertaken by the NIH evaluating the safety of chlorpyrifos concluded:

> In our review of raw data on a prominent pesticide, chlorpyrifos, and a related compound, discrepancies were discovered between the actual observations and the conclusions drawn by the test laboratory in the report submitted for authorization of the pesticide. These observations are highly relevant in view of the present legal challenges to continued chlorpyrifos use in the USA and the ongoing re-evaluation of the current approval in the EU. Although our findings may not be generalized, they suggest the existence of bias in the reporting of industry-sponsored toxicity studies. The prevalence of such (funding) bias deserves further examination.

The authors also concluded that the current evaluation procedures for pesticides may need to be modified to ensure that the public is not exposed to substances that may harm human health.

Evidence continues to rapidly grow around the adverse effects of organophosphate exposure in general, and chlorpyrifos in particular. Researchers have consistently demonstrated negative impacts on developing human brains that are linked with decreased IQ. Adverse outcomes and the brain abnormalities appeared to occur following low-level exposures to chlorpyrifos that are below EPA safety standards. (Rauh, et. al., *Brain anomalies in children exposed prenatally to a common organophosphate pesticide*. Proc National Academy of Sciences U S A. 2012)

This suggest that the current EPA safety standards do no protect vulnerable populations such as the developing infants and small child from the adverse impacts of this neurotoxicant. Well designed, peer-reviewed research studies consistently demonstrate that chlorpyrifos exposure is; 1) damaging to the developing brain, 2) adversely impacts motor, cognitive and behavioral development, and 3) effects may be persistent and lead to long lasting impacts on the lives of those individual and the families exposed.

What might alternatives to chlorpyrifos mean for farmers? Chlorpyrifos is used on Oregon's food crops and on Christmas tree farms. This pesticide can drift at unsafe levels 300 feet from the farm's edge which may result in potentially harmful exposures for nearby rural neighbors and of course farm employees and farm families. In fact over the past 5 years, there have been 57 complaints involving chlorpyrifos made to the Oregon Department of Agriculture. (Documents provided to Beyond Toxics from the Oregon Department of Agriculture, 3/21/2019) Of these complaints, 21 cases, over 36%, resulted in departmental action, and 17 out of 21 cases were enforcement cases. Fourteen cases were complaints of human health and four were complaints about the loss and impacts to bees (see attached ODA report summary).

In the public hearing on SB 853 on March 26, testimony from farmers stated that "other chemistries are being developed" to replace chlorpyrifos. Farmers can switch to other successful and less harmful pest treatment alternatives. We have attached three documents listing a number of safer products to treat the same types of pest problems on these Oregon farm products: Christmas trees, blueberries and peppermint. We think farmers should be

assisted making the transition to chemistries that eliminate uses of the organophosphate chlorpyrifos.

The argument that chlorpyrifos is the only cost-effective choice for crop production does not consider the very large societal cost associated with loss of human and environmental health. A large portion of our state budget goes to education, and a large proportion of this budget goes to special education needs services for children. This will likely cost the Oregon economy millions of dollars annually with added educational and healthcare costs associated with developmental and intellectual disabilities. We cannot afford to allow the continued use of organophosphate pesticides that carry risks to cognitive development, which will increase the need to expand costly special education services.

Are chlorpyrifos a risk to the future of farming? Pesticides can be a useful tool for farmers to reduce pest problems in the short-term. However, evidence suggests that chlorpyrifos and neonicotinoids may not actually solve pest problems in the long-term. Insect species can develop a resistance to many of these chemical over time resulting in an increasing demand for more volume or more toxic pesticides. (Gould, Fred, et al. *Wicked Evolution: Can We Address the Sociobiological Dilemma of Pesticide Resistance?* Science, American Association for the Advancement of Science, May, 2018) There is no shortage of valid, peer-reviewed research that concludes that widespread pesticide use is linked to adverse effects for humans and wildlife as well as rapid declines of insect diversity, including beneficial insects like honey bees, bumblebees and lacewings. (Francisco Sánchez-Bayo, Kris Wyckhuys, *Worldwide Decline of the Entomofauna: A Review of Its Drivers.* Biological Conservation, January, 2019)

On the other hand, there is a shortage of replicable research concluding that continued, widespread pesticide use is safe for long-term human and environmental health. The economic and environmental costs of pesticides are very high. The major economic and environmental losses due to the application of pesticides in the USA are estimated as follows: public health, $1.1 billion year; pesticide resistance in pests, $1.5 billion; crop losses caused by pesticides, $1.4 billion; bird losses due to pesticides, $2.2 billion; and groundwater contamination, $2.0 billion. (Teresa M. Attinaa, Julia Malitsa, et al, *Racial/ethnic disparities in disease burden and costs related to exposure to endocrine-disrupting chemicals in the United States: an exploratory analysis,* Journal of Clinical Epidemiology, December, 2018)

State Pesticide Product Registration Fees:
In the United States, state government agencies responsible for pesticide regulation enforcement charge pesticide manufacturers (e.g., Dow, Syngenta, Bayer, etc) a fee to register their products for sale and use. States use these fees to fund education, monitoring, enforcement and water quality programs. SB 853 provides for the State of Oregon to increase registration fees paid by chemical manufacturers who seek to sell and distribute their pesticide products in Oregon. Oregon charges an annual fee of $320 per product, an amount approximately mid-way in the range of fees that are charged. Typical fees which range from $100/year (New Mexico) to $500/yr (Wisconsin) to $1,150/year (California). We support

increasing the pesticide registration fees in Oregon to support the continuing work of the Oregon Department of Agriculture to regulate pesticides for compliance with all federal and state regulations.

Discussion:
The most imminent threat of ignoring scientist's warnings about pesticides is the harm to future generations of children who may experience brain damage and reduced cognitive function. Based on this sound science along with decades of risk assessment and input from science advisory panels, in 2015, EPA scientists concluded that chlorpyrifos is unsafe **at any detectable level and should be banned -- without exemptions.**

Furthermore, chlorpyrifos has been shown to lead to the loss of species diversity and keystone species, resulting in a range of cascading effects that alters ecosystem dynamics. The repercussions can have huge impacts on food production. Worldwide scientists are warning caution to the continued use of chlorpyrifos that indiscriminately kill a wide range of insects to prevent ecosystem collapses.

Ultimately, the cost of chlorpyrifos and neonicotinoids to human and environmental health is far greater than the cost of switching to alternatives to reduce pest problems.

Based on science regarding children's health, the severe impacts to ecosystem function and unacceptable economic risks from the loss of beneficial insects, Beyond Toxics urges your support for SB 853. Please join with Hawaii, a state that has already taken action to ban chlorpyrifos, and seven other states who are considering eliminating the sale and use of this dangerous insecticide. It is our turn to pass a ban on chlorpyrifos in Oregon because we cannot wait any longer for the federal government or the courts to protect our nation's children.

Please pass SB 853.

Sincerely,

Lisa Arkin, Executive Director and Krystal Abrams, Pollinator Projects Coordinator
on behalf of
Beyond Toxics
120 Shelton McMurphey Blvd., Suite 280
Eugene, OR 97401

Product Name | Registration Number | Hazard Tier

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Results for **Hazard Tier:** *3*; **Use Type:** *Insecticide / Insect Growth Regulator / Miticide*; **Crop or Site:** *Blueberries*

Show List

BIOCOVER MLT	34704-805	Product type: Fungicide; Insecticide; Miticide	3 ✓
BONIDE BACILLUS THURINGIENSIS (BT) MOTH LARVAE (CATERPILLAR) CONTROL	4-226	Product type: Insecticide; Microbial Pesticide	3 ✓
BUG-N-SLUGGO INSECT, SLUG AND SNAIL BAIT	67702-24	Product type: Insecticide; Molluscicide	3 ✓
CAPTIVA	10163-326	Product type: Repellent; Insecticide	3 ✓
CINNACURE A3005	58866-12	Product type: Fungicide; Herbicide Terrestrial; Biochemical Pesticide; Insecticide; Miticide; Repellent Or Feeding Depressant; Algaecide	3 ✓
COSAVET DF	70905-1	Product type: Fungicide; Insecticide; Miticide	3 ✓
CRYMAX	70051-86		

Product Name	Registration Number	Hazard Tier
Product type Insecticide; Miticide; Microbial Pesticide		3 ✓
CSC 80% THIOSPERSE/ THIOBEN Product type Fungicide; Miticide	82571-4	3 ✓
CUTLASS Product type Insecticide; Miticide; Microbial Pesticide	70051-79	3 ✓
DIPEL ES BIOLOGICAL INSECTICIDE EMULSIFIABLE SUSPENSION Product type Insecticide; Miticide; Microbial Pesticide	73049-17	3 ✓
DREXEL SULFUR 90W Product type Fungicide; Insecticide; Miticide	19713-238	3 ✓
GOLDEN PEST SPRAY OIL Product type Insecticide; Miticide	57538-11	3 ✓
GOLDEN-DEW Product type Fungicide; Insecticide; Miticide	2935-407	3 ✓
GOWAN DUSTING SULFUR Product type Fungicide; Insecticide; Miticide	10163-77	3 ✓
GRANDEVO Product type Nematicide; Insecticide; Miticide	84059-17	3 ✓

Product Name	Registration Number	Hazard Tier
		3 ✓
Product type Insecticide; Microbial Pesticide		
JAVELIN WG	70051-66	3 ✓
Product type Insecticide; Miticide; Microbial Pesticide		
KUMULUS DF	51036-352	3 ✓
Product type Acaricide; Fungicide; Insecticide		
MICRO SULF MICRONIZED WETTABLE SULFUR	55146-75	3 ✓
Product type Fungicide; Miticide		
MICROTHIOL DISPERSS	70506-187	3 ✓
Product type Fungicide; Miticide		
NEU 1160 VEGETABLE OIL INSECTICIDE	67702-4	3 ✓
Product type Insecticide; Miticide		
PN ALL SEASON SPRAY OIL	2935-546	3 ✓
Product type Insecticide; Miticide; Fungicide/Fungistat		
PURESPRAY GREEN	69526-9	3 ✓
Product type Fungicide; Insecticide; Miticide		
PURESPRAY SPRAY OIL 10E	69526-5	3 ✓

Product Name	Registration Number	Hazard Tier
READY-TO-USE YEAR-ROUND SPRAY OIL Product type Insecticide; Miticide	6218-78	3 ✓
SAFER BRAND 3-IN-1 CONCENTRATE Product type Fungicide; Insecticide; Miticide	59913-13	3 ✓
SAFER BRAND GARDEN FUNGICIDE, INSECTICIDE, & MITICIDE READY-TO-USE SPR Product type Fungicide; Insecticide; Miticide	42697-58	3 ✓
SAN 420 I WG Product type Insecticide; Miticide; Microbial Pesticide	70051-69	3 ✓
SIL-MATRIX Product type Fungicide; Biochemical Pesticide; Insecticide; Miticide	82100-1	3 ✓
SPRAY OIL 470 Product type Fungicide; Insecticide; Miticide	34704-809	3 ✓
SULFUR 6L Product type Fungicide; Insecticide; Miticide	66330-211	3 ✓
SUNSPRAY 6E Product type Fungicide; Insecticide; Miticide	86330-6	3 ✓
SUNSPRAY ULTRA-FINE YEAR-ROUND PESTICIDAL	86330-13	

Product Name	Registration Number	Hazard Tier
Product type Fungicide; Insecticide; Miticide		3 ✓
SURROUND WP CROP PROTECTANT Product type Fungicide; Insecticide; Miticide; Regulator	61842-18	3 ✓
THAT FLOWABLE SULFUR Product type Fungicide; Miticide	57538-5	3 ✓
WETTABLE SULFUR Product type Fungicide; Miticide	45002-12	3 ✓
WILBUR-ELLIS DUSTING SULFUR Product type Fungicide; Miticide	2935-48	3 ✓
WILBUR-ELLIS SPRAY SULFUR Product type Fungicide; Miticide	2935-92	3 ✓
CSC WETTABLE OR DUSTING SULFUR Product type Fungicide; Miticide	82571-1	3
MYCOTROL O Product type Biochemical Pesticide; Insecticide; Miticide	82074-3	3

1 - 40 of 40

Product Name | Registration Number | Hazard Tier

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Results for **Hazard Tier:** *3*; **Use Type:** *Insecticide / Insect Growth Regulator / Miticide*; **Crop or Site:** *Conifers/Christmas Tree Plantings*

Show List

BIOCOVER MLT	34704-805	Product type	Fungicide; Insecticide; Miticide
CINNACURE A3005	58866-12	Product type	Fungicide; Herbicide Terrestrial; Biochemical Pesticide; Insecticide; Miticide; Repellent Or Feeding Depressant; Algaecide
CIVITAS	69526-13	Product type	Fungicide; Insecticide
CLEAN CROP SUPREME OIL	34704-352	Product type	Insecticide; Miticide
DORMANT OIL 435	9779-251	Product type	Fungicide; Insecticide; Miticide
GAVICIDE SUPER 90	34704-1024	Product type	Insecticide; Miticide
GOLDEN PEST SPRAY OIL	57538-11		

Product Name	Registration Number	Hazard Tier
Product type Insecticide; Miticide		3 ✓
GRANDEVO	84059-17	3 ✓
Product type Nematicide; Insecticide; Miticide		
LEAF LIFE GAVICIDE GREEN 415	34704-1028	3 ✓
Product type Insecticide		
NARROW RANGE 415 SPRAY OIL	34704-1025	3 ✓
Product type Insecticide; Miticide		
PN ALL SEASON SPRAY OIL	2935-546	3 ✓
Product type Insecticide; Miticide; Fungicide/Fungistat		
PURESPRAY GREEN	69526-9	3 ✓
Product type Fungicide; Insecticide; Miticide		
PURESPRAY SPRAY OIL 10E	69526-5	3 ✓
Product type Fungicide; Insecticide; Miticide		
READY-TO-USE YEAR-ROUND SPRAY OIL	6218-78	3 ✓
Product type Insecticide; Miticide		
SPRAY OIL 415	34704-727	3 ✓
Product type Insecticide; Miticide		
SPRAY OIL 470	34704-809	

Product Name	Registration Number	Hazard Tier
Product type Fungicide; Insecticide; Miticide		3 ✓
Sultan Miticide  **Product type** Miticide	7969-337	3 ✓
SUNSPRAY 6E  **Product type** Fungicide; Insecticide; Miticide	86330-6	3 ✓
SUNSPRAY ULTRA-FINE YEAR-ROUND PESTICIDAL OIL  **Product type** Fungicide; Insecticide; Miticide	86330-13	3 ✓
SUPREME OIL  **Product type** Insecticide; Miticide	2935-405	3 ✓
SURROUND WP CROP PROTECTANT  **Product type** Fungicide; Insecticide; Miticide; Regulator	61842-18	3 ✓

1 - 21 of 21

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Results 1 - 46 of 46

Results for **Hazard Tier:** *2*; **Use Type:** *Insecticide / Insect Growth Regulator / Miticide*; **Crop or Site:** *Conifers/Christmas Tree Plantings*

Show List

Product Name	Registration Number	Hazard Tier
ACME DORMANT OIL SPRAY Product type Insecticide; Miticide	33955-458	2
ACRAMITE-4SC Product type Miticide	400-514	2
AMVAC AZA 1.2% CF Product type Repellent; Nematicide; Insect Growth Regulator; Insecticide	5481-559	2
APOLLO SC OVICIDE/ MITICIDE Product type Miticide	66222-47	2
APPLAUD 70DF INSECT GROWTH REGULATOR Product type Insect Growth Regulator	71711-21	2
AVACHEM SORBITOL OCTANOATE (90%) Product type Insecticide; Miticide	75197-2	2
	75197-1	

AVACHEM SUCROSE OCTANOATE [40.0%] Product type Biochemical Pesticide; Insecticide; Miticide		2 ✓
BONIDE HORTICULTURAL AND DORMANT SPRAY OIL Product type Insecticide; Miticide	4-80	2 ✓
BRANDT STS HORTICULTURAL OIL Product type Fungicide; Insecticide; Miticide	48813-1	2 ✓
BUPROFEZIN 40SC Product type Insect Growth Regulator	71711-20	2 ✓
CLOFENTEZINE SC OVICIDE/ MITICIDE Product type Miticide	66222-53	2 ✓
CONFIRM 2F INSECTICIDE Product type Insecticide; Miticide; Sex Attractant Or Feeding Stimulant	8033-111	2 ✓
CONSERVE FIRE ANT BAIT XT Product type Insecticide	62719-329	2 ✓
CONSERVE SC TURF AND ORNAMENTAL Product type Insecticide; Miticide	62719-291	2 ✓
DAMOIL DORMANT & SUMMER SPRAY OIL Product type Insecticide; Miticide	19713-123	2 ✓

DINO 2 G GL INSECTICIDE Product type Insecticide		59639-162	2 ✓
ENTRUST Product type Insecticide; Miticide		62719-282	2 ✓
ESTEEM ANT BAIT Product type Insect Growth Regulator		59639-114	2 ✓
FLORAMITE SC Product type Miticide		400-508	2 ✓
GLACIAL SPRAY FLUID Product type Fungicide; Insecticide		34704-849	2 ✓
IAP 440 SPRAY OIL Product type Insecticide; Miticide		71058-6	2 ✓
IAP HI SUPREME SPRAY OIL Product type Insecticide; Miticide		71058-2	2 ✓
IAP SUMMER 415 SPRAY OIL Product type Insecticide; Miticide		71058-5	2 ✓
LESCO HORTICULTURAL OIL INSECTICIDE Product type Fungicide; Insecticide; Miticide		10404-66	2 ✓

M-PEDE INSECTICIDE MITICIDE FUNGICIDE Product type Repellent; Fungicide; Insecticide; Miticide		10163-324	2 ✓
MOVENTO Product type Insecticide		264-1050	2 ✓
MYCOTROL ES Product type Biochemical Pesticide; Insecticide; Miticide		82074-1	2 ✓
NEEMAZAL 0.3 EC Product type Repellent; Insect Growth Regulator; Biochemical Pesticide		71908-6	2 ✓
NEEMAZAL 0.6 EC Product type Repellent; Insect Growth Regulator; Biochemical Pesticide		71908-5	2 ✓
NEUDORFF BUG BAIT Product type Insecticide		67702-25	2 ✓
OMNI SUPREME SPRAY Product type Insecticide; Miticide		5905-368	2 ✓
PRENTOX PBO-8 Product type Insecticide; Miticide		89459-33	2 ✓
QRD 400		264-1157	2 ✓

Product type Acaricide; Insecticide

QRD 452	264-1159		✓

Product type Acaricide; Insecticide

RINGER ATTACK SOAP CONCENTRATE	36488-45		✓

Product type Insecticide; Miticide

SPRAY OIL 13E	69526-6		✓

Product type Fungicide; Insecticide; Miticide

SPRAY OIL 15E	69526-8		✓

Product type Fungicide; Insecticide; Miticide

SUCCESS	62719-292 		✓

Product type Insecticide; Miticide

SUMMIT YEAR-ROUND(TM) SPRAY OIL	6218-71		✓

Product type Insecticide; Miticide

SUNSPRAY 6E PLUS	86330-11		✓

Product type Insecticide; Miticide

TETRASAN 5 WDG	59639-108 		✓

Product type Miticide

VOLCK SUPREME SPRAY	2935-542		

Product type Fungicide; Insecticide; Miticide			2 ✓
ZEAL WDG MITICIDE Product type Miticide		59639-123	2 ✓
ZEAL WP MITICIDE Product type Miticide		59639-138	2 ✓
APOLLO 42% OVICIDE/ MITICIDE Product type Miticide		66222-65	2
BELT SC INSECTICIDE Product type Insecticide		264-1025	2

1 - 46 of 46

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Results 1 - 31 of 31

Results for **Hazard Tier:** *3*; **Use Type:** *Insecticide / Insect Growth Regulator / Miticide*; **Crop or Site:** *Mint/Peppermint/Spearmint*

Show List

Product Name	Registration Number	Hazard Tier
AGREE 50 WP Product type Insecticide; Microbial Pesticide	70051-99	3
AGREE WG Product type Insecticide; Microbial Pesticide	70051-47	3
BIOBIT HP BIOLOGICAL INSECTICIDE WETTABLE POWDER Product type Insecticide; Miticide; Microbial Pesticide	73049-54	3
BIOCOVER MLT Product type Fungicide; Insecticide; Miticide	34704-805	3
BONIDE BACILLUS THURINGIENSIS (BT) MOTH LARVAE (CATERPILLAR) CONTROL Product type Insecticide; Microbial Pesticide	4-226	3
BUG-N-SLUGGO INSECT, SLUG AND SNAIL BAIT Product type Insecticide; Molluscicide	67702-24	3

CINNACURE A3005	58866-12	3	✓
Product type	Fungicide; Herbicide Terrestrial; Biochemical Pesticide; Insecticide; Miticide; Repellent Or Feeding Depressant; Algaecide		
COSAVET DF	70905-1	3	✓
Product type	Fungicide; Insecticide; Miticide		
CRYMAX	70051-86	3	✓
Product type	Insecticide; Miticide; Microbial Pesticide		
CSC 80% THIOSPERSE/ THIOBEN	82571-4	3	✓
Product type	Fungicide; Miticide		
CUTLASS	70051-79	3	✓
Product type	Insecticide; Miticide; Microbial Pesticide		
DIPEL (WORM KILLER) WETTABLE POWDER BIOLOGICAL INSECTICIDE	73049-5	3	✓
Product type	Insecticide; Miticide; Microbial Pesticide		
DIPEL 2X BIOLOGICAL INSECTICIDE WETTABLE POWDER	73049-8	3	✓
Product type	Insecticide; Miticide		
DIPEL DF BIOLOGICAL INSECTICIDE DRY FLOWABLE	73049-39	3	✓
Product type	Insecticide; Microbial Pesticide		
DREXEL SULFUR 90W	19713-238	3	✓

Product type Fungicide; Insecticide; Miticide

GOLDEN-DEW	2935-407	3	✓

Product type Fungicide; Insecticide; Miticide

GRANDEVO	84059-17	3	✓

Product type Nematicide; Insecticide; Miticide

JAVELIN	70051-60	3	✓

Product type Insecticide; Microbial Pesticide

JAVELIN WG	70051-66	3	✓

Product type Insecticide; Miticide; Microbial Pesticide

KUMULUS DF	51036-352	3	✓

Product type Acaricide; Fungicide; Insecticide

MICRO SULF MICRONIZED WETTABLE SULFUR	55146-75	3	✓

Product type Fungicide; Miticide

MICROTHIOL DISPERSS	70506-187	3	✓

Product type Fungicide; Miticide

PURESPRAY SPRAY OIL 10E	69526-5	3	✓

Product type Fungicide; Insecticide; Miticide

SAN 420 I WG	70051-69

	Product type Insecticide; Miticide; Microbial Pesticide		3 ✓
SPRAY OIL 470	Product type Fungicide; Insecticide; Miticide	34704-809	3 ✓
SULFUR 6L	Product type Fungicide; Insecticide; Miticide	66330-211	3 ✓
SUNSPRAY ULTRA-FINE YEAR-ROUND PESTICIDAL OIL	Product type Fungicide; Insecticide; Miticide	86330-13	3 ✓
SUPER SIX LIQUID SULFUR	Product type Fungicide; Insecticide; Miticide	65343-1	3 ✓
THAT FLOWABLE SULFUR	Product type Fungicide; Miticide	57538-5	3 ✓
CSC WETTABLE OR DUSTING SULFUR	Product type Fungicide; Miticide	82571-1	3
MYCOTROL O	Product type Biochemical Pesticide; Insecticide; Miticide	82074-3	3

1 - 31 of 31

Pesticide Research Institute

Pesticide Product Evaluator®

contains
starts with

Search for a product name or registration number

Search

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Results 1 - 42 of 42

Results for **Hazard Tier:** *2*; **Use Type:** *Insecticide / Insect Growth Regulator / Miticide*; **Crop or Site:** *Mint/Peppermint/Spearmint*

Show List

Product Name	Registration Number	Hazard Tier
ACRAMITE-4SC Product type Miticide	400-514	2
ACRAMITE-50WS Product type Miticide	400-503	2
ACRAMITE-75WG Product type Miticide	400-519	2
AVACHEM SORBITOL OCTANOATE (90%) Product type Insecticide; Miticide	75197-2	2
BONIDE ALL SEASONS HORTICULTURAL SPRAY OIL RTU Product type Fungicide; Insecticide; Miticide	4-419	2
BONIDE HORTICULTURAL AND DORMANT SPRAY OIL Product type Insecticide; Miticide	4-80	2
	4-471	

BONIDE SPINOSAD CONCENTRATE			 ✓
Product type	Insecticide		
BOTANIGARD 22WP		82074-2 	 ✓
Product type	Biochemical Pesticide; Insecticide; Miticide		
CONFIRM 2F INSECTICIDE		8033-111 	 ✓
Product type	Insecticide; Miticide; Sex Attractant Or Feeding Stimulant		
CONSERVE FIRE ANT BAIT XT		62719-329 	 ✓
Product type	Insecticide		
CONSERVE SC TURF AND ORNAMENTAL		62719-291 	 ✓
Product type	Insecticide; Miticide		
DAMOIL DORMANT & SUMMER SPRAY OIL		19713-123	 ✓
Product type	Insecticide; Miticide		
DEBUG TURBO		70310-5	 ✓
Product type	Fungicide; Nematicide; Insecticide; Miticide; Repellent Or Feeding Depressant		
DUPONT CORAGEN INSECT CONTROL		352-729 	 ✓
Product type	Insecticide		
ENTRUST		62719-282 	 ✓
Product type	Insecticide; Miticide		

GF-3028

62719-666

Product type Insecticide

GLACIAL SPRAY FLUID

34704-849

Product type Fungicide; Insecticide

INTREPID 2F INSECTICIDE

62719-442

Product type Insecticide; Miticide

MYCOTROL ES

82074-1

Product type Biochemical Pesticide; Insecticide; Miticide

NEEM OIL 70%

70051-2

Product type Fungicide; Insecticide; Miticide

NEEMAZAD 1% EC

70051-104

Product type Insect Growth Regulator

NEEMAZAL T/S 1.2 EC

71908-1

Product type Nematicide; Insecticide; Miticide; Repellent Or Feeding Depressant; Sex Attractant Or Feeding Stimulant

NEUDORFF BUG BAIT

67702-25

Product type Insecticide

OR-CAL SLUG-FEST 4.0

71096-13

Product type Insecticide; Molluscicide And Tadpole Shrimp

QRD 400 Product type Acaricide; Insecticide		264-1157	
QRD 452 Product type Acaricide; Insecticide		264-1159	
SPINOSAD 0.5% SC Product type Insecticide; Miticide		62719-314	
SPRAY OIL 13E Product type Fungicide; Insecticide; Miticide		69526-6	
SPRAY OIL 15E Product type Fungicide; Insecticide; Miticide		69526-8	
SUCCESS Product type Insecticide; Miticide		62719-292	
SULPHUR W.G. Product type Fungicide; Insecticide; Miticide		62562-4	
SUNSPRAY 6E PLUS Product type Insecticide; Miticide		86330-11	
SUPER-SUL MICRONIZED WETTABLE SULFUR		45002-10	

Product type Fungicide; Miticide

SUPERNEEM 4.5-B — 70051-9

Product type Insect Growth Regulator; Insecticide; Miticide; Repellent Or Feeding Depressant

TETRASAN 5 WDG — 59639-108

Product type Miticide

TRISTAR 30 SG INSECTICIDE — 8033-94

Product type Insecticide

XENTARI BIOLOGICAL INSECTICIDE DRY FLOWABLE — 73049-40

Product type Insecticide; Microbial Pesticide

XENTARI BIOLOGICAL INSECTICIDE WATER DISPERSIBLE GRANULE — 73049-23

Product type Insecticide; Microbial Pesticide

YELLOW JACKET FLOWABLE SULFUR — 6325-22

Product type Fungicide; Insecticide; Miticide

YELLOW JACKET WETTABLE SULFUR II — 6325-13

Product type Fungicide; Miticide

ZEAL WDG MITICIDE — 59639-123

Product type Miticide

ZEAL WP MITICIDE — 59639-138

Product type Miticide

1 - 42 of 42

Case Number		Applicator	Date	Referred	Violations	
130003	AUF	OREGON FIELD SPRAYING LLC / Canton	05/14/2013	PARC		
140015	AUF	Cascade Tree Farms, L.L.C. / Schwartz	08/19/2014	PARC	4, 4, 4	CP paid in full,
140019	AUF	WILBUR ELLIS CO - Napavine / Bilyeu	07/26/2013	PARC		
140027	AUF	RAZORBACK BUGGY SERVICE / Freeborn	01/30/2014		4, 4	NOV, NOV
140042	AUF	Applebee Aviation / Ashlock	12/13/2013	PARC		
140049	AUF	INDUSTRIAL AVIATION SER INC / Maulding	08/05/2014			
140127	AUF	Kauer / Soter Vineyards	10/10/2013			
140222	DRI	Western Ag Improvement Inc., Hermiston	02/17/2015		5, 2	NOV, CP - paid
140414	AUF	INDUSTRIAL AVIATION SER INC (Greenbriar Ag Management Inc.) / N	08/04/2014			
150202	AUF	Kreder / C&J Apiaries	01/14/2015	PARC		
150412	AUF	Unknown / Cameron Winery	11/10/2015	PARC		
150416	AUF	Sester Farms, Inc. / Nightengale, Gonzalez	02/17/2017		4, 4, 4, NONE, NON	NOV, NOV,
150467	AUO	INDUSTRIAL AVIATION SER INC	12/28/2015			
150481	AUF	Ekstrom Nursery, Inc. / Landesman	05/06/2016	PARC	4, 4, 4, 4	CP - paid in
160028	AUO	Cascade Tree Farms, L.L.C.	07/29/2015			
160153	Tracking	Bailey Nurseries, Inc. / Asiano	10/15/2015	PARC		
160306	DRI	J R SIMPLOT COMPANY - Portland	01/31/2017		5, 17	NOV, NOV
170102	AUF	Beck's Spray Service / Rempel	01/10/2018			
170154	AUF	Beck's Spray Service / Rempel	01/10/2018			
170320	AUO	CREEKSIDE VALLEY FARMS LLC / Anonymous	11/27/2018		4, 4, 4, 4, 4, 4	CP, CP, CP,
170341	AUO	James Jensen, representative of Bob Jensen, doing business as Wild W	08/18/2017		2, 4	NOV, NOV
170381	AUO	Iron Cross Enterprises LLC (MCAP)	02/17/2017		2, 4	NOV, NOV
170410	AUO	Funklestank Farm (MCAP)	02/21/2017		2, 4	NOV, NOV
170464	AUF	Chuck Eder Farm Inc. / The Good Goods Company (MCAP)	04/19/2017			LOA, LOA
170579	AUF	McKinnon Nursery / Tevino	08/09/2017	PARC		
170586	AUF	Crop Production Services / Marks / Horse Plaza		PARC		
170612	AUF	WILBUR ELLIS CO BRANCH 417400 / Madison-Jamil		PARC		
170629	MPI	PBI Gordon Corp. / Oregon Roots	03/26/2018		1, 6, 15, 16, 16, 22	SSURO,
170655	NUF	Doug Woods	07/13/2017	PARC		
170657	MPI	Redwood Nursery				
170686	MPI	Gowan Company	08/02/2017			
170687	MPI	OHP, Inc. (Azatin O)			1, 6, 15, 16, 16	SSURO,
170688	MPI	Biosafe Systems, LLC	08/02/2017			
170689	MPI	Bioworks, Inc	08/02/2017			
170691	MPI	Certis U.S.A. L.L.C. (Neemix 4.5)	02/19/2019		1, 6, 15, 16, 16	SSURO,

180037	AUO	Happy Buddha Farm (MCAP)	09/25/2017		2, 4	NOV, NOV
180103	AUF	Azamax / Creedence Creek Farm LLC	01/12/2018			
180245	AUF	Unknown / Gillespie				
180248	AUF	McKee Family Farms, L.L.C. / MacFarm, LLC	03/08/2018			LOA, LOA, LOA
180318	AUO	Marico Farms (MCAP)	03/23/2018		2, 4	NOV, NOV
180480	AUO	Bliss Farms (MCAP)	04/09/2018			
180513	AUF	Dinsdale Farm / Lindsay	01/15/2019	PARC		
180562	AUO	Grizzilla Farms LLC (MCAP)	08/14/2018		2, 4	NOV, NOV
190130	Tracking	Kathy Bridges	11/02/2018			
190293	Tracking	MariCo Farms	11/27/2018			
130238	ARI	WILBUR-ELLIS COMPANY - MADRAS	02/11/2013			
140120	AUF	J Frank Schmidt & Son Co / Coronado	10/15/2013	PARC		
140414	AUF	INDUSTRIAL AVIATION SER INC (Greenbriar Ag Management Inc.) / N	08/04/2014			
150010	AUF	Cascade Tree Farm LLC / Schwartz	07/22/2014	PARC		
150367	NUF	Tolman / Images Property Management	11/03/2015	PARC		LOA
160112	ARI	Farmers Aerial Applicators	10/08/2015			
160590	AUO	Cascade Tree Farm	08/24/2016			
160614	AUF	Holiday Tree Farms, Inc. / McCall	02/20/2018		4, 4	NOV, NOV
170070	Tracking	Hupps / Ellefson	02/13/2018			
170327	ARI	CHS INC - MADRAS	01/19/2017			
180639	AUF	Busco LLC / Schwartz	06/25/2018	PARC		
180709	AUF	Busco LLC / Schwartz	07/02/2018			

57 cases total

17 cases referred to PARC

action advsement