NEIL ABERCROMBIE GOVERNOR OF HAWAII





WILLIAM J. AILA, JR. CHAIRPERSON BOARD OF LAND AND NATURAL RESOURCES COMMISSION ON WATER RESOURCE MANAGEMENT

> ESTHER KIA'AINA FIRST DEPUTY

WILLIAM M. TAM EPUTY DIRECTOR - WATER

AQUATIC RESOURCES BOATING AND OCEAN RECREATION BUREAU OF CONVEYANCES COMMISSION ON WATER RESOURCE MANAGEMENT CONSERVATION AND RESOURCES ENFORCEMENT ENGINEERING FORESTRY AND WILDLIFE HISTORIC PRESERVATION KAHOOLAWE ISLAND RESERVE COMMISSION LAND STATE PARKS

STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621 HONOLULU, HAWAII 96809

Testimony of WILLIAM J. AILA, JR. Chairperson

Before the House Committee on FINANCE

Thursday, February 21, 2013, 4:00 PM State Capitol, Conference Room 415

In consideration of HOUSE BILL 673, HOUSE DRAFT 2 RELATING TO PESTICIDES

House Bill 673, House Draft 2 would require the Department of Agriculture (DOA) to make reports of the use of Restricted Use Pesticides available online, and would require the Legislative Reference Bureau (LRB) to conduct a study of the requirements and costs of pesticide registries in other states. The Department of Land and Natural Resources (Department) offers the following comments.

As an island state, Hawai'i relies on the use of approved pesticides to manage threats to agriculture and natural resources posed by non-native pests. The use of these pesticides is carefully considered and must follow the product-specific guidelines of the Environmental Protection Agency. Regarding the gathering of information relating to restricted use pesticides and posting of said information online by DOA, the Department defers to DOA in determining the efficacy of such postings and the capacity to provide such information.

Regarding the requirement of LRB to conduct an analysis of pesticide registries in other states, the Department offers the following general comments on the value of a pesticide registry. The addition of a new state system to register and track pesticides, along with the substantial amount of annual reporting associated with this system, would decrease the efficiency of the State's protective measures with regard to agriculture and natural resources. The creation of this system would increase the amount of bureaucratic oversight involved in initiating agricultural and conservation projects, increasing the time it would take to respond to new pests. Further, the creation, maintenance, and annual reporting associated with this system would likely be costly. The original draft of House

Bill 673 would have authorized DOA to charge a fee to cover those costs, meaning that the cost would have been borne by conservation practitioners and/or farmers.

COUNTY COUNCIL

Jay Furfaro, Chair Nadine K. Nakamura, Vice Chair Tim Bynum Gary L. Hooser Ross Kagawa Mel Rapozo JoAnn A. Yukimura



OFFICE OF THE COUNTY CLERK

Ricky Watanabe, County Clerk Jade K. Fountain-Tanigawa, Deputy County Clerk

> Telephone (808) 241-4188 Fax (808) 241-6349 Email cokcouncil@kauai.gov

Council Services Division 4396 Rice Street, Suite 209 Līhu'e, Kaua'i, Hawai'i 96766

February 19, 2013

TESTIMONY OF GARY L. HOOSER COUNCILMEMBER, KAUA'I COUNTY COUNCIL ON H.B. NO. 673, H.D. 2, RELATING TO PESTICIDES Committee on Finance Thursday, February 21, 2013 4:00 p.m. Conference Room 308

Dear Chair Luke and Committee Members:

Thank you for this opportunity to submit testimony on H.B. No. 673, H.D. 2, Relating to Pesticides. My testimony is submitted in my capacity as an individual member of the Kaua'i County Council.

I am testifying in STRONG SUPPORT WITH AMENDMENTS.

People on Kaua'i are getting sick, and many believe their sickness is connected to the pesticides being sprayed daily by the large industrial agrochemical farming operations doing business on Kaua'i.

As an elected member of the Kaua'i County Council, I asked these companies directly and in writing on January 8, 2013 to please inform me as to what chemicals and what quantities they are spraying.

I assumed that it was reasonable to expect that the companies spraying the poison would know what poisons and how much of the poisons they were spraying.

To date, however, these companies have refused to provide me with this basic information, and instead have told me blithely to go elsewhere for the data. They suggested that I get the data from the Department of Agriculture (DOA) and/or from the companies who sell these pesticides.

I have requested pesticide data from the DOA and have been told essentially, that the data is not readily or easily available that I will have to pay for the research needed, and that it will take some time to sort through the data appropriately.

The DOA has also informed me that these agrochemical companies have been issued "experimental pesticide permits," and that this data may not be available. If so, it may be heavily redacted.

The law requires them to keep records, yet they refuse to disclose those records.

Committee on Finance February 20, 2013 RE: H.B. No. 673, H.D. 2 Page 2

Kaua'i is ground zero for the agrochemical industry. These industrial farming operations dominate the landscape of Kaua'i's West Side, utilizing approximately 12,000 acres of prime farmland, stretching from the base of the mountains down to within just feet of the pristine ocean waters.

12,000 acres of prime agricultural lands dedicated to experimental genetically modified crops, subject to spraying with toxic pesticides up to six (6) days a week, these companies refuse to provide the basic information, a simple list of the chemicals and the quantity being applied.

Over 200 residents of Waimea Valley have filed suit claiming negative impacts from pesticide laden dust blowing into their homes and onto their bodies. Biologists estimate over 50,000 sea urchins died last year in near shore West Side waters. People in all parts of Kaua'i County are growing increasingly concerned about the impacts that result from these companies spraying their fields with toxic and experimental chemicals that then flow into streams and near shore waters and cling to the dust which blows daily into neighborhoods and schools.

Three (3) of the four (4) companies on Kaua'i lease public lands from the State, upon which they pay zero property tax, but refuse to disclose to the public what they are spraying on these public lands.

Using experimental pesticides and spraying a wide array of restricted and non restricted pesticides on a mass scale have impacts on our island, our health and our environment. There are direct impacts, secondary impacts and cumulative impacts but we don't know what those impacts are because they have never been properly evaluated. The companies in question won't even give us the information needed to make a proper assessment.

SUGGESTED AMENDMENTS

I urge this committee to amend H.B. No. 673, H.D. 2 to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways etc).

The cost and responsibility of this disclosure should be born by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements.

There should be a "threshold of acres utilized and quantity of pesticide used" to focus only on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption.

Although I am no expert on the issue, this matter is extremely important to my community and I would be happy to assist this Committee in working out the details and specific language of this amendment.

Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kaua'i and Committee on Finance February 20, 2013 RE: H.B. No. 673, H.D. 2 Page 3

around the State will tell you, enough already. This Legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties to ensure compliance.

For the reasons stated above I respectfully request your support for this measure as amended. Again, thank you for this opportunity to submit testimony.

Sincerely

GARY L. HOOSER Councilmember, Kaua'i County Council

AB:lc

COUNTY COUNCIL

Jay Furfaro, Chair Nadine K. Nakamura, Vice Chair Tim Bynum Gary L. Hooser Ross Kagawa Mel Rapozo JoAnn A. Yukimura



OFFICE OF THE COUNTY CLERK

Ricky Watanabe, County Clerk Jade K. Fountain-Tanigawa, Deputy County Clerk

> Telephone (808) 241-4188 Fax (808) 241-6349 Email cokcouncil@kauai.gov

Council Services Division 4396 Rice Street, Suite 209 Līhu'e, Kaua'i, Hawai'i 96766

February 19, 2013

TESTIMONY OF TIM BYNUM COUNCILMEMBER, KAUA'I COUNTY COUNCIL ON H.B. NO. 673, H.D. 2, RELATING TO PESTICIDES Committee on Finance Thursday, February 21, 2013 4:00 p.m. Conference Room 308

Dear Chair Luke and Committee Members:

Thank you for this opportunity to submit testimony in strong support of H.B. No. 673, H.D. 2, Relating to Pesticides. My testimony is submitted in my capacity as an individual member of the Kaua'i County Council.

Citizens on Kaua'i, especially on the Westside, have expressed great concerns regarding the pesticide activities conducted by seed companies who are using a large portion of the former sugar lands on our island. Many claim that the pesticide exposure is affecting the health and wellness of community members in these areas. In 2011, Kaua'i Representative Dee Morikawa and then Kaua'i Representative Mina Morita introduced a very similar bill (H.B. No. 1387), which did not receive serious consideration.

The passage of H.B. No. 673, H.D. 2 will provide information to identify the different trends of pesticide use, and may bring clarity to community concerns regarding potential health and safety issues caused by pesticide exposure. Reporting pesticide usage will help bring transparency to the process and eliminate the unknowns that can lead to fear and misunderstanding.

For the reasons stated above I respectfully request your support for this measure. Again, thank you for this opportunity to submit testimony in support of H.B. No. 673, H.D. 2.

Sincerely TIM BYNUM

Councilmember, Kaua'i County Council

AB:lc

Environmental and Health Risks of Synthetic Chemicals used by the Biotechnology Seed Industry in Hawaii

Héctor Valenzuela University of Hawaii at Manoa College of Tropical Agriculture and Human Resources Dept. of Plant Environmental and Protection Sciences contact: hector@hawaii.edu

DRAFT 2.0: February 24, 2012

Note: Feedback, comments, and notes from additional research on the particular chemical products listed on Section 5.0. would be appreciated. Please send comments or references to: <u>hector@hawaii.edu</u>

A pdf version of this document can be downloaded from: <u>http://dl.dropbox.com/u/33544971/PesticidesKauaiHV12.pdf</u>

this doc can also be accessed from google docs at: <u>https://docs.google.com/document/d/1FrgfwqSIAmxhUbz-</u> 2JvhWZwSwOZSOM7RKpxnY3NSgI0/edit



GMO fields in Kauai, fallow fields exposed to erosion (I), and pristine and sensitive aquatic habitats (r), down slope and in close-proximity to the annual planting of GM Seed crops in Kauai. GM seed crops are sprayed with pesticides almost 7 out of every10 days.

Environmental and Health Risks of Synthetic Chemicals used by the Biotechnology Seed Industry in Hawaii

Index

1.0. Introduction	pg. 3
2.0. Previous Incidents of Pesticide Pollution in Agriculture	pg. 3
3.0. Environmental Issues raised by the lawsuit against DuPont/Pioneer	
Seed in Kauai	pg. 5
3.1. Erosion and fugitive dust	pg. 5
3.2. Pesticides intensive use and escape	pg. 5
3.3. Use of restricted-use pesticides	pg. 5
3.4. Pesticide Drift from fugitive dust	pg. 6
3.5. Failure to follow county and state pollution control laws	pg. 6
3.6. Hawaii Pesticide Law, Hawaii Revised Statute 149A-2	pg. 6
3.7. Fugitive dust and Hawaii Law	pg. 7
3.8. Trespass of chemicals and dust	pg. 7
4.0. Scientific studies have documented phenomena that leads	pg. 7
to environmental pollution from the use of pesticides in agriculture	
4.1. Wind Erosion	pg. 7
4.2. Mitigation of Wind Erosion or Fugitive Dust	pg. 8
4.3. Fugitive Dust	pg. 8
4.4. Health Risks from Fugitive Dust	pg. 9
4.5. Pesticide Drift to non-target areas	pg. 9
4.6. Pesticide residues in Aquatic Habitats	pg. 10
4.7. Atrazine herbicide Health effects	pg. 12
4.8. Lorsban (Chlorpyrifos) Health Effects	pg. 14
4.9. Roundup (Glyphosate) Health Risks	pg. 15
4.10. Suspected or documented Health or Environmental	
Impacts for other Pesticides used by the GM Seed Industry in Hawaii	pg. 16
5.0. Partial List of Pesticides used by the GM Seed Industry in Hawaii	pg. 18
6.0. References Cited	pg. 19

1.0. Introduction

The recent lawsuit filed by community members in Kauai against Pioneer/DuPont (Civil Complaint No. 11-1-0356, Dec. 13, 2011) claiming pollution of the Waimea community from their Genetically Modified (GM) seed crop experimental fields raised an issue that has not been widely discussed when talking about the potential environmental and human health risks from the planting of experimental genetically modified (GM) seed crops in Hawaii.

Nevertheless the use of synthetic pesticides and fertilizers and potential runoff from fallow fields is an integral part of the production of GM Seed Crops in Hawaii, and should be included as part of the overall risk assessment in terms of potential social, environmental, or human health risks.

It should be noted that official government reports that assess the value of the industry, do not take into account actual or potential costs of the GM seed industry, from environmental pollution. For instance, a 50 page industry report on the economic value of the GM seed industry in Hawaii does not account for any potential short- or long-term costs of environmental pollution, or human health effects (Loudat and Kasturi, 2009). These economic reports, sponsored by the GM Seed Industry, are apparently taken at face value by the government to report the economic value of the GM seed industry in Hawaii.

Below (Section 3.0.), is a brief description of the issues raised by the lawsuit against Pioneer Seed/Dupont in Kauai, followed by a list of scientific studies (Section 4.0.) that have documented some of the phenomena that may lead to pollution of non-target areas from wind erosion and from the use of pesticides in agriculture.

References from the scientific literature are provided to show that there is a scientific basis for some of the key complaints raised by the Waimea Community in Kauai, concerning possible pollution of rural communities by pesticides, dust, and Bt pollen from neighboring GM agricultural operations.

2.0. Previous Incidents of Pesticide Pollution in Agriculture

One doesn't have to look too far to find previous cases of pesticide pollution, chemicaltrespassing and contamination. A few cases are listed below, to illustrate that an extensive track record exists of pesticide and chemical contamination of non-target areas from the use of synthetic chemicals in industrial or conventional agricultural systems:

Dow Chemical Company (major GM seed company in Hawaii). April 1977, accidental spill, 495 gallons of the soil fumigant EDB containing 0.25 percent DBCP, occurred about 60 feet of the Kunia Well in Oahu. From 1946 to 1980 the well supplied water to 700 residents of Kunia Village and irrigation water to Del Monte plantations. "The spill resulted from the failure of a hose connector on a bulk transport container owned by Dow Chemical Company during transfer operations to an above ground storage tank."

By 2003, 26 years later, the EPA reports that "a substantial threat of release to groundwater still exists" (EPA, 2003).

- Heptachlor, Hawaii. The entire population of Oahu (approx. 800,000) was exposed to heptachlor contaminated milk during the early 1980s, after dairy cows were fed greenchop containing heptachlor residues. It was estimated that dairy products contained 15 times the acceptable levels of pesticides for adults; and children may have been exposed to greater levels than adults. Heptachlor was also detected in mother's milk and in infant formula. According to an account from the University of California, "One of the more disturbing aspects of this episode is the evident hesitance of state authorities to disclose information before the public became aware of the possibility of contamination." In addition, "The state's Senate Committee on Health criticized the Department of Health for delaying the release of information to consumers" (Foster and Just, 1984). Contaminated agricultural soils continued to show unhealthy levels of heptachlor and heptachlor epoxide, 15 years after its use had been discontinued (Frazar/EPA, 2000).
- Dupont (parent of Pioneer Seed, major GM seed company in Hawaii) and Benlate. During the 1990s hundreds of farmers and greenhouse operators from the United States, Hawaii, Asia, the Caribbean and Central America suffered substantial losses, and claimed several health side-effects, from the use and exposure to the fungicide Benlate (Benomyl), after it was apparently contaminated with a herbicide-like contaminant during the manufacturing process. According to a media account of the lawsuits, "During the course of the Benlate litigation, at least three judges took the company to task for withholding evidence from plaintiffs. One judge called the practice "willful, deliberate, conscious, purposeful, deceitful, and in bad faith," and DuPont was ordered to pay millions in court sanctions."

A separate court proceedings stated that "In addition, because the circuit court found that DuPont had engaged in serious discovery violations, it imposed sanctions of \$1.5 million payable to the State of Hawai'i." Furthermore, according to this document "the circuit court found, inter alia, that some of "DuPont's representations to this court . . . were false and misleading" and that "DuPont intentionally withheld . . . crucial information in an effort to prevent the disclosure to the [Kawamata Farms] plaintiffs and this [c]ourt of Benlate and soil contamination data [(i.e., the Alta test results)] disclosed in said documents which goes to the heart of this case." Moreover, the court amended several orders that it had previously entered because such orders "were based on misleading, incomplete, inaccurate and false information." The court then sanctioned DuPont by ordering it to pay for the Kawamata Farms plaintiffs' attorneys' fees and costs" (Matsura et al., 2007).

3.0. Environmental Issues raised by the lawsuit against DuPont/Pioneer Seed in Kauai

Note: This section (Section 3.0.) summarizes some of the complaints raised by the Waimea community against Pioneer Seed, as described in the 2011 lawsuit (Civil Complaint No. 11-1-0356, Dec. 13, 2011). In the following section (Section 4.0.), scientific references are provided that document similar phenomena to those issues raised in the Kauai complaint, concerning dust or pesticide pollution, as documented from surveys conducted in other locations.

3.1. Erosion and fugitive dust

From the claim:

"Because of Waimea's persistent windy conditions and Pioneer's failure to control soil erosion, fugitive dust from Pioneer's GMO Test Fields routinely blows into the Waimea community and Waimea Residents' homes."

3.2. Pesticides intensive use and escape

From the claim:

"For example, Pioneer has applied pesticides individually and in combination to its GMO Test Fields roughly 67% of all days of the year for at least the past three years."

and:

"Pioneer's pesticides pose a recognized hazard to migrate into the adjacent Waimea community and environment by the widely recognized transport mechanisms of run-off, volatilization drift, and spray drift."

3.3. Use of restricted-use pesticides

From the claim:

"Restricted use pesticides are pesticides that may cause unreasonably adverse effects to human health and the environment even when used as directed by the product labeling."

3.4. Pesticide Drift from fugitive dust

From the claim:

""Pioneer's fugitive dust exacerbates the risks associated with Pioneer's use of inherently dangerous pesticides because fugitive dust acts as a transport mechanism to carry pesticides into Waimea."

3.5. Failure to follow county and state pollution control laws

According to the complaint:

"Pioneer's failure to satisfy its obligations under Ordinance 808, failure to implement its 2002 Conservation Plan, and failure to undertake measures promised in response to the Waimea Petition in 2000 all demonstrate Pioneer's failure to follow generally accepted agricultural and management practices."

And with regards to state law, according to the complaint:

"Pioneer's failure to satisfy its obligations under Kauai Ordinance 808, implement measures promised within its Conservation Plan, adequately respond to Waimea Residents' June 2000 petition, and otherwise prevent the ongoing creation and deposition of fugitive dust from its GMO operation for over a decade demonstrates Pioneer's failure to reasonably minimize fugitive dust and constitute violations of the Hawaii Air Pollution Control Act."

3.6. Hawaii Pesticide Law, Hawaii Revised Statute 149A-2

According to this complaint:

"Hawaii Revised Statute 149A-2 prohibits the use of pesticides in any manner that presents an unreasonable adverse effect on the environment, which includes any unreasonable risk to humans or the environment with consideration for the economic, social and environmental costs and benefits of the pesticide's use."

And thus according to the complaint, per Hawaii law:

"Pioneer's intentional use of inherently dangerous pesticides without consideration of the risks to Waimea Residents violates HRS 149A-2 and constitutes negligence per se under Hawaii law."

3.7. Fugitive dust and Hawaii Law

According to the complaint:

"Under the Hawaii Air Pollution Control Act, fugitive dust is the "uncontrolled emission of solid airborne particulate matter from any source other than combustion."

And, according to the complaint, in terms of prevention:

"Reasonable precautions" under HAC § 11-60.1-33 for agricultural operations requires operations to be conducted "in such a manner as to reasonably minimize fugitive dust."

3.8. Trespass of chemicals and dust

According to the complaint,

"Pioneer is therefore liable for the trespass of its chemicals and fugitive dust into the Waimea community and onto Waimea Residents' property."

4.0. Scientific studies have documented phenomena that leads to environmental pollution from the use of pesticides in agriculture

4.1. Wind Erosion

Wind erosion is a well established phenomenon in agriculture, and thus "agricultural activities that disturb the soil can greatly increase the frequency and amount of airborne dust" (Norstrom and Hott, 2004). Scientific reviews indicate that wind erosion and dust emissions may be created by farm operations such as "plowing, leveling beds, planting, weeding, seeding, fertilizing, mowing, cutting, baling, spreading compost or herbicides and burning fields" (Norstrom and Hott, 2004; Kasumba et al., 2011).

4.2. Mitigation of Wind Erosion or Fugitive Dust

- It is well established that farmers need to practice best management practices, such as the use of vegetative buffer strips, to minimize the potential of pesticides reaching sensitive non-target habitats. Some countries have established strict regulations, to meet these guidelines (Bereswilla et al., 2012).
- Management programs that may reduce the incidence of erosion include "planting windbreaks and special crops to alter wind flow; retaining plant residue after harvesting; tilling soil to bury erodible particles, create aggregates that resist entrainment, and increase surface roughness; improving farm equipment; and stabilizing soil surfaces using water or commercial products" (Norstrom and Hott, 2004; Anon, 2008).
- Once the sources of fugitive dust have been identified, "Control techniques and PM mitigation practices can then be devised to protect the people highly exposed to such emissions, especially personnel operating agricultural machinery and those living near the fields" (Kasumba, 2011).

4.3. Fugitive Dust

- According to a research paper on fugitive dust or particulate matter (PM) "A number of studies measuring agricultural PM emissions have reported considerable concentrations of PM due to agricultural operations". In addition "PM emissions have been found to be a function of the type of crop grown" (Kasumba et al., 2011).
- Fugitive dust is an issue of concern for agricultural land grant institutions. For example at the University of California Division of Agriculture and Natural Resources, fugitive dust issues and exposure to the public have been a part of its three to five-year midterm planning program priorities. Part of the actions plans for the U.C. system in a 2001 planning document included to "Develop extension education on best available practices to prevent the emission of fugitive dust from agricultural operations, construction, land use decisions, and transportation issues such as traffic on unpaved roads." The U.C. planners clearly understood that "Residential development in or adjacent to agricultural areas creates concerns about air quality within these homes and the impact on the health of residents" (Univ. California, 2001).

4.4. Health Risks from Fugitive Dust

Dust escapes from agricultural operations are understood to be an important cause of fugitive dust, with potential health consequences (Kasumba et al., 2011):

- Exposure to particulate matter (PM) has been linked to premature deaths among the elderly (Comis, 2000), and to an increased incidence of heart attacks (Mustafic et al., 2012), and mortality (Mokdad et al., 2004). According to a review on wind erosion "Health risks associated with elevated levels of dust include skin irritations and diseases, eye irritations, shortness of breath, respiratory disorders such as chronic obstructive airways disease, occupational asthma, interstitial lung disease, lung fibrosis, lung emphysema, hyper-responsiveness, hypersensitivity, and increased risk of lung and skin cancer" (Norstrom and Hott, 2004; Clausnitzer and Singer, 2000).
- It is well established that wind erosion may result in the "transport of herbicides on sediments" (Norstrom and Hott, 2004), with pesticides impregnated in the fugitive dust. Pesticides that have been found in fugitive dust include: DDT, DDD, DDE, Fosfall,
 Chlorpyrifos (Dursban), Prowl (Pendimethalin), Etoxinol, Trifluralin, Dieldrin, and PCBs (Rogge et al., 2007).
- Dust from grains ('grain dust') is a potential health hazard to field workers, and/or to those exposed to grain dust. Respiratory problems from grain dust has been reported worldwide for grain storage workers. Acute reactions include grain fever syndrome, allergies, and asthma, while reported chronic effects include hypersensitivity pneumonitis and chronic bronchitis (Olenchock et al., 1986). Grain dusts may contain contaminants such as bacteria, fungi, mites, fumigants, pesticides (Olenchock et al., 1986), and Bacillus thuringiensis (Meadows et al., 1992; Hagstrum et al., 2010). Inhalation of these substances has potentially "profound biological consequences" (Olenchock et al., 1986).
- _ Note that pesticides such as Chloropyrifos, Pendimethalin, and Bacillus, listed above, are used by the GM seed industry in Hawaii (see Section 5.0.).

4.5. Pesticide Drift to non-target areas

Pesticide drift is a well established phenomenon "recognized as a major cause of pesticide exposure affecting people as well as wildlife and the environment" (Shulze, 2004; Tuduri et al., 2006; Lee et al., 2011). According to Tuduri et al (2006) "It is now accepted that following application pesticides can enter the atmospheric compartment and travel many kilometers," and "For example, dacthal, chlorothalonil, chlorpyrifos, metolachlor, terbufos and trifluralin have been detected in Arctic environmental samples (air, fog, water, snow)."

Roundup may drift to non-target areas following spray applications, as frequently discussed in the research literature (Singh and Shaner, 1998), possibly affecting non-target species (Kurtz and Street, 2003). Recent research has confirmed the drift and presence of Roundup herbicide in the atmophere (Chang et al., 2011). According to Chang and colleagues (2011) "Glyphosate and its degradate, AMPA, were frequently observed in air particles and rain at all three locations that were studied." Furthermore "Glyphosate occurred at concentrations equal to or greater than the concentrations of other high-use herbicides previously studied in the midwest" (Chang et al., 2011). With respect to AMPA, the metabolite of Roundup, the authors stated that "The presence of AMPA in air is due to wind erosion, because it is formed in the soil." The authors concluded that ""The relatively elevated levels of glyphosate probably are due to its frequent use in these agricultural areas in conjunction with the genetically modified crops" (Chang et al., 2011).

Air sample surveys from agricultural communities in California detected residues of Lorsban (chlorpyrifos), which is another pesticide used by the GM Seed industry in Hawaii. According to a report from the survey conducted in Lindsay, California, "chlorpyrifos levels in Lindsay's air exceeded levels of concern derived from U.S. Environmental Protection Agency (EPA) studies by up to 11 times. In 2006, 28% of the 116 air samples were above the "acceptable" exposure level for a one-year-old child based on EPA studies." Because of the residues found on the air, the study also took blood samples of representative members of the community, and "The study found that 11 of the 12 people tested had above average levels of the primary chlorpyrifos breakdown product in their urine, and seven of the eight women had amounts above the "acceptable" (CPR, 2007).

Pesticides used by the GM Seed Industry, which have been documented to drift into non-target areas include atrazine, chlorpyrifos (Lorsban), cyfluthrin, Lambda-cyhalothrin (Warrior), dimethoate, metolachlor, and Roundup (Glyphosate) (Lee et al., 2011).

4.6. Pesticide residues in Aquatic Habitats

By the early 2000s, over 60 research papers had documented the presence of pesticides in aquatic habitats. Non-source pollution of surface waters may occur via runoff or via spray-drift contamination (Schulz, 2004; Bereswilla et al., 2012). Several of these studies reveal that some of the pesticides used by the GM Seed Industry, such as Lorsban, are frequently found in aquatic habitats at levels above those believed to cause environmental impact (Schulz, 2004). For instance, after the 1993 floods in the midwest U.S., according to a USGS hydrologist "the Mississippi River at Thebes (Illinois) was carrying more than 12,000 pounds of atrazine per day" (Panups, 1993).

Roundup has been detected in surface waters located in relative proximity to fields where Roundup is applied as a herbicide (Battaglin et al., 2005). Surveys have detected Roundup and its metabolite AMPA in streams and aquatic habitats of several U.S. mid-western states (Battaglin et al., 2005; Coupe et al., 2012). With respect to Roundup "Although some conventional drinking water treatments such as activated carbon filtration, chlorine, and ozone seem to eliminate glyphosate, other treatments more common in primary sewage treatments such as settling and filtration may not. Glyphosate was detected twice as frequently in urban streams downstream from wastewater treatment plants than upstream of those plants" (Battaglin et al., 2005).

In Canada, Roundup and other herbicides were found to have drifted into wetlands. This research, published in 2011 was "the first field study to compare the masses of pesticides entering wetlands by atmospheric deposition" (Messing et al., 2011). Other herbicides, which are used by the GM Seed industry in Hawaii, and which were found to have drifted into wetlands of Canada included dicamba (Banvel), metolachlor (Dual), and bromoxynil (Buctril) (see Section 5.0.). With respect to Roundup, according to this study "Concentrations of glyphosate in wetlands may be due to atmospheric deposition" (Messing et al., 2011).

With respect to Kauai, the question remains whether pesticide drift or contaminated runoff from agricultural fields has reached the nearby Waimea stream or the ocean. In May 2011 the Kauai Garden Isle Newspaper reported that the County of Kauai issued notices of violation against both Pioneer and Dow Chemical for "grubbing area exceeding one acre, permit requirement and lack of minimum best practices." According to the Kauai Garden Isle, "A source speaking on condition of anonymity said area residents witnessed mud slides along coastal agricultural fields following the heavy rains of last December, and that the subsequent muddy runoff ended up in the ocean and impacted commercial fishing."

Furthermore, while Kauai County Engineer Larry Dill indicated that "The county has not conducted any underwater inspections" a caption of an underwater picture indicated that "Diver Terry Lilley captured images below the ocean on Jan. 29 near Dow fields in Waimea where non-permitted grubbing took place. He said he did seven dives over three days in an area within 100 yards of shore and found the coral 'in bad shape' and progressively deteriorating. He said the sediment was thick in the water and on the reef and visibility in the plume was from four to 10 feet in the areas where fish and young and old growth corals had previously created a healthy reef" (Vanessa Van Voorhis. County takes legal action against seed companies. The Garden Island, Kauai. May 4, 2011).

Some of the pesticides used by the GM seed industry in Hawaii (see Section 5.0.), which have been found in surface water surveys include: alachlor (Lasso), atrazine, bromoxynil (Buctril), carbaryl, dimethoate, dicamba (Banvel), Lorsban (chlorpyrifos), metolachlor (Dual), methyl parathion (Penncap-M), nicosulfuron (Accent), Permethrin, Glyphosate (Roundup), and Simazine (Princep) (Battaglin et al., 2005; Shulze, 2004, Frank et al., 1990).

4.7. Atrazine herbicide Health effects

While the complaint raised against Pioneer/DuPont in Kauai does not raise the issue of health from potential exposure of the community to pesticides, below are a few references with respect to potential health effects from exposure to some of the pesticides used by the GM seed industry in Hawaii.

Atrazine herbicide is manufactured by Syngenta, a Swizz agro-chemical company that is among the five GM Seed growers in Hawaii. Both Syngenta and academic product defense specialists continue to vouch for the safety of Atrazine. Dr. Stephanie Whalen, head of the former Hawaii Sugar Planters Association (now called HARC, Hawaii Agricultural Research Center), is a key supporter of the GM Seed and Pesticide industry in Hawaii. According to Dr. Stephanie Whale, from HARC, "Atrazine is the most studied of all pesticides and comes up clean in each new study but the enviros/trial lawyers are after it." Dr. Whalen cautioned that "If atrazine goes down it will be the end of pesticide use as we know it" and further cautions that if Atrazine is taken off the market: "Hmm: no pesticides; no engineered crops; no food?" (Stephanie Whalen, email Feb. 28, 2011).

In reply to the tone of Dr. Whalen's email a Senior UH Professor and Entomologist replied in an email to Dr. Whalen, that "Before you start impugning people because they have a different viewpoint, be honest and recognize the numerous studies that raise reasonable questions about the safety of atrazine (see links below). You can't have an open, honest, intellectually rigorous scientific discussion about risks and benefits if you start off by politically smearing people that disagree with you" (email Feb. 28, 2011).

Internal documents indicate that Syngenta has been involved in a PR campaign to discredit research showing potential adverse effects from exposure to Atrazine (Hodai and Graves, 2012; Jervin, 2012). U.C. Berkeley Professor Tyron Hayes, in a review on the potential adverse effects from Atrazine came to similar conclusions:

"In summary, seven studies have been published to date that show effects of atrazine on amphibian sexual development. Although conducted under different experimental conditions, these studies support the conclusion that atrazine is a potent endocrine disruptor that both chemically castrates and feminizes male amphibians. The confusion generated by Syngenta's press releases and statements to the popular press has not been substantiated by peer-reviewed science. Furthermore, as described here, the studies made available to the EPA (Steeger et al. 2003a, 2003b, 2003c, 2003d, 2003e) and recent publications (Coady et al. 2004, Hecker et al. 2004) have not supported Syngenta's claims. Unfortunately, financial incentives and industry involvement in the research on this issue have generated confusion in the scientific community and the public sector, marking it more difficult to understand the science involved" (Hayes, 2004).

According to the Natural Resources Defense Council, "Banned in the European Union and clearly linked to harm to wildlife and potentially to humans, the pesticide atrazine provides little benefit to offset its risks." Also according to the NRDC "The most recent data confirms that atrazine continues to contaminate watersheds and drinking water. Atrazine was found in 80 percent of drinking water samples taken in 153 public water systems. All twenty watersheds sampled in 2007 and 2008 had detectable levels of atrazine, and sixteen had average concentrations above the level that has been shown to harm plants and wildlife" (source: http://www.nrdc.org/health/atrazine/).

Atrazine researcher Tyrone Hayes commented that ""We use 80 million pounds [of atrazine] annually in the United States. It's the number-one pesticide contaminant of ground water, surface water, and drinking water. It's used in more than 80 countries but it's now outlawed in all of Europe or, as the company likes to say, has been denied regulatory approval. The main point here is that here's a compound that we use 80 million pounds of, and it's illegal in the home country of the company that makes it" (LaSalle and Kripke, 2010).

Below is a brief sample of studies showing potential health risks from exposure to Atrazine:

Endocrine & Immune System Disruption

For general reference to research studies see, Hayes, 2004; Hayes et al., 2002; and Brodkin et al., 2007. In reference to Atrazine, a recent research report indicates that "Studies have suggested that exposure to environmental pollutants may modulate or disrupt the endocrine system of humans and wild-living animals in ways that are detrimental to the reproductive system and may cause cancer. According to the authors exposure to endocrine disruptors "is associated with the development of various diseases, including breast cancer" with Atrazine being "of particular concern" (Quignot et al., 2012).

Reproductive System Impacts

(Swan et al., 2003; Arbuckle et al., 2001)

Cancer

(Kettles et al., 1997; MacLennan et al., 2002; Sass and Brandt-Rauf, 2003)

4.8. Lorsban (Chlorpyrifos) Health Effects

Note: High bee toxicity Note on text below: LOC= Level of Concern

Lorsban insecticide is produced by Dow Chemical, a major GM seed grower in Hawaii.

A resent study determined that Lorsban may interfere with gene expression and cell development with the human placenta as a possible "target organ." The authors thus call for further studies on pregnant women exposed to Lorsban (Ridano et al., 2012). Health effects of Lorsban and other organosphosphate insecticides include delayed neurotoxicity, interference with brain development, possible adverse effects on fetal growth, increased risk of preterm delivery and spontanous abortions, impairment in neurodevelopment and psychomotor indices, plus an inverse relationship between weight at birth versus level of exposure to Lorsban residues in umilical cord plasma (Ridano et al., 2012).

Lorsban affects the nervous system, the brain and it is especially harmful to children (PANNA, 2004). A study found that fetal exposure resulted in "lower birth weight and length at age 3, delayed movement and mental and attention deficits" (Ruah et al., 2006).

Lorsban is also a "cholinesterase inhibitor, suspected endocrine disruptor and PAN Bad Actor pesticide" (PANNA, 2004). In addition, based on recently published studies "Scientists now estimate that as many as 1/4 of all U.S. children may have lower IQs due to eating foods sprayed with pesticides like chlorpyrifos" (PANNA, 2011). Also, "The vast majority of us - including children - carry breakdown products of the chemical in our bodies" (PANNA, 2011).

Lorsban residues were found in Latino families of Lindsay in the San Joaquin Valley of Central California. In 2005 Panups conducted surveys in Lindsay. From the 108 samples collected from drift catchers in 2005, Panups found that "Eighty percent contained chlorpyrifos, and the LOC [Level of Concern] was exceeded 23% of the time. In 2006, 28% of the 116 samples collected from six sites contained chlorpyrifos in levels that exceeded the LOC. That year, urine samples were also collected from 12 residents and tested for a metabolite of chlorpyrifos. The metabolite was found in everyone's urine; all but one had levels above the national average and above the level EPA says is 'acceptable' (Dinham, 2010).

Similarly surveys from drift catchers conducted in Parlier, California found Lorsban "in most samples—often in amounts exceeding LOCs" (Dinham, 2010).

4.9. Roundup (Glyphosate) Health Risks

For a list of several suspected health side effects, based on animal studies, go to: <u>https://docs.google.com/document/d/1FpOjzD_5UoPM9-</u>ozbY8IyxGAQQkBTM8LEFzx4KZijng/edit?hl=en_US

A pdf version of this report (Health Effects of Roundup) can be downloaded from: <u>http://dl.dropbox.com/u/33544971/RoundupHealth%20HV-11.pdf</u> and in: <u>responsibletechnology.org/docs/RoundupHealth2011.pdf</u>

Roundup (Glyphosate), Glufosinate herbicide, and Bt residues in Humans

Roundup residues have been found in blood samples of field workers or residents in rural communities that are in proximity to farms that apply herbicides. A recent survey from Germany found Roundup residues in the urine of community residents (Brändli and Reinacher, 2012). However, other than the abstract, I have been unable to review this paper because it is written in German, so for now the data needs to be treated with caution.

A recent study found that Roundup and Glufosinate herbicide residues, both used extensively to grow GM crops, were found in the body of non-pregnant women. The same study found residues of the Bt toxin in pregnant women, and in the fetus. The Bt toxin was found in 93% of pregnant women, and in 80% of fetal blood samples. The authors concluded that "Given the potential toxicity of these environmental pollutants and the fragility of the fetus, more studies are needed" (Aris and LeBland, 2011).

While Monsanto claimed that the low levels of Roundup found in non-pregnant women could be inconsequential, the authors of the study responded that "nothing excludes the possibility of disruptions caused by low doses of glyphosate in the long term. Thus, it is necessary to undertake large and long-term studies in humans" (Ariz, 2011b).

4.10. Suspected or documented Health or Environmental Impacts for other Pesticides used by the GM Seed Industry in Hawaii

Dicamba

- _ Listed by the U.S. EPA as a developmental toxin.
- _ Negative reproductive effects;
- _ Cholinesterase inhibitor;
- _ Linked to non-Hodgkin's lymphoma;
- Surface and groundwater contaminant; (PPB, 2002).

Dimethoate

_ Reproductive function in animals (Walsh et al., 2000).

Carbaryl

- _ Potential Endocrine disruptor
- Exposures may cause sterility or decreased fertility, impaired development, birth defects of the reproductive tract, and metabolic disorders
- _ Linked to spontaneous abortion
- Linked to non-Hodgkin's lymphoma
- _ Toxic to fish, bees and earthworms
- (PPB, 2002)

Glufosinate (herbicide used to grow GM glufosinate-resistant crops)

With respect to Glufosinate and its metabolites "it has been recognized that 3-MPPA is neurotoxic, as well as glufosinate, causing severe convulsions." Concerning its metabolites "data from Aventis indicates that NAG, formed in transgenic plants, can be reconverted into the active herbicidal form by micro-organisms in the digestive tract of warm-blooded animals, including humans. Thus, it is possible that 3-MPPA can undergo the same reconversion and acquire the toxic effects of glufosinate. One more reason, 3-MPPA has been found more persistent and more mobile than glufosinate (Aris, 2011a).

Bacillus thuringiensis (Bt), Environmental Risks. Bt is an EPA registered pesticide that is embedded in Bt crops, such as on Bt GM corn varieties. Bt crops represent about 40% of the total acreage planted to GM crops globally. Concerns have been raised about potential environmental impacts when Bt residues reach non-target organisms. A recent survey of 217 streams in the Midwest found that 86% were contaminated with Bt corn residues. According to the authors over 250,000 Km of streams in the U.S. Midwest are within close proximity of corn fields. Its presence in aquatic habitats is an environmental concern because Bt residues may persist for up to 6 months in the water (Tank et al., 2010). A separate study determined that indeed Bt residues were harmful to some aquatic organisms (Rosi-Marshall et al., 2007). Some aquatic insects that had fed Bt pollen had reduced growth rates and greater mortality compared to non-Bt treatments. A separate study also showed that the Bt toxin increased with trophic

levels within the food-chain (Harwood et al., 2005), indicating the potential for risk, if the Bt toxin proves to be harmful to non-target organisms.

Bacillus thuringiensis (Bt), Health Risks. Concerns have been raised about potential health effects on humans and on field workers and communities exposed to dust from Bt crop residues. Recent research concluded that Bt residues in plants are not "inert" in terms of physiological activity in the body. The research found that the Bt residues, alone or in combination with the herbicide Roundup (Glyphosate) were toxic to human cells. Also, when combined with Roundup, Bt residues were found to promote apoptosis, or cell suicide (Mesnage et al., 2012). This finding follows earlier research showing that the Bt toxin promoted apoptosis in insect larvae cells (Loeb et al., 2000; Loeb et al., 2001). At the time Professor Joe Cummings criticized regulators for failing to address the known issue of apoptosis, and cautioned that "such agents require care in evaluating their impact on non-target animals and plants" (Joe Cummins, Sanet, email Feb. 11, 2005).

Other research based on animal studies found that Bt crops caused adverse effects on the kidney and liver, as well as some effects on the heart, adrenal glands, spleen and blood (Vendemois et al., 2009).

5.0. Partial List of Pesticides used by the GM Seed Industry in Hawaii

- **Note:** Pesticides listed in the complaint include Lorsban, Atrazine, Princep, Dual II Magnum, & Warrior. The list below provides only a partial list of the pesticides used by the GM seed industry in Hawaii. If you have additional information about pesticides used in Hawaii, or about potential health or environmental risks please send to: hector@hawaii.edu.
- Note: The chemical active ingredient, and the manufacturer are listed below in parenthesis.
- **Note:** Of the 28 pesticides listed below, used for the production of GM seed crops in Hawaii, 75% are manufactured and sold by the GM seed companies (Dupont/Pioneer, Monsanto, Syngenta, BASF, Bayer, and Dow).
- **Note:** For a list of pesticides used by the GM seed industry in Hawaii, that have been been detected in surface waters, based on national surveys see Section 4.4.

Accent, (Nicosulfuron, produced by DuPont, parent of Pioneer Seed) Aquamaster, open (Roundup, Glyphosate, produced by Monsanto) Atrazine herbicide, Triazine family (Syngenta) Asana XL rice, soybean (Esfenvalerate, produced by DuPont) **Banvel** herbicide, (dicamba, dimethylamine salt of dicamba) Basagran, nutsedge/broadleaf, corn (sodium salt of Bentazon, also produced by BASF) Baythroid XL, Hoppers, earworm, corn (beta-cyfluthrin, restricted use pesticide, extremely toxic to fish and aquatic invertebrates, produced by Bayer) **Bicep II Magnum**, herbicide, weeds, corn (Metolachlor & Atrazine, Syngenta) Buctril, herbicide (bromoxinil, Bayer), Callisto, herbicide, nutsedge, corn (Mesotrione, Syngenta) **Carbaryl**, insecticide (Sevin) Dimethoate, insecticide Dual II Magnum, herbicide, corn (S-metolachlor, produced by Syngenta) Ignite 280SL + AMS, herbicide, corn, open (Glufosinate-ammonium, Bayer) Lasso (alachlor, produced by Monsanto) Laudis, herbicide broadleaf, corn (tembotrione, Bayer) Liberty herbicide (glufosinate-ammonium, Bayer) Lorsban advanced, cutworm, thrips, worms, corn (chlorpyrifos, Dow Chemical) **Oberon 2SC**, whiteflies, rice (Spiromesifen, Bayer) **Penncap-M**, cutworms, corn (methyl parathion) Permethrin, insecticide, leaf hoppers, corn (Pounce) Phostoxin Pellets, insects, rice, soybean, corn (aluminum phosphide, restricted use pesticide) **Princep**, triazine herbicide (Simazine, Syngenta) **Prowl** herbicide (Pendimethalin, BASF) Quadris fungicide, rice, soybean (azoxystrobin, Syngenta) Roundup Powermax, screening, open, corn (Monsanto) Tilt fungicide, blights, corn (Propiconazole, Syngenta)

Warrior II w Zeon, worms, leaf hoppers, corn, rice (Lambda-cyhalothrin, restricted use pesticide, Syngenta)

6.0. References Cited

Anon. 2008. Guide to Agricultural PM10 Best Management Practices: Agriculture Improving Air Quality. 2nd Edition. Arizona Department of Agriculture. 33 pp.

Arbuckle, T.E., Z. Lin, and L.S. Mery. 2001. An exploratory analysis of the effect of pesticide exposure on the risk of spontaneous abortion in an Ontario farm population. Environ. Health Perspect., 109(8):851-857.

Aris, A. 2011a. Reply to Letter to the Editor: Response to Bayer CropScience's position on the findings of glufosinate and its metabolite. Reproductive Toxicology. 32:496–497.

Aris, A. 2011b. Response to comments from Monsanto scientists on our study showing detection of glyphosate and Cry1Ab in blood of women with and without pregnancy. Reproductive Toxicology. In Press. doi:10.1016/j.reprotox.2011.10.008.

Aris, A. and Samuel Leblanc. 2011. Maternal and fetal exposure to pesticides associated to genetically modified foods in Eastern Townships of Quebec, Canada. Reproductive Toxicology. 31(4):528–533. doi:10.1016/j.reprotox.2011.02.004.

Battaglin, W.A., Dana W. Kolpin, Elizabeth A. Scribner, Kathryn M. Kuivila, and Mark W. Sandstrom. 2005. GLYPHOSATE, OTHER HERBICIDES, AND TRANSFORMATION PRODUCTS IN MIDWESTERN STREAMS, 2002. JOURNAL OF THE AMERICAN WATER RESOURCES ASSOCIATION (JAWRA). 41(2):323-332.

Bereswilla, R., Burkhard Golla, Martin Streloke, and Ralf Schulz. 2012. Entry and toxicity of organic pesticides and copper in vineyard streams: Erosion rills jeopardise the efficiency of riparian buffer strips. Agriculture, Ecosystems and Environment. 146:81–92.

Brändli, D., and S. Reinacher. 2012. Herbizide im Urin. Ithaka Journal. 1:1–4. www.ithakajournal.net. Herausgeber: Delinat-Institut fu_r Ökologie und Klimafarming, CH-1974 Arbaz www.delinat-institut.org, www.ithaka-journal.net. ISSN 1663-0521.

Brodkin, M., et al., 2007. Atrazine is an immune disruptor in adult northern leopard frogs (Rana pipiens). Environ. Toxicol. Chem. 26(1):80-84.

CHANG, F.C. MATT F. SIMCIK, and PAUL D. CAPEL. 2011. OCCURRENCE AND FATE OF THE HERBICIDE GLYPHOSATE AND ITS DEGRADATE AMINOMETHYLPHOSPHONIC ACID IN THE ATMOSPHERE. Environmental Toxicology and Chemistry. 30(3):548-555.

Comis, D. 2000. Keeping Dust on the Farm. ARS News Service. Agricultural Research Service Mag. USDA. March 31, 2000

CPR (Californians for Pesticide Reform). 2007. Airborne Poisons: Pesticides in Our Air and in Our Bodies. California. 4 pp.

Coupe, R.H., Stephen J. Kalkhoff, Paul D. Capel and Caroline Gregoire. 2012. Fate and transport of glyphosate and aminomethylphosphonic acid in surface waters of agricultural basins. Pest Manag Sci. 68(1):16-30. DOI 10.1002/ps.2212

Dinham, Barbara (ed.) 2010. Communities in Peril: Global report on health impacts of pesticide use in agriculture. Pesticide Action Network Asia Pacific, 2010. ISBN 978-983-9381-52-8. Manila, Philippines. 200 pp.

EPA (United States Environmental Protection Agency). 2003. RECORD OF DECISION, DEL MONTE CORPORATION. OAHU PLANTATION SUPERFUND SITE KUNIA, HAWAII, September 2003. Region IX - San Francisco, California. 124 pp.

Foster, W. and Richard E. Just. 1984. CONSUMER VALUATION OF HEALTH RISK: THE CASE OF HEPTACHLOR CONTAMINATION OF MILK IN HAWAII. UNIVERSITY OF CALIFORNIA. Giannini Foundation of Agricultural Economics. June 1984. 45 pp.

Frank, R., H. E. Braun, B. D. Ripley, and B. S. Clegg. 1990. Contamination of Rural Ponds with Pesticide, 1971-85, Ontario, Canada. Bull. Environ. Contam. Toxicol. 44:401-409.

Frazar, C. 2000. The Bioremediation and Phytoremediation of Pesticide-contaminated Sites. EPA Office of Solid Waste and Emergency Response Technology Innovation Office. 55 pp.

HAGSTRUM, D.W., P.W. FLINN, C.R. REED AND T.W. PHILLIPS. 2010. Ecology and IPM of Insects at Grain Elevators and Flat Storages. Biopestic. Int. 6(1):1–20.

HARWOOD, J.D., WILLIAM G. WALLIN and JOHN J. OBRYCKI. 2005. Uptake of Bt endotoxins by nontarget herbivores and higher order arthropod predators: molecular evidence from a transgenic corn agroecosystem. Molecular Ecology. 14:2815–2823.

Hayes, T.B. 2004. There Is No Denying This: Defusing the Confusion about Atrazine. Bioscience, Dec. 2004, Vol. 54, Issue 12.

Hayes, T.B., et al., 2002. Hermaphroditic, demasculinized frogs after exposure to the herbicide atrazine at low ecologically relevant doses. Proc. Natl. Acad. Sci. USA, 99: 5476-5480.

Hodai, B. and Lisa Graves. 2012. Syngenta PR's Weed-Killer Spin Machine: Investigating the Press and Shaping the "News" about Atrazine. PR Watch. Accessed February 7, 2012 from: http://www.prwatch.org/news/2012/02/11277/syngenta-prs-weed-killer-spinmachine-investigating-press-and-shaping-news-about.

Jerving, S. 2012. Syngenta's Paid Third Party Pundits Spin the "News" on Atrazine. PR Watch. Accessed February 7, 2012 from: http://www.prwatch.org/news/2012/02/11276/syngentas-paid-third-party-punditsspin-news-atrazine.

Kasumba, J., B.A. Holmén, April Hiscox, Junming Wang and David Miller. 2011. Agricultural PM10 emissions from cotton field disking in Las Cruces, NM. Atmospheric Environment. 45:1668-1674.

Kettles, M.A., et al. 1997. Triazine exposure and breast cancer incidence: An ecologic study of Kentucky counties. Environ. Health Perspect. 105(11):1222-1227.

Kurtz, M.E., and Joe E. Street 2003. Response of Rice (Oryza sativa) to Glyphosate Applied to Simulate Drift. Weed Technology. 17(2):234-238

Lee, S.J. et al. 2011. Acute Pesticide Illnesses Associated with Off-Target Pesticide Drift from Agricultural Applications: 11 States, 1998–2006. Environ Health Perspect. 119:1162–1169.

Leffall, LaSalle D., Jr. and Margaret L. Kripke. 2010. REDUCING ENVIRONMENTAL CANCER RISK: What We Can Do Now, President's Cancer Panel, 2008–2009 Annual Report. National Cancer Institute. 240 pp.

Loeb, M., Hakim, R., Martin, P., Narang, N., Goto, S. and Takeda, M. 2000. Apoptosis in Cultured Midgut Cells From Heliothis virescens Larvae Exposed to Various Conditions. Archives of Insect Biochemistry and Physiology. 45:12-23.

LOEB, M.J., PHYLLIS A. W. MARTIN, NEELAM NARANG, RAZIEL S. HAKIM, SHINTARO GOTO, AND MAKIO TAKEDA. 2001. CONTROL OF LIFE, DEATH, AND DIFFERENTIATION IN CULTURED MIDGUT CELLS OF THE LEPIDOPTERAN, HELIOTHIS VIRESCENS. In Vitro Cell. Dev. Biol.-- Animal. 37:348-352.

Loudat, T. and Prahlad Kasturi. 2009. Hawaii's Seed Crop Industry: Current and Potential Economic and Fiscal Contributions. Hawaii Farm Bureau Federation. July 2009. 50 pp. Accessed July 13, 2009 from <u>http://www.hciaonline.com/wp-content/uploads/2009/07/hawaii-seed-crop-industry-economic-fiscal-contributions-july-2009.pdf</u>

MacLennan, Paul A., Delzell, Elizabeth, et al. 2002. Cancer incidence among triazine herbicide manufacturing workers. Journal of Occupational and Environmental Medicine. 44(11):1048-58.

MATSUURA, DAVID, ET AL. VS DUPONT, UNITED STATES DISTRICT COURT FOR THE DISTRICT OF HAWAII, 2007. U.S. Dist. LEXIS 620; CCH Prod. Liab. Rep. P17,686, January 3, 2007, Decided.

MEADOWS, M.P., DEBORAH J. ELLIS, JOE BUTT, PAUL JARRETT, AND H. DENIS BURGES. 1992. Distribution, Frequency, and Diversity of Bacillus thuringiensis in an Animal Feed Mill. APPLIED AND ENVIRONMENTAL MICROBIOLOGY. 58(4):1344-1350.

Mokdad, A.H. et al. 2004. Actual Causes of Death in the United States, 2000. Journal of the American Medical Association. JAMA. 291(10):1238-1245

Mustafic, H. et al. 2012. Main Air Pollutants and Myocardial Infarction: A Systematic Review and Meta-analysis. JAMA. Journal of the American Medical Association. 307(7):713-721.

Nordstrom, K.F. and Shintaro Hott. 2004. Wind erosion from cropland in the USA: a review of problems, solutions and prospects. Geoderma. 121:157–167.

Olenchock, S.A., Daniel M. Lewis, and Judith C. Mull. 1986. Composition of Extracts of Airborne Grain Dusts: Lectins and Lymphocyte Mitogens. Environmental Health Perspectives. 66:119-123.

PANNA. 1993. Pesticides Reported in Mississippi Floodwaters. PESTICIDE ACTION NETWORK NORTH AMERICA UPDATES SERVICE (Panups). October 25, 1993

PANNA. 2004. Corporate Profile: Dow Chemical Company. PANNA: Pesticide Action Network North America. Accessed May 12, 2005 from: http://www.panna.org/campaigns/caia/corpProfilesDow.dv.html

PANNA. 2011. Pesticide Action Network North America, email Sept. 13, 2011.

Partnership For Pesticide Bylaws (PPB). 2002. Pesticides Used in Our Communities – Human Health and Environmental Impacts. 2 pp.

Quignot, N., Marine Arnaud, Franck Robidel, Anthony Lecomte, Mikaël Tournier, Cécile Cren-Olivé, Robert Barouki, and Emmanuel Lemazurier. 2012. Characterization of endocrinedisrupting chemicals based on hormonal balance disruption in male and female adult rats. Reprod. Toxicol. In Press. doi:10.1016/j.reprotox.2012.01.004.

Ridano, M.E., et al. 2012. Chlorpyrifos modifies the expression of genes involved in human placental function. Reprod Toxicol. In Press. doi:10.1016/j.reprotox.2012.01.003.

Rogge, W.F., Patricia M. Medeiros, and Bernd R.T. Simoneit. 2007. Organic marker compounds in surface soils of crop fields from the San Joaquin Valley fugitive dust characterization study. Atmospheric Environment. 41:8183–8204.

Rosi-Marshall, E.J., J. L. Tank, T. V. Royer, M. R. Whiles, M. Evans-White, C. Chambers, N. A. Griffiths, J. Pokelsek, and M. L. Stephen. 2007. Toxins in transgenic crop byproducts may affect headwater stream ecosystems. Proc. Nat. Acad. Sci. 104(41):16204–16208.

Ruah V.A. et al. 2006. Years of Life Among Inner-City Children Impact of Prenatal 6 on Neurodevelopment in the First 3. Pediatrics.18:1845-1859.

Sass, Jennifer and Brandt-Rauf, Paul. 2003. Cancer Incidence Among Triazine Herbicide Manufacturing Workers. Journal of Occupational and Environmental Medicine. 45(4):343-344.

Schulz, R., 2004. Field studies on exposure, effects, and risk mitigation of aquatic nonpointsource insecticide pollution: a review. J. Environ. Qual. 33:419-448.

Singh, B.K. and Dale L. Shaner. 1998. Rapid Determination of Glyphosate Injury to Plants and Identification of Glyphosate-Resistant Plants. Weed Technology. 12(3):527-530.

Swan, S., et al. 2003. Semen quality in relation to biomarkers of pesticide exposure. Environ Health Perspect. 111(12):1478-84.

Tank, J.L., Emma J. Rosi-Marshall, Todd V. Royer, Matt R. Whiles, Natalie A. Griffiths, Therese C. Frauendor, and David J. Treering. 2010. Occurrence of maize detritus and a transgenic insecticidal protein (Cry1Ab) within the stream network of an agricultural landscape. Proc. Nat. Acad. Sci. 107(41):17645-17650.

Tuduri, L., Tom Harner, Pierrette Blanchard, Yi-Fan Li, Laurier Poissant, Don T. Waite, Clair Murphy, and Wayne Belzer. 2006. A review of currently used pesticides (CUPs) in Canadian air and precipitation. Part 2: Regional information and perspectives. Atmospheric Environment. 40:1579–1589.

University of California. 2001. AGRICULTURAL RESOURCES PROGRAM PRIORITIES. UNIVERSITY OF CALIFORNIA. DIVISION OF AGRICULTURE AND NATURAL RESOURCES. 72 pp.

Van Voorhis, V. 2011. County takes legal action against seed companies. The Garden Island News., Kauai. May 4, 2011.

Vendômois, JS, François Roullier, Dominique Cellier and Gilles-Eric Séralini. 2009. A Comparison of the Effects of Three GM Corn Varieties on Mammalian Health. International Journal of Biological Sciences. 5(7):706-726

Walsh, L.P., Chad McCormick, Clyde Martin, and Douglas M. Stocco. 2000. Roundup Inhibits Steroidogenesis by Disrupting Steroidogenic Acute Regulatory (StAR) Protein Expression. Environmental Health Perspectives. 108(8):769-776.

/////

Margaret Wille Council Member District 9 - North and South Kohala



 Phone No. Hilo:
 (808) 961-8027

 Phone No. Waimea:
 (808) 887-2043

 Fax No.:
 (808) 887-2072

 E-Mail:
 mwille@co.hawaii.hi.us

HAWAI'I COUNTY COUNCIL

County of Hawai'i

Hawai'i County Building 25 Aupuni Street Hilo, Hawai'i 96720 Holomua Center 64-1067 Mamalahoa Highway, Suite C-5 Waimea, Hawaiʻi 96743 West Hawai'i Civic Center Bldg. A 74-5044 Ane Keohokalole Hwy. Kailua-Kona, Hawai'i ,96740

House Committee on Finance Thursday, 02-21-13, 4:00PM, Rm 308 HB673 HD2 Related to Pesticides

My name is Margaret Wille, Chair of the Hawai i County Council Committee on Agriculture, Water and Energy Sustainability, testifying in *SUPPORT of HB673 HD2 WITH MANDITORY PUBLIC DISCLOSURE AMENDMENTS.*

HB673 HD2 requires the Department of Agriculture to post information regarding pesticide use to its website, requires the Legislative Reference Bureau to conduct a study regarding other states' pesticide reporting and registration requirements and to report its findings to the Legislature.

I support the passage of HB673 and strongly urge this committee to require mandatory public disclosure as to the type of pesticides are being used, quantities being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas.)

Remember the groundwater contamination from DBCP sprayed for years on the pineapple plantations? Bad actor pesticides like diuron and atrazine used on the sugarcane plantations? Our neighbors on Kaua' i and Moloka' i report that the \$250 million-a-year genetically engineered seed corn export industry is spraying continually and plowing 4 to 5 times a year, stirring up dust, drifting in the wind, and potentially making people sick.

The California Department of Pesticide Regulation has a best-management system in place that is readily available for adoption in Hawai' i. Do not let this issue by delayed and stalled by another study.

Use of known or probable carcinogens, reproductive or developmental toxicants, neurotoxic cholinesterase inhibitors, Neonicotinoids, known groundwater contaminants and pesticides with high acute toxicity must be publically disclosed. The cost and

February 20, 2013 Page 2 of 2

responsibility of this disclosure should be covered by the user. There should be stiff penalties for failing to disclose and the filing of false disclosure statements.

To enter the testimony of the councilman from Kaua' i as my own, "the industry will tell

you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance."

Sincerely,

Margaret Wille Council Member District 9 North & South Kohala

MW/dh

I respectfully submit my testimony in strong support of MANDATORY PUBLIC DISCLOSURE of pesticide-use on Kauai.

I support the passage of HB673, and strongly urge this committee to amend this measure to require mandatory public disclosure to specify exactly what pesticides are being used, what quantities are being used and where they are being used. In addition to annual public disclosure reports, publically posted signage must also be required, indicating where the public might be exposed to drift (along highways and near schools, hospitals and residential areas, and especially along waterways, including canals, rivers and beaches).

The costs of this public disclosure and signage shall be entirely paid for by the companies using the pesticides. There must be extremely stiff penalties for failing to disclose, for filing false disclosure statements, and for failing to post signs to adequately alert the public.

This Bill is of extreme importance, not only to protect human health but also to protect the health of our environment. I am a marine biologist who has long studied coral reefs afflicted by man's activities, in Puerto Rico, Okinawa and recently, Kauai. I am now studying water quality, focusing on the deleterious impacts of pesticides on freshwater and marine life. My father, Thomas Muzik, a plant physiologist, authored the book "Weed Biology and Control", so I am especially familiar with toxic effects of herbicides such as 2,4-D and 2,4,5-T. They were household words for me, even as a child, many many decades ago! We now must begin to reverse the wrongs we have long inflicted on life in our soils, streams and sea.

I hope passage of an amended HB673 will penalize large companies who are poisoning our soils, waters and air, and thereby encourage local small farmers to grow food safely, for local consumption.

Katherine Muzik, Ph.D. Director, Kulu Wai Associate in Natural Sciences, Bishop Museum



HCIA 2012-2014 Board of Directors

> President Mark Phillipson

Vice President Kirby Kester

Secretary Melissa Zeman

Treasurer Scott McFarland

Directors At Large

David Gilliland Cindy Goldstein Adolph Helm Steve Lupkes Grant Manning Fred Perlak Mark Stoutemyer Alan Takemoto

Past President Fred Perlak

Executive Director Alicia Maluafiti

91-285 Fort Weaver Rd. 'Ewa Beach, HI 96706 Tel: (808) 224-3648 director@chiaonline.com www.hciaonline.com

Hawaii Crop Improvement Association

Growing the Future of Worldwide Agriculture in Hawaii

Testimony by Alicia Maluafiti HB 673 HD 2 – Relating to Pesticides The House Committee on Finance Thursday, February 21, 2013 4:00 p.m., Room 308

Position: Opposition – recommending amendments

Aloha Chair Luke, Vice Chairs Nishimoto and Johanson, and members of the Committee:

My name is Alicia Maluafiti, Executive Director of the Hawaii Crop Improvement Association, a nonprofit trade association representing Hawaii seed farmers. We oppose HB 673 HD 2 but would offer a more reasonable solution.

While we believe that public health and safety is the top priority of our state legislature, we don't believe that targeting pesticide use is an appropriate, necessary or fiscally responsible policy. The Environmental Protection Agency (EPA) safety review involves over 100 toxicology and environmental studies on crop protection products that must demonstrate that their proper use do not pose unreasonable risks to human health or the environment before it can be registered for use by EPA. This bill is an emotional response that disregards scientific evidence and a result, jeopardizes the viability of the Hawaii's agricultural industry.

With over 2 million farmers in the United States, crop protection products are critical to controlling insects, diseases, weeds, fungi and other undesirable pests that would otherwise threaten our food supply. Agricultural output has to double in the next 20-30 years in order to feed the world's population. By 2030, the United Nations predicts there is likely to be 1.7 billion more people to feed worldwide. Farmers must have access to crop protection solutions to grow more food per acre. HB 673 HD2 only stigmatizes pesticide use unnecessarily.

Before the state embarks on a 21st century pesticide witch hunt, it would be prudent to amend the bill to only require the Legislative Reference Bureau to conduct a studyv regarding other states' pesticide reporting and registry requirements as they relate to urban and agricultural areas, and the costs incurred to establish pesticide use and registry programs. Based on the findings from this report, the legislature could revisit the feasibility of moving forward a pesticide use reporting mandate. Mahalo for the opportunity to testify.



HAWAII PEST CONTROL ASSOCIATION

Century Square – 1188 Bishop St., Ste. 1003*Honolulu, HI 96813-3304 Telephone (808) 533-6404 • Fax (808) 533-2739

February 21, 2013

Testimony To: House Committee on Finance Representative Sylvia Luke, Chair

Presented By: Tim Lyons, CAE Executive Director

Subject: H.B. 673, HD 2 – RELATING TO PESTICIDES

Chair Luke and Members of the Committee:

I am Tim Lyons, Executive Director of the Hawaii Pest Control Association and we don't object to this bill but think a clarifying amendment is in order.

This bill has come a long way from its original draft with the guidance and assistance of Chair Jessica Wooley and Chair Della Au Belatti. As originally drafted, the bill would have been so broad and multi-faceted to cause major upheaval within the State, as well as to those who see the benefits on the utilization of pesticides.

We think that the idea of having the Legislative Reference Bureau do a study is entirely in order prior to the legislature considering enactment of any additional legislation. Although both the House Standing Committee Report and H.D. 2 talks about the study identifying the cost incurred by other states to establish RUP Registration Programs, it fails to mention any information about the benefits derived therefrom. Based on that, we would respectfully request that the Committee amend this bill in Section 3, sub-paragraph 3 which requests information on the cost and to add a proviso that would further identify the benefits to such a process and whether the benefits including the popularity of accessing the information are in proportion to the costs incurred.

We bring this up if for no other reason than, as an example the State of Oregon, which had a similar program but discontinued it because of the cost involved and what was perceived to be any lack of benefit.

Based on the above and with our amendment, we have no objections to the bill.

Thank you.

FINTestimony

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 10:02 PM
То:	FINTestimony
Cc:	peepail@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Christopher Kasak	Occupy Monsanto (OWS~Maui)	Comments Only	No

Comments: I request STRONG MANDITORY PUBLIC DISCLOSURE AMENDMENTS this Bill is now a paper tiger and needs teeth - A segment of my testimony is below: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted Signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements. There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption. Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties to ensure compliance.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Do not reply to this email. This inbox is not monitored. For assistance please email <u>webmaster@capitol.hawaii.gov</u>
From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 2:36 PM
То:	FINTestimony
Cc:	esfhawaii@hotmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Elijah Frank	Ohana O Kauai	Support	No

Comments: Please amend this bill to have a stronger impact on the regulation and registration of pesticides being used on our islands. Hawaii State Constitution specifically states that our natural resources are to be used in a self-sufficient and sustainable fashion that benefits the people of our State. If we don't even know what chemicals are being used and in what quantity how can we ensure our land, water and people are not being negatively impacted? Regulation and registration of the chemical pesticides being used is the bare minimal our elected officials must mandate to ensure our natural resources and people are not being harmed. Hawaii's aquifers must be protected at all cost. The EPA mandates that our water sources be free of chemical contamination. The present system of chemical agriculture with no governmental oversight is not sustainable. And no Monsanto lobbyist can convince me otherwise. Please do what is right for the future of Hawaii. The short term economic gain from the biotech industry is not worth the long term environment and public health damage they are causing. Elijah Frank Ohana O Kaua'i

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 3:48 PM
То:	FINTestimony
Cc:	holomuaorganics@gmail.com
Subject:	*Submitted testimony for HB673 on Feb 21, 2013 16:00PM*

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Tiana Laranio	Kauai Rising	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing _, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 6:56 AM
To:	FINTestimony
Cc:	peacesubhadra@gmail.com
Subject:	*Submitted testimony for HB673 on Feb 21, 2013 16:00PM*

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
D. Corcoran	Individual	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 10:45 PM
To:	FINTestimony
Cc:	naldajw@gmail.com
Subject:	*Submitted testimony for HB673 on Feb 21, 2013 16:00PM*

<u>HB673</u>

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
JW Nalda	Individual	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing _, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	Ilona Hemperly [hemperlym001@hawaii.rr.com]
Sent:	Wednesday, February 20, 2013 10:17 AM
То:	FINTestimony
Subject:	Bill HB673 HD 2 (Pesticides)

Dear House Committee on Finance

Re: Bill HB673 HD 2 (Pesticides)

Good morning. I'm emailing to say I support passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used and what quantities are being used and where they are being used. On our islands this is so important. There should also be a yearly disclosure report required as well as publicly posted signage in area where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc.

Also the cost & responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and filing of false disclosure statements.

Mahalo for your time.

Sincerely,

Ilona Hemperly 59-197 Ke Nui RD Haleiwa HI 96712

aloha,

Ilona Hemperly

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 11:01 AM
To:	FINTestimony
Cc:	bonnieisland@yahoo.com
Subject:	*Submitted testimony for HB673 on Feb 21, 2013 16:00PM*

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Bonnie Rasmussen	Individual	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing _, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	Ginahara [ginahara@yahoo.com]
Sent:	Wednesday, February 20, 2013 9:19 AM
То:	FINTestimony
Subject:	Bill HB 673 Strong Support for Disclosure

To: House Committee on Finance

Re: Bill HB673 HD 2 (Pesticides): T estimony in strong support with amendments for MANDATORY PUBLIC DISCLOSURE

Born and raised in Hawaii I am undergoing a heavy metal detox protocol due to mercury from dental amagams that 50% of the people have. From this procedure I learned that I have heptachlor and other agricultural pesticides like DDT which I am chelating.

Pesticides and heavy metals become stored in the brain tissues and joints. When I get a weekly intravenous shot of glutathione (antioxadent) to remove the heavy metals like mercury and lead and pesticides the face and head area get red. These areas become less red and tingly as the body detoxifies.

Pesticides attach onto cells in place of nutrients causing disruption in cell function which leads to chronic diseases like cancer or neurological damage.

A friend of a friend who worked as a golf couse pesticide sprayer on Lanai for two years complained of the smell and developed a serious lung issue and died recently in the Philippines.

Many chemical companies like to say their chemicals are biodegradable but it is the opposite and at the rate we are introducing it to the environment it is like a cesspool of chemicals with 90 year half-lives.

Doctors at Stanford University hospital notice that they have a larger part of their patient pool in the Bay Area is coming from the Central Valley where heavy chemicals were used and are used till today in the agricultural fields.

I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements.

There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those

operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption.

Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Pesticide Registry Factoids

- Some form of pesticide registry, or laws that track pesticide use have existed for many years in states like California, Colorado, Florida, Louisiana, Maryland, Michigan, New York, Pennsylvania, West Virginia, and Wisconsin
- Because of the U.S. Workers Protection Act, growers and commercial pesticide users already maintain a log of pesticide products and use rates on ag sites, and this information is shared with field workers and applicators.
- Proper pesticide records are required to continually fine-tune pest control programs on the farm. Because this information is already kept and recorded, it should not be too difficult for farmers to share this information with the DOA.
- In California, growers have successfully maintained and provided so-called 'pesticide use reports' for many years, as part of the state's pesticide registry program.
- Considering the long-track and successful record of pesticide reporting by farmers and pesticide applicators in California, it should be perfectly possible for Hawaii growers to maintain and provide these type of records to the DOA.

•

From my Android phone on T-Mobile. The first nationwide 4G network.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 2:47 PM
То:	FINTestimony
Cc:	shannonkona@gmail.com
Subject:	*Submitted testimony for HB673 on Feb 21, 2013 16:00PM*

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Shannon Rudolph	Individual	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing _, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	Drew [dawilkinson83@gmail.com]
Sent:	Wednesday, February 20, 2013 2:51 PM
То:	FINTestimony
Subject:	Re: Bill HB673 HD 2 (Pesticides)

To: House Committee on Finance

Re: Bill HB673 HD 2 (Pesticides): Testimony in strong support with amendments for MANDATORY PUBLIC DISCLOSURE

I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

Pesticides are one of the main factors that contribute to sicknesses and cancers people get from eating food that is supposed to supply them with nutrients.

The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements.

There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption.

Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Sincerely, Drew Wilkinson

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 3:24 PM
То:	FINTestimony
Cc:	evelyndebuhr@yahoo.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Evelyn de Buhr	Individual	Comments Only	No

Comments: The public deserves to know when pesticides are being used in the fields around them and in the food they eat.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 3:33 PM
То:	FINTestimony
Cc:	bkdl@hotmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Brian Lehmann	Individual	Support	No

Comments: Aloha Committee members: I support this measure, with amendment to comprehensive reporting requirements, such as what, where, when, how much, etc, especially for uses beyond a minimal level. Thank you.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 7:20 AM
То:	FINTestimony
Cc:	tomdee55@mac.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Tom DeCaro	Individual	Support	No

Comments: I strongly support this measure with STRONG MANDITORY PUBLIC DISCLOSURE AMENDMENTS. Mahalo for your time and consideration

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 2:23 PM
То:	FINTestimony
Cc:	rob@surfbeyond.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Robert Barreca	Individual	Support	No

Comments: Our use of chemical pesticides has been contaminating our precious soil and groundwater on the island. Please pass this bill so we may begin collecting this data and come to an understanding of how to fix the problem.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 9:01 AM
То:	FINTestimony
Cc:	Zensea1@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Sherry McNutt	Individual	Comments Only	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements. There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption. Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 12:11 PM
To:	FINTestimony
Cc:	Alohaphap@aol.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Paula Cohen	Individual	Support	No

Comments: I support mandatory public disclosure of pesticide amendments.

Please note that testimony submitted less than 24 hours prior to the hearing _, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 6:38 PM
То:	FINTestimony
Cc:	justinavery@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Justin Avery	Individual	Support	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements. There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption. Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance. Mahalo, Justin Avery Hilo, HI

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 11:55 AM
То:	FINTestimony
Cc:	dodirose77@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
D Gronau	Individual	Support	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements. There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption. Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties to ensure compliance. Thank you.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 11:43 AM
То:	FINTestimony
Cc:	franinkauai@aol.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Mary Frances McDonald	Individual	Support	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements. There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption. Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 3:02 PM
То:	FINTestimony
Cc:	mrb@hawaiilink.net
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Jose Bulatao, Jr.	Individual	Comments Only	No

Comments: The application of pesticides MUST BE closely monitored to protect and preserve the environmental integrity of our aina, along with providing appropriate measures to assure the health and well being of our island residents and visitors. As legislators, you have the power and the authority to establish the foundations and parameters to do the "pono" thing to "malama aina".

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

To Whom This May Concern:

Aloha,

I am a mother and wife from the island of Molokai, and would like to extend my complete support for the pesticide registry bill.

First and foremost, our family and many others on Molokai, live in very close proximity to Monsanto's corn and soybean fields. We would like to know what it is, when, and where this company is spraying toxic chemiclas. Not very long ago I requested this information from Monsanto, but received no information.

It is afact that pesticides are heavily sprayed on these crops. The area we live in, Ho olehua, is known for strong, gusty winds. These winds and the machinery used to plow the fields have caused several, shocking dust storms, sending anything and everything such as pollen and dust particles laden with chemicals into the air, invading residential areas and settling over our coral reef.

I have reported these incidents, with documentation, to the Department of Health's Clean Air Branch and USDA.

We also recently discovered that Mycogen is using a chemical called Gramozone (active ingredient: paraquat). This chemical is banned in Europe and known to have very ill affects on aquatic and human life. As a mother, this very frightening!

It is also known that pesticide exposure contributes to a number of increasingly common health outcomes for children, including caner, birth defects, early puberty, asthma, obesity, and diabetes (A Generation in Jeopardy, Pesticide Action Network North America). According to PAN North America, even low levels of pesticide exposure can cause significant health harms.

My platform is that through this bill the State of Hawaii will better access the use and negative affects of pesticide exposure, with the intention of protecting our children and families, and the areas we live, play and learn.

Children are particularly vulnerable to pesticide exposure, especially during the first six months of life. It is during this developmental period that they take in about fifteen times more water than the average adult per pound of body weight (A Generation in Jeopardy), and also inhale more air. Up to age twelve, children's breathing rate is twice that of an adult, meaning they will inhale twice the amount of pesticides in the air from spray drift.

Knowing this, I fear that the health and safety of my children, both under the age of twelve is being compromised. Please consider my testimony when you make your decision.

Mahalo for your time, Mercy Ritte

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 12:10 PM
То:	FINTestimony
Cc:	anne.w.english@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Anne English	Individual	Support	No

Comments: I support the passage of HB673 with STRONG MANDITORY PUBLIC DISCLOSURE AMENDMENTS added!! I respectfully demand mandatory public disclosure as (1) to what pesticides are being used, (2) what quantities are being used and (3) where they are being used. (4) There should be an annual public disclosure report required as well as (5) publically posted signage in areas where the public might be exposed to drift; i.e.: along highways and near schools, hospitals and residential areas. Thank you.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 9:28 AM
То:	FINTestimony
Cc:	ohanaoro@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Amanda Kitzmiller	Individual	Support	No

Comments: Please this is VERY important. And we request STRONG MANDITORY PUBLIC DISCLOSURE AMENDMENTS.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 6:40 AM
То:	FINTestimony
Cc:	kula96712@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing	
Kirsten garrabrant	Individual	Support	No	

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Aloha Representatives,

Thank You for considering my testimony today in support of HB673. These pesticides we are talking about are lethal to pollinators as well as aquatic life. This concerns me deeply. Having some sort of way to monitor, regulate and minimize use should be a top priority.

Science has been relatively clear in predicting how few are the years between when the bees die and when the humans follow them. It appears now that the honey bees are pretty well on their way to extinction- in the majority of the globe.

Up till now it was considered something of a mystery as to who killed them.

New scientific evidence is now emerging to explain very clearly the sequence of steps - between Monsanto's marketing of GMO corn - and the death of the bees. Here below, please find the paper - with abundant references.

The global bee die off did not reach Brazil for example until just after they let in <u>Monsanto</u>'s GMO corn. Now it is Australia's turn. That is one of the few places in the world which still has healthy bees. The test is whether they will follow the foolish lead of Brazil in letting in GMO corn.

Here is the deadly sequence of steps which created our global funeral for the bees:

- 1. 1. Monsanto decides- that since the bacteria <u>Bacillus thuringiensis</u> kills a corn parasite- to insert the DNA sequence from that bacteria IN to their GMO corn.
- The BT in the corn pollen causes an immune system response (rather like triggering a sneeze) in the bees- similar to if they had eaten the BT directly also causes holes and porosity in the gut.
- 3. During the summer- the bees have enough protein to tolerate the immune 'sneeze' response- and still learn navigation ... BUT during the winter when protein (pollen) is in rather short supply in the hive- bees had evolved a survival response. IF a bee's immune system was threatened in Winter - then the hive was best served if it was eliminated. The way this works - is that the protein normally invested in learning and remembering complex navigation requirements- has gone into immune reaction- and so - those bees - immune challenged - get lost trying to get back to the hive. (Rather like the older people of the Eskimo's who simply don't show up at the next igloo in the march - during Winter).
- 4. This accounts for the facts:
 - a. CCD Colony Collapse Disorder was originally called: Fall Dwindle Disease - because the bee disappearance almost always is worst just as Winter sets in.
 - b. It also explains why the few dead bees who are found- have the same blackened & porous guts- like bees responding directly to the BT.
 - c. It also explains why the global bee die-off generally followed the spread of GMO crops.

COLONY COLLAPSE DISORDER AND GENETICALLY MODIFIED CROPS

by <u>Peter Olson</u> BA. Dip Ed. Original version published in The Northern Star NSW, Australia

- <u>Genetically modified</u> (GM) crops often contain a bacterium called <u>Bacillus Thuringiensis</u> (Bt)
- Most of the research on Bt has looked at the directly lethal affects of Bt and little research has looked for indirectly lethal

affects the Bt

- Some insects have been shown to survive the Bt poison by having a strong immune response to the Bt poison. (Ref R)
- Insects generally and Bees specifically, have been shown to experience learning impairment and memory disorder, if they have an immune response. (Ref A1, B, D, E)
- A learning impairment or memory disorder would mean that Bees could not navigate back to their beehive
- Thus, a learning impairment or memory disorder is lethal to a foraging Bee
- <u>Colony Collapse Disorder</u> (CCD) of Bees, was originally called Fall Dwindle Disease, meaning the disease occurred in the cold months of the year
- Bees use protein to construct a memory and their protein comes from pollen, but in winter there is no pollen
- Bees also use protein to achieve an immune response, so an immune response in winter, means all protein reserves are rapidly used up and none are left for memory formation. (Ref D)

Have you ever noticed that when you are sick, that you can't think quickly and clearly? It's a bee gets sick and can't think probably, it will not be able to return to its beehive.

Studies listed below show that learning in bumblebees is impaired, if the bumblebee has an immune response (Ref A1,B,D,E).

The insecticide Bt is incorporated into many genetically modified crops and Bt causes an immune response to a wide range of creatures in nature, even if it does not kill those creatures. (Ref Q,R,S)

It is a virtual certainty that the bumblebee does have an immune response to the Bt present in the pollen of genetically modified plants.

Bees only carry enough honey with them to fly directly to the target flowers and straight back to the beehive. The navigation to and from those flowers is extremely complex and so requires the bee to have a very good memory. Since learning and memory are impaired in bees that have an immune response, bees with an immune response get lost, run out of honey fuel, fall to the ground and are then are carried away by ants. Thus, if a bee gets lost, for even a few minutes, it is dead.

The Encyclopedia Britannica states of CCD that,

"it appears that the disorder affects the adult bees' ability to navigate". (Ref Y)

Thus suggesting that worker bees fly out from the high hive to collect food, but get lost and never return.

In the case of the viruses and pathogens that have been suggested as causes of CCD, those viruses and pathogens result in large numbers of dead bees either inside or outside of the beehive. Dead bees are found outside the hive, because worker bees carry dead bees outside.

In CCD, the symptoms are that no dead bees are found inside or outside the beehive, rather all the,

"worker bees from a beehive or European honey bee colony abruptly disappear" (Ref V).

One of the most common traits inserted into man-made genetically modified crops is resistance to caterpillars, which is given by inserting a gene for a naturally occurring

insecticidal bacterium called Bacillus thuringiensis (Bt).

In crops that are genetically modified to contain this Bt gene, the Bt will be present not only in the plants leaves and fruit but also in the pollen of the flowers. Thus Bees that take pollen from genetically modified crops are ingesting significant quantities of Bt insecticide. Many scientists have assured the public that Bt is safe, because Bt is not directly lethal to Bees.

However alcohol is also not directly lethal to a car driver, yet many car drivers have died from alcohol, even though alcohol is not directly lethal to a car driver. Scientists looking for a cause for CCD have generally looked for a direct cause, something such as virus or parasite, that is directly killing the bees. Discovering an indirect cause of mortality in bees, would be much more difficult and would only occur after scientists had first exhausted examining the most probable direct causes of mortality in bees. A review of the literature shows that at the time of writing, according to **Cox Foster** et al 2009.

"no single culprit has been identified" as the cause of CCD (Ref Z3).

German research (Ref C), showed that bees who were fed Bt were not killed by the Bt, but that they became greatly more susceptible to a subsequent disease challenge. The Jenna University study showed that mortality in Bees exposed to a parasite, was far greater in Bees that had previously been fed BT, compared to Bees that were not previously fed BT (Ref C). Meaning that BT increased the susceptibility of Bees to the pathogen and thus Bt multiplied the mortality caused by the pathogen. In regard to that increased mortality from a pathogen combined with Bt ingestion, the authors concluded,

"the significant differences indicate an interaction of toxin and pathogen on the epithelial cells of the honeybee intestine. The underlying mechanism which causes this effect is unknown" (Ref C).

This is a highly significant finding because when GM crops containing BT were being approved, the universal assumption was, that GM crops containing Bt would be totally safe, because Bt has no effect on bees. Thus government scientists who approved GM Bt crops, would clearly have objected to those crops, if they thought that GM crops containing Bt would adversely affect bees.

In the USA, Cox Foster et. al. state of the CCD bee colonies that they studied, "we hypothesized that something had compromised the bees' immune system, making them susceptible to any number of infections that healthy colonies would normally fend off" (Ref Z3).

This sounds quite similar to the Jenna University findings above. Furthermore, Cox Foster et. al. note that their Bee autopsies found symptoms never observed before, such as scar tissue in the internal organs (Ref Z3).

Bt is a living bacterium, that forms crystals of *proteinaceous insecticidal endotoxins*, whose mode of action is to form a pore or hole in the insect's gut cell membranes (Ref Z2).

Since the mode of action of BT is to damage the gut lining and since Cox Foster et al. found scar tissue in the internal organs of Bees, the question must be asked, was the damage to the internal organs of Bees that Cox Foster et. al. found, caused by the Bt in the pollen of GM crops, that the bees ate?

Cox Foster et al. 2006 noted during the autopsies,

"when wet mounts were examined they appeared to have crystalline arrays" and that "Crystal-like formations were observed in the thorax" (Ref Z4).

Bt toxins are crystalline.

Cox Foster et al. 2009, did consider the possibility that bees with CCD may have been

poisoned by pollen from genetically modified crops. However the authors refer to earlier research, showing that the Bt toxin is only activated in certain insects and they note that the Bt toxin does not work in the digestive tracts of honeybees (Ref Z3). Thus because of prior research showing that bees are not killed by Bt, and that BT cannot possibly effect bees, many bee scientists have avoided testing Bt on Bees, believing such testing has already taken place and have thus ruled out GM Bt as possible cause of CCD of Bees. The online encyclopedia Wikipedia takes a very different view however and does list GM crops as a possible cause of CCD (Ref V).

Testing for subtle, sub-lethal effects or synergistic affects of Bt with other organisms, where Bt is a cofactor, rather than a singular causative agent, has only been done recently. Where such testing has been done, the finding of sub-lethal effects or cofactor effects, was often by chance, rather than planned.

It was only by chance that the bees in the above mentioned Jena University study became infected with a parasite and thus only by chance that the scientists observed the synergistic effect, of combining a pathogen and Bt. The results of a growing number of studies, now show clear and substantial, non-lethal effects and cofactor affects, of Bt on Bees; a dramatic change from the previous scientific view, that Bt has no effect on Bees.

Even so, the non-lethal effects and cofactor affects of Bt on Bees still remain scantily studied and more research on these subtle kinds of affects is urgently required.

Ramirez et. al. 2008, tested Bt toxin on honeybees and discovered substantial nonlethal affects on the bees, including "disturbed learning performances". **Ramirez** et al. concluded:

"Our results show that transgenic crops expressing (Bt) Cry1Ab protein at 5,000ppb may affect food consumption or learning processes" in Bees (Ref B).

The honeybee depends upon an unusual array of complex learning processes, in order to successfully find its food and navigate back to the beehive.

Unlike a car driver who may not remember exactly where the car is parked, in a large parking lot and who can afford to take some time to find the car, the honeybee cannot afford to forget, even for a short time, exactly where the beehive is located, even if the hive is several miles away. Memory impairment is not lethal to humans, but memory impairment and learning impairment is indeed lethal to honeybees. Thus in addition to causing increased disease susceptibility, BT is also shown to produce cognitive impairment in Bees.

It is important to note that BT is not the only insecticidal that has been shown to cause cognitive impairment in Bees.

Cox Foster et al. mentioned in 2006, that Neonicotinoid insecticides can produce sublethal effects, such as learning impairment and that as a result of a such learning impairment, Bees "may not be able to learn the location of the hive" (Ref Z4) and may thus may be unable to navigate back to the hive.

So one can now see, a proven trend, of learning impairment in Bees, caused by insecticide exposure at a sub-lethal dose. Cox Foster et al. 2006 clearly state what happens when Bees eat pollen contaminated with sub-lethal doses of neonicotinoid insecticides.

"If bees are eating fresh or stored pollen contaminated with these chemicals at low levels, they may not cause mortality but may impact the bee's ability to learn or make memories" (Ref Z4).

That sounds very similar to the above reference from Ramirez et al. 2008 who found "disturbed learning performances" in Bees after consumption of GM Bt pollen (Ref B). So the learning impairment in Bees, induced by consumption of insecticidal GM Bt

pollen, can be seen as part of a larger trend for sub-lethal doses of certain insecticides, to produce learning impairment in Bees.

The difference between a neonicotinoid insecticide spray and the Bt insecticide in a genetically modified crop, is that the former is very easy to restrict or recall, whereas the latter may prove impossible to recall. With genetic materials, the quantity of GM material in existence gets bigger as time passes. If a problem develops with a GM crop, then that problem will likely increase as time passes.

The fact that CCD can be transmitted by beehive equipment could be to do the presence of the Bt bacterium in that beehive equipment and and the fact that Cox Foster et. al. were able to break the cycle of CCD by irradiating the beehive equipment (Ref Z) and restocking with a new supply of Bees, could be due to the fact that the Bt bacterium was killed by the irradiation.

In order to understand CCD, or the disappearance of bees, one needs to understand something about the specialized lifestyle of the bee. In order to save weight and increase performance, bees only carry enough fuel (honey) to fly directly to the target flowers and then straight back to the beehive. If a bee gets lost, or encounters unexpected head-winds, it will not have enough fuel reserves to make it back to the beehive. Instead it will fall to the ground and die. Ants will then carry the dead bee down into the ant nest.

Memory is also crucial to bees because a bee has to learn from other bees in the beehive, where the target flowers are located. The Bee must memorize the directions from the hive to the target flower and back again, so a perfect memory is essential for the survival of bees. Other insects like mosquitoes are less reliant on a good memory, and simply "follow their nose" to the food - whereas bees rely on memorizing complex navigation tasks and memorizing specific aromas (Ref F), to find specific food and then to find their way back to the beehive.

If one was to impair the learning or memorizing ability of bees, that would cause indirect mortality in bees, since they would not be able to find their way back to the hive.

GM Bt pollen is widely known not to kill bees directly, but was not tested prior to the release of GM Bt crops, for the ability of GM Bt pollen to kill bees indirectly, through impairing the memory of Bees.

There is scientific agreement that many different things can be lethal to Bees - such as disease, chemical sprays and even certain seed coatings.

In the <u>Flour Moth Ephestia kuehniella</u>, a non lethal response to Bt and "tolerance (of Bt) correlates with an elevated immune response" to the Bt. (Ref R). For 99.99 percent of creatures, such a non-lethal immune response to Bt is of no practical significance and because of this, Bt is referred to as "soft" and is used widely in organic agriculture. There is however one particular species that is very unusual, in that it has a life threatening response, to sub-lethal immune stimulation (Refs B, D, E) and that species is the Bee. Immune response in Bees, can lead to memory loss and learning impairment (Ref B,D,E) and as previously stated, loss of memory would cause bees to forget where the beehive is located.

Bees are insects and an,

"immune response inhibits associative learning in insects" (Ref E).

Bees are now eating GM Bt pollen and Bt is toxin known to cause a non-lethal immune response in a wide variety of creatures (Ref Q,R,S).

Bees use up protein in memory formation and they also use up protein if they have an

immune response (Ref D). Bees only protein source is pollen and if pollen is in short supply and bees have an immune response, they will use all available protein for the immune response, leaving none available for memory formation (Ref D).

Pollen for bees is in short supply during Autumn and Winter, so if bees have an immune response when pollen is in short supply, they will lose their memory (Ref D). CCD was originally called *Fall Dwindle Disease*, meaning loss of bees in the Autumn, when pollen from flowers is in short supply. If bees loose their memory, they lose their navigational skills, they fail to find their way back to the beehive, they fall to the ground, die and get carried away by ants and are never seen again.

As mentioned above, the loss of memory due to an immune response, is not confined to Bees, but occurs in insects generally.

"The cost of an immune response (in insects) therefore not only affects survival of the host.... but also everyday behaviour and memory formation" (Ref E).

This learning impairment was only discovered recently (Ref E), long after GM crops had already been planted, however the effects of the GM Bt crops will go on for millions of years, since, like other introduced foreign species, GM crops can not be recalled.

During discussions with various Bee scientists, the writer was unable to find any scientist who had ever heard that insects and Bees loose their memory if they have an immune response. Perhaps the reason they did not know, is because the discovery of an immune - memory relationship in insects is very recent.

There is no evidence of direct mortality in bees from exposure to GM Bt crops, yet there is substantial evidence of sub-lethal effects in Bees from such exposure, that can result in high indirect mortality of Bees. If every air plane pilot had a sudden, non-lethal lapse of memory, there would be chaos which could cause in high mortality. Similar chaos occurs for Bees if they have a sudden lapse in memory, caused by an immune response and coincident pollen protein deprivation (Ref D).

When speaking to a PhD at a Gene Regulator's office, that PhD scientist described some of the information herein as "new" and not previously known by that Gene Regulator. Scientists that wish to defend GM Bt crops, need to counter the proven scientific evidence of indirect mortality in Bees that is provided herein, rather than simply stating that GM Bt pollen is not directly lethal to Bees.

Bt toxins produce sub-lethal effects in Bees and those sub-lethal effects result in changes in the Bee's "feeding behavior", "learning processes" and "foraging efficiency" (Ref B). Behavior change is evidence of learning impairment, and learning impairment can lead to lethal situations for Bees in the field - navigation problems and reduced flower finding abilities (Ref F), which are dependent on a perfect memory.

The different kinds of toxic GM Bt crystalline proteins are designated with different letters; Cry1A, Cry2A, Cry3A, etc.

Scientists in Mexico discovered that,

"the <u>Bt toxin Cry1Ab</u> caused reduced foraging activity in bees after they were fed with syrup containing the toxin" (Refs A, A1).

Something new is being put into the Bee's environment; something which is herein shown to impair the Bees functions and to increase their mortality from diseases such as parasites (Ref C).

Bees do not simply go out and look for any flower. They learn and memorize the aroma and location of a specific flower while in the hive, then they fly directly to that specific flower's location (Ref F). Memory impairment would thus prevent Bees from finding a specific flower's location and similarly prevent Bees successful return to the hive.

It is crucial to understand that with CCD, dead Bees are seldom found in or near the

hive.

When Bees are attacked by the lethal Bee mite,

"thousands of dead bees will pile in front of the hive" (Ref U), as a result of infestation.

In the case of CCD however, few if any dead Bees are ever found in or around the hive. Hence although <u>Varroa mite</u> is a serious disease of Bees, its symptoms do not match the symptoms of CCD. Also, the timing of Varroa mite infestation does not match the timing of CCD appearance. Varroa first entered Japan in 1960's, Brazil in 1971, France in 1982 and the USA in 1987 (Ref T), but CCD was first noticed in USA around 2004, and in Europe about 2006, many, many years after Varroa arrived, but only shortly after GM crops were widely planted.

The writer does not wish to rule out other possible causes for CCD, because the intent is to simply demonstrate that GM Bt crops may harm Bees, regardless of whether they are the sole cause CCD or not.

It took decades to show that cigarette smoking was harmful and it could take just as long to gain consensus over the cause of CCD. It is simpler to suggest GM Bt pollen causes Bee memory loss (Ref D, E). That memory loss occurs when Bees have an immune response and are deprived of pollen (Ref D).

The *German Speigel article* states that the bacterial toxin in the genetically modified corn may have "altered the surface of the bee's intestines, sufficiently weakening the bees to allow the parasites to gain entry" (Ref C).

<u>Wikipedia</u> says that the mode of action of Bt through making pores or holes in the gut lining (Ref T) and such holes caused by Bt, would obviously allow the parasites a new and easy pathway into the Bee. Is it not logical, that Bt exposure in the wild, would cause a similar, significant increase in mortality from parasites, like Microsporidia, just as it did in the trials (Refs A2, C)?

Bees are a key species for human food supply and bio-diversity and several lethal risks to Bees from GM Bt pollen are demonstrated here.

Britain's chief scientist Sir **David King**, once *proudly* stated that <u>Genetically Modified</u> (<u>GM</u>) crops</u> "could solve third world hunger". Later he admitted that his claim was wrong (Ref M) and in fact the real outcome would appear to have been the exact opposite of his prediction. Now that GM crops have been widely planted and hence can not be recalled, we learn that GM crops actually produce significantly lower yields than natural varieties do.

A large American study showed that,

"modified soya produces 10 per cent less food than its conventional equivalent" (Ref O).

REFERENCES

NB: References with a PMID number can be found at the US National Library of Medicine website below, by simply typing the PMID number in the search box and hitting the enter key. http://www.ncbi.nlm.nih.gov/sites/entrez?db=pubmed&TabCmd=Limits

Ref A.
 ISIS Press Release 26/04/07
 Dr. Mae-Wan Ho and Prof. Joe Cummins (Ontario Univesity)
 http://www.i-sis.org.uk/MysteryOfDisappearingHoneybees.php
 Mystery of Disappearing Honeybees - Quote: "The Bt toxin Cry1Ab caused reduced foraging activity in bees after they were fed with syrup containing the

	toxin"
•	Ref A1
	Ramirez-Romero R, Chaufaux J and Pham-Delègue M.
	Effects of Cry1Ab protoxin, deltamethrin and imidacloprid on the foraging
	activity and the learning performances of the honeybee Apis mellifera, a
	comparative approach Apidologie 2005, 36, 601-11.
•	Ref A2
	The effects of Bt maize pollen on the honeybee, 2001-2004 Jena University,
	GMO Safety, Federal Ministry of Education and Research,
	http://www.gmo-safety.eu/en/safety_science/68.docu.html
	http://www.gmo-safety.eu/en/oilseed_rape/honey_bees/339.docu.html
~	http://www.gmo-safety.eu/en/safety_science/195.docu.html
•	Ref B. Ecotoxicol Environ Saf. 2008 Jan 16
	Does Cry1Ab protein affect learning performances of the honey bee Apis
	mellifera L. (Hymenoptera, Apidae)?
	Ramirez-Romero R, Desneux N, Decourtye A, Chaffiol A, Pham-Delègue MH.
	Instituto de Ecologia A.C., Km. 2.5 Carretera Antigua a Coatepec No. 351 El
	Haya, 91070 Xalapa, Veracruz, Mexico.
	The tested concentrations of Cry1Ab protein did not cause lethal effects on
	honey bees. However, honey bee feeding behavior was affected when exposed
	to the highest concentration of Cry1Ab protein, with honey bees taking longer to
	imbibe the contaminated syrup. Moreover, honey bees exposed to 5000ppb of
	Cry1Ab had disturbed learning performances. Our results show that transgenic
	crops expressing Cry1Ab protein at 5000ppb may affect food consumption or
	learning processes and thereby may impact honey bee foraging efficiency.
	PMID: 18206234 [PubMed - as supplied by publisher]
•	Ref C.
	http://www.spiegel.de/international/world/0,1518,473166,00.html University of Jena, Germany, 2004
	Spiegel Online International: March 22, 2007
	 COLLAPSING COLONIES
	Are GM Crops Killing Bees?
	By Gunther Latsch
	quote: "when, by sheer chance, the bees used in the experiments were
	infested with a parasite a "significantly stronger decline in the number
	of bees" occurred among the insects that had been fed a highly
	concentrated Bt poison feed."
	According to Hans-Hinrich Kaatz, a professor at the University of Halle
	in eastern Germany and the director of the study, the bacterial toxin in
	the genetically modified corn may have "altered the surface of the bee's
	intestines, sufficiently weakening the bees to allow the parasites to gain
•	entry" Ref D
•	Brain Behav Immun. 2006 Mar;20(2):135-8. Epub 2005 Aug 9.
	Insect psychoneuroimmunology: immune response reduces learning in protein
	starved bumblebees (Bombus terrestris).
	Riddell CE, Mallon EB.
	Department of Biology, University of Leicester, UK.
	There is evidence that protein is intricately involved as this immune induced
	reduction in memory only becomes apparent after the bees are deprived of
	pollen (their only protein sources)".
	PMID: 16084688 [PubMed - indexed for MEDLINE]
•	Ref E
	Proc Biol Sci. 2003 Dec 7;270(1532):2471-3.

Immune response inhibits associative learning in insects. Mallon EB, Brockmann A, Schmid-Hempel P. Ecology and Evolution, ETH Zürich, ETH-Zentrum NW, CH-8092 Zürich, Switzerland. Here, we present behavioural evidence indicating a link between the immune system and the nervous system in insects. The cost of an immune response therefore not only affects survival of the host, as previously shown, but also everyday behaviour and memory formation. PMID: 14667337 [PubMed - indexed for MEDLINE] **Related Links** Insect psychoneuroimmunology: immune response reduces learning in protein starved bumblebees (Bombus terrestris). [Brain Behav Immun. 2006] PMID:16084688 Ref F Social learning of floral odors inside the honeybee hive. [Proc Biol Sci. 2005] PMID:16191598 Ref G Science and Development Network News Mexico confirms GM maize contamination Katie Mantell 19 April 2002 http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=145&lang uage=1 Quote: The Mexican government has confirmed earlier reports that transgenic maize is growing within the country's borders and has apparently contaminated wild varieties, despite a national ban on the cultivation of genetically modified (GM) crops. A government-commissioned study has shown that as many as 95 per cent of maize fields in the Mexican states of Oaxaca and Pueblo contain evidence of GM 'contamination'. Ref H http://en.wikipedia.org/wiki/Horizontal gene transfer Lateral gene transfer (LGT), is any process in which an organism transfers genetic material to another cell that is not its offspring. http://www.i-sis.org.uk/isisnews/i-sisnews5.php#hori Ref I . The only human clinical trial showed that transgenes from soy transfer into intestinal bacteria. Netherwood, et al (2 February 2004) Assessing the survival of transgenic plant DNA in the human gastrointestinal tract, Nature Biotechnology, Vol 22 Number. Ref J Nature, November 29 issue 2001, David Quist and Ignacio Chapela, University of California Quote: "showed that DNA from GM maize had been found in wild varieties" Lateral Gene Transfer. Ref K Proc Natl Acad Sci U S A. 2007 Oct 9;104(41):16204-8. Epub 2007 Oct 8. Toxins in transgenic crop byproducts may affect headwater stream ecosystems. Rosi-Marshall EJ, Tank JL, Royer TV, Whiles MR, Evans-White M, Chambers C, Griffiths NA, Pokelsek J, Stephen ML, Department of Biology, Loyola University Chicago, Chicago, IL 60626, USA. erosi@luc.edu We show that corn byproducts, such as pollen and detritus, enter headwater streams and are subject to storage, consumption, and transport to downstream

water bodies Laboratory feeding trials showed that consumption of Bt corn

	byproducts reduced growth and increased mortality of nontarget stream insects. Stream insects are important prey for aquatic and riparian predators, and widespread planting of Bt crops has unexpected ecosystem-scale consequences.
	PMID: 17923672 [PubMed - indexed for MEDLINE] Ref L
	http://www.hort.purdue.edu/rhodcv/hort410/genint/ge00001.htm Department of Horticulture and Landscape Architecture Purdue University, West Lafayette, IN USA
•	REF M Scientist who claimed GM crops could solve Third World hunger admits he got it
	wronghttp://www.dailymail.co.uk/pages/live/articles/technology/technology.html? in_article_id=503339∈_page_id=1965&ito=1490 18 December 2007
•	Ref O The Independent. Exposed: the great GM crops myth
•	Jeoffrey Lean 20/04/2008 Ref Q
	Mol Immunol. 2007 Feb;44(6):1209-17. Epub 2006 Aug 22. Analysis of the cellular immune response induced by Bacillus thuringiensis Cry1A
	toxins in mice: effect of the hydrophobic motif from diphtheria toxin. Guerrero GG, Russell WM, Moreno-Fierros L.
	Universidad Nacional de México. Insecticidal Cry1A toxins from Bacillus thuringiensis elicit strong humoral immune response in mice.
•	PMID: 16930715 [PubMed - indexed for MEDLINE] Ref R.
	http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=365683#id2782119 Proc Natl Acad Sci U S A. 2004 March 2; 101(9): 2696-2699. Published online 2004 February 20.
	Quote: We present evidence that tolerance to a Bt formulation in a laboratory colony of the flour moth /Ephestia kuehniella/ can be induced and that the tolerance correlates with an elevated immune response.
•	Ref S http://www.ehponline.org/members/1999/107p575-582bernstein/bernstein- full.html
	Environmental Health Perspectives Volume 107, Number 7, July 1999 Immune Responses in Farm Workers after Exposure to Bacillus Thuringiensis Pesticides
	Leonard Bernstein, Jonathan A. Bernstein, Maureen Miller, Sylva Tierzieva,1 David I. Bernstein, Division of Immunology, Department of Internal Medicine, University of Cincinnati, USA. Quote: Exposure to Bt sprays may lead to allergic
•	skin sensitization and induction of IgE and IgG antibodies Ref T http://en.wikipedia.org/wiki/Bacillus_thuringiensis
•	Ref U
	http://beelab.osu.edu/factsheets/sheets/varroa_mites.htm
	Dr. James E. Tew, Associate Professor of Entomology, Beekeeping Consultant quote: Colonies can die so fast from high Varroa infestations that thousands of dead bees will pile in front of the hive.
•	Ref V http://en.wikipedia.org/wiki/Colony Collapse Disorder
•	Ref W

•	http://cat.inist.fr/?aModele=afficheN&cpsidt=17736738 Ref X http://www.i-sis.org.uk/agrobacteriumAndMorgellons.ph Ref Y http://www.britannica.com/EBchecked/topic/1348211/colony-collapse-disorder
•	Ref Z Science 12 October 2007:Vol. 318. no. 5848, pp. 283 - 287 A Metagenomic Survey of Microbes in Honey Bee Colony Collapse Disorder Diana L. Cox-Foster Et Al Ref Z2
•	http://en.wikipedia.org/wiki/Bacillus_thuringiensis Ref Z3 Solving the Mystery of the Vanishing Bees Scientific American Magazine - March 31, 2009 Cox-Foster D. and vanEngelsdorp D. Ref Z4 Fall Dwindle Disease: A preliminary report December 15, 2006 Dennis vanEngelsdorp, Diana Cox Foster, Maryann Frazier, Nancy Ostiguy, Jerry Hayes,
	CCD Working Group, The Pennsylvania State University Return to Dan Winter Return to Genetically Engineered Foods Return to 'Who' or 'What' is Killing The Bees? Return to Monsanto - A Multinational Factory of Death

Here is another example of pesticides and the direct killing of our pollinators>> Please Do Not ignore what is obvious to do . Monitor & minimize use of these toxic chemicals.

Reported 1,500 Colonies of Honeybees Die in Campeche
By Jesse Herman On February 10, 2013 · Add Comment

According to The Yucatan Times

1,500 colonies of honeybees, from a community in Hopelchen, Campeche, died this February 6 from the fumigation of Monsanto's GMO's in a nearby area.

This has directly impacted more than 50 impoverished families, who recently suffered a poor corn crop due to drought. The community was relying on their sale of organic honey to compensate for the lack of maize. The current honey left by the bees is also lost due to the contamination of pesticides and transgenic pollen.

Alvaro Mena, a mayan farmer from Hopelchen and member of the Network in Defense of Maize, estimated losses at nearly 10 million pesos and is the equivalent of one year's worth of corn and honey production for the community.

Fumigation has intensified where GM crops have been planted in Mexico. GMO's are known to be resistant to pesticides and are planted in large monocultures, applying huge amounts of Roundup. It is no accident says Mena: it is the toxic onslaught that comes with GM crops and the threat of allowing millions of acres of GM Maize to be planted.

Mena attended the debate at which officials failed to attend and began with his witness of GMO's. Thousands showed up to participate in the debate on GM maize on Thursday, February 7, in a packed auditorium of the Faculty of Science, organized by several networks, including #YoSoy132 Environmental Via Campesina Popular Urban Movement, and the Network in Defense of Maize.

The officials were called to discuss the authorities of Agriculture, Environment and the Interministerial Commission on Biosafety and Genetically Modified Organisms (Cibiogem), but did not attend the meeting of social organizations and visiting scientists. The two secretariats claimed that they had no position on the issue. Currently, there are thousands of hectares of experimental and pilot fields in Mexico contaminating transgenic maize fields. Cibiogem, is reported to have had a busy schedule and could not attend.

Semarnat's response, sent the day of the debate, stated that the "reports that are pending will not go away because of a think tank debate." The debate was composed of academics from UNAM, CINVESTAV, Colpi, Conacyt UAAAN and was meant to determine a "public policy on GM corn."

Several opinions are not in favor of GMOs, and many scientific recommendations have been given to the recently elected Mexico Government from the first day they took office. They have received a solid flow of documents signed by researchers from the above mentioned institutions and others (over 3,000 scientists and experts, who have a high number of national and international awards) calling to cancel transgenic maize crops in centers of origin for the risks involved, and to establish "an immediate review of the environmental and social aspects that would be impacted by planting transgenic maize in Mexico, based on rigorous science and broad public participation (...) for the consideration of the best technological options to address food production in our country."

In favor of GMO's, Dr. Antonio Turrent, president of the Union of Scientists Committed to Society (www.uccs.mx) showed that transgenic maize is necessary to increase maize production in Mexico, and that the country has land conditions, water, seeds and diversity of public resources and technologies to meet all of Mexico's current and future needs without jeopardizing economic independence, diversity, health or the environment, as implied by the GM. Dr. Turrent who recently published a study detailing these options.

On the other hand, Peter Rosset, biologist and researcher, presented a list of papers published in refereed scientific journals, particularly a compilation of studies conducted in 2009 by scientists and loannis S. Dona Artemis Arvanitoyannis, indicating that GM crops are associated with toxic effects, hepatic, pancreatic, renal, reproductive and immune and blood disorders and cancer effects. He said the study by Dr. Séralini in France (2012), where it studied the Monsanto GM maize planted in 700,000 hectares in Mexico, caused cancer in rats. In this regard, Rosset said that since Mexico is a country that consumes more corn than any other country, and because of the risks that have been observed in several studies for years, recommended that Mexico does not expose the public to GM Maize. He said the risk is greater for children who will be most affected. He considers it urgent to apply the precautionary principle, and cancel the transgenic, for future generations.

At the debate, the convening organizations, including urban, rural and students expressed their critical views on GMOs from their perspectives. They manifested their intent to stop the planting of GM maize and will continue through all struggles and will do all that they can to not allow the government to impose, against the interests of the vast majority of the population, GM Maize for the benefit of Government and a few multinationals. They agreed to promote further discussions, forums and activities, and strengthen the links between the organizations to avoid GM foods and crops. Also they will promote the widest possible participation in the prehearings on Corn and Food Sovereignty of the Permanent Peoples Tribunal, which among other topics will hold a pre-hearing of scientific evidence on GM and failures and corruption of the biosecurity system in the country.

Alvaro Mena called to the public to support the growth of 2013 becoming the "Year of resistance to transgenic corn and native corn in defense of life and independence of the peoples of the Maize."

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 10:42 PM
То:	FINTestimony
Cc:	foodsovereigntynow@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Mitsuko Hayakawa	Individual	Support	No

Comments: Aloha Members of the Finance Committee, I strongly support an amendment to this bill to include mandatory disclosure of pesticides being used. The disclosure should be available to the public. Hawaii residents are being poisoned by pesticide drift and runoff with chemicals that are banned in other countries. There should be transparency and accountability regarding this issue. Please pass a strong bill that makes these companies responsible for their actions. Mahalo

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 7:55 PM
То:	FINTestimony
Cc:	jeannine@hawaii.rr.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Jeannine Johnson	Individual	Support	No

Comments: I support HB673 (the original bill, not the water-downed HD2 version) and reducing the negative impacts of pesticides on public health and the environment through an accurate and detailed collection of pesticide use data that will allow for adequate and scientific assessments of potential health problems related to pesticide exposure. In 1981, got married and became pregnant with my oldest son who was born in April of 1982. I lived in fear until his birth because Del Monte's spraying of the highly toxic pesticide heptachlor on its pineapple fields and feeding the pineapple tops to dairy cows contaminated Hawai'i's milk supply at that time. Can you imagine being told to "drink more milk" for your unborn baby and then worrying that the milk that you drank was poisoning him? Heptachlor is a carcinogen and the effects of this contamination were wide-spread. I had breast cancer in 2005 and, to this day, I still fear that my son will come down with cancer related to the milk that I drank when he was a fetus. One of the biggest users of pesticides, corporate conglomerate Monsanto, is also one of the highest bidders for farmland in Hawai'i, with statewide acreage increasing at an average rate of over 300 acres per year. In the U.S., the genetically engineered crops like those grown on Monsanto's farmlands increased overall pesticide use by 318.4 million pounds over their first 13 years on the marketplace (1996-2008) according to a study derived from U.S. Dept. of Agriculture data. Increased concentration of chemicals in air, water, and soil in the communities surrounding GE fields is a legitimate public health concern. Pesticides persist in soil, may leach into groundwater, and is very irritating to eyes. Chronic exposure has been linked to developmental disorders and autoimmune deficiencies. Please don't sentence our families to live in fear that their children are being poisoned by Monsanto just so they can make money. We deserve to live in a healthy environment and environmental justice demands that you pass HB673, the original version. Mahalo!

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 9:32 PM
То:	FINTestimony
Cc:	kristikea@yahoo.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Kristi Kapahua	Individual	Support	No

Comments: I support this bill. Please pass STRONG MANDITORY PUBLIC DISCLOSURE AMENDMENTS!! It is only fair to the public for our safety to know what chemicals are being sprayed, when and how much. There should be an annual maximum established and regulated, and the there should be a huge penalty for those who exceed the annual amount. There is not enough regulation here in Hawai'i and people are getting sick, animals are dying! Enough already! It is not fair that large agrochemical companies can come here, destroy our land, water and people by overspraying multiple chemicals daily, hide their deeds from the public and continue with no accountability. Mahalo.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 9:21 PM
То:	FINTestimony
Cc:	ned.dana@rare-dear.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Edmund Dana	Individual	Support	No

Comments: Please pass HB673 with strong mandatory public disclosure agreements. It is vital that the public know what pesticides are being used, where, and in what quantities. Usage should be marked by clearly readable signage in areas where the public is might be exposed, and reports should be filed, probably annually which disclose this information for the previous period and the intent and plans for the next period. Mahalo! Edmund Dana

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 7:20 PM
То:	FINTestimony
Cc:	mauirachael@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Rachael Chisom	Individual	Support	No

Comments: SUPPORT HB 673!! NO TO MONSANTO!!! EVICT MONSANTO!!!! SAVE HAWAII!!

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 8:53 PM
То:	FINTestimony
Cc:	azecho@hotmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
HEATHER WILLIAMS	Individual	Support	No

Comments: I am very concerned about the safety of my health and the heath of my child and all the people on Moloka'i as well as the exported food produced and experimentally tested crops on Moloka'i and all the islands. Every day I breath in the red dust from the fields of Monstanto and Mycogen. The dust from their fields surrounds organic fields and other farms. It seeps into our ground water and into our ocean. We must know what is in the soil in which we are dependent to live for generations to come.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 5:44 PM
То:	FINTestimony
Cc:	berniestrand_llc@msn.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Bernie Strand	Individual	Support	No

Comments: Aloha, I support this measure to require public information to be made available to citizens of Hawaii regarding use of pesticides. I have lots of allergies and health concerns that require me to be very aware of the chemicals to which I am exposed. Please help me get the information I need to guard my health by requiring disclosure to the public regarding use of pesticides. Mahalo.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 1:15 PM
То:	FINTestimony
Cc:	lotusfarm@hawaiian.net
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Lisa breen	Individual	Support	No

Comments: support MANDITORY PUBLIC DISCLOSURE amendments HB673 (Pesticides). request STRONG MANDITORY PUBLIC DISCLOSURE AMENDMENT

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Michelle Blake

To: House Committee on Finance

Re: Bill HB673 HD 2 (Pesticides): Testimony in strong support with amendments for MANDATORY PUBLIC DISCLOSURE

I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements.

There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption.

Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Pesticide Registry Factoids

Some form of pesticide registry, or laws that track pesticide use have existed for many years in states like California, Colorado, Florida, Louisiana, Maryland, Michigan, New York, Pennsylvania, West Virginia, and Wisconsin

Because of the U.S. Workers Protection Act, growers and commercial pesticide users already maintain a log of pesticide products and use rates on ag sites, and this information is shared with field workers and applicators.

Proper pesticide records are required to continually fine-tune pest control programs on the farm. Because this information is already kept and recorded, it should not be too difficult for farmers to share this information with the DOA.

In California, growers have successfully maintained and provided so-called 'pesticide use reports" for many years, as part of the state's pesticide registry program.

Considering the long-track and successful record of pesticide reporting by farmers and pesticide applicators in California, it should be perfectly possible for Hawaii growers to maintain and provide these type of records to the DOA.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 12:19 PM
То:	FINTestimony
Cc:	rob@browerhomes.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Robert Brower	Individual	Support	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements. There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption. Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 10:42 AM
То:	FINTestimony
Cc:	molokaimatt@hotmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Matt Yamashita	Individual	Support	No

Comments: It is a known fact that Hawaii is a test site for agrichemical companies like Monsanto, Syngenta, Dow, etc. There are numerous, potentially dangerous chemical products being sprayed on crops at levels that the public is unaware of. For areas where homes are next to fields, home owners should have a right to know what types and in what quantities of chemicals are being used. We also need to have a record of the use of these chemicals in the event that either health or environmental damages occur in or around these crops.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 11:47 AM
То:	FINTestimony
Cc:	chuck@chucklasker.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Charles Lasker	Individual	Support	No

Comments: We have the right to know what is in the air and ground where we live. I ask for you to vote for more information for the public instead of secrecy and darkness. Mahalo.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 11:04 AM
То:	FINTestimony
Cc:	rippeddisc@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Aaron Feinberg	Individual	Support	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements. There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption. Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 10:04 AM
То:	FINTestimony
Cc:	italkitchen808@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Trisha Gonsalves	Individual	Support	No

Comments: To: House Committee on Finance Re: Bill HB673 HD 2 (Pesticides): Testimony in strong support with amendments for MANDATORY PUBLIC DISCLOSURE AMENDED NOTICE OF HEARING DATE: Thursday, February 21, 2013 TIME: 4:00 P.M. PLACE: Conference Room 308 State Capitol 415 South Beretania Street Aloha- I strongly support this bill and urge to also. I am a concerned mother who is outraged by the large amounts of toxic pesticides being dumped daily onto our island. I think full disclosure needs to be mandated for companies using pesticides. We want to know which type, how much, and when will they be spraying. Communities are getting sick and there is no regulation or protection, and it is time. No one is immune to the toxic effects-This involves all of our island communities. The companies using these pesticides need to be responsible for paying for the disclosure reports. Please amend this bill to reflect a starting date beginning this year 2013. The use of pesticides is increasing, and so is the rise in illnesses- there needs to be accountability and regulations. Please help us in making this possible. I urge you to please support this bill.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 7:09 AM
То:	FINTestimony
Cc:	davidsher@juno.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Sherry Pollack	Individual	Support	No

Comments: Aloha I would like to voice my strong support for a Hawaii pesticide registry as described in HB673 HD2 (this bill is listed on the February 21 agenda for the Committee on Finance at 4PM). HB 673 HD2 is very important to pass so that we might willfully track the effects of pesticides in Hawaii. HB 673 will help to establish a baseline understanding of how much and what types of pesticides are being used in our state. Of particular concern, and one of many reasons why this pesticide registry is so important, is the effect pesticides are having on our bees. Beekeepers worldwide are concerned about the myriad of pesticides being used in so many places. Hawaii is the world's leading exporter of Queen bees, and the bees are unable to find their way back to the hives upon pesticide exposure, resulting in bee Colony Collapse Disorder. Without bees we have no food. It's that simple. We must do something to become better stewards of the land and ensure our children's future. We are counting on you to be our champions and pass this bill. Please do the right thing. Sherry Pollack

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 9:19 AM
То:	FINTestimony
Cc:	jbeansprout@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Jennifer Odegard	Individual	Support	No

Comments: I am writing to request that you please support this bill. We are living on a few small islands, and it is only fair to all of us that we have easy access to information regarding chemicals that are being used in the vicinity of our homes and gardens - not to mention the commercial agricultural fields that we buy our food from. Please support this bill, and please ensure for the public good that this bill includes strong mandatory public disclosure amendments. Mahalo

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 9:38 AM
То:	FINTestimony
Cc:	susan.stayton@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Susan Stayton	Individual	Support	No

Comments: I support the passage of HB673 with STRONG MANDATORY PUBLIC DISCLOSURE AMENDMENTS added!! I respectfully demand mandatory public disclosure as to (1) what pesticides are being used, (2) what quantities are being used and (3) where they are being used. (4) There should be an annual public disclosure report required as well as (5) publicly posted signage in areas where the public might be exposed to drift; i.e.: along highways and near schools, hospitals and residential areas. Thank you.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 8:29 AM
То:	FINTestimony
Cc:	makana@kevcom.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Matthew Swalinkavich	Individual	Support	No

Comments: With amendments

Please note that testimony submitted less than 24 hours prior to the hearing _, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 4:19 AM
То:	FINTestimony
Cc:	akamaimom@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Felicia Cowden	Individual	Support	No

Comments: At a minimum, people have a right to know when toxic chemicals are being applied to the land and environment around them, especially when this is at a commercial level. Please require disclosure of the application of agricultural chemicals.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Sandra Herndon

I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

Corporations touting the safety of their products should bear the cost and responsibility of this disclosure. Stiff penalties for failing to disclose and the filing of false disclosure statements are required.

A maximum threshold of annual pesticide use should be determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption.

We need you to take affirmative action now on behalf of the public. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties to ensure compliance.

To: House Committee on Finance

Re: Bill HB673 HD 2 (Pesticides): Testimony in strong support with amendments for MANDATORY PUBLIC DISCLOSURE

I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements.

There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption.

Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Pesticide Registry Factoids

Some form of pesticide registry, or laws that track pesticide use have existed for many years in states like California, Colorado, Florida, Louisiana, Maryland, Michigan, New York, Pennsylvania, West Virginia, and Wisconsin

Because of the U.S. Workers Protection Act, growers and commercial pesticide users already maintain a log of pesticide products and use rates on ag sites, and this information is shared with field workers and applicators.

Proper pesticide records are required to continually fine-tune pest control programs on the farm. Because this information is already kept and recorded, it should not be too difficult for farmers to share this information with the DOA.

In California, growers have successfully maintained and provided so-called 'pesticide use reports" for many years, as part of the state's pesticide registry program.

Considering the long-track and successful record of pesticide reporting by farmers and pesticide applicators in California, it should be perfectly possible for Hawaii growers to maintain and provide these type of records to the DOA.

Mahalo,

Carolyn Ornellas

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 10:18 PM
То:	FINTestimony
Cc:	maceyj001@hawaii.rr.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
James Macey	Individual	Support	No

Comments: To: House Committee on Finance Re: Bill HB673 HD 2 (Pesticides): Testimony in strong support with amendments for MANDATORY PUBLIC DISCLOSURE I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements. There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption. Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 11:53 AM
To:	FINTestimony
Cc:	Fletch_surfer@yahoo.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Fletcher Parker	Individual	Comments Only	No

Comments: I am from the island of Kauai! I have been active in the ocean as long as I can remember. Free diving and surfing are my main ocean activity's. From the time I was a kid till now I have seen a drastic change in the reef and all the creatures that rely on the reef to support them! The areas worst effected have been very close to a fresh water runoff. This directly affects my family's way of life! The affects range from not being able to find the fish and other sea creatures that have been a large portion of the food I have grown up on. To not being able to enjoy seeing all the corals that I would see as a child! So coming from a Kauai local, the use of poison and pest asides on our land needs to be stopped before we loose all the natural resources! We are coming together and the Hawaiian people will be herd!

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 5:55 PM
То:	FINTestimony
Cc:	mkelley323@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Mary Lu Kelley	Individual	Support	No

Comments: I support the passage of HB673 with STRONG MANDITORY PUBLIC DISCLOSURE AMENDMENTS added!! I respectfully demand mandatory public disclosure as (1) to what pesticides are being used, (2) what quantities are being used and (3) where they are being used. (4) There should be an annual public disclosure report required as well as (5) publically posted signage in areas where the public might be exposed to drift; i.e.: along highways and near schools, hospitals and residential areas. Thank you.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Michelle Blake

To: House Committee on Finance

Re: Bill HB673 HD 2 (Pesticides): Testimony in strong support with amendments for MANDATORY PUBLIC DISCLOSURE

I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements.

There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption.

Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Pesticide Registry Factoids

Some form of pesticide registry, or laws that track pesticide use have existed for many years in states like California, Colorado, Florida, Louisiana, Maryland, Michigan, New York, Pennsylvania, West Virginia, and Wisconsin

Because of the U.S. Workers Protection Act, growers and commercial pesticide users already maintain a log of pesticide products and use rates on ag sites, and this information is shared with field workers and applicators.

Proper pesticide records are required to continually fine-tune pest control programs on the farm. Because this information is already kept and recorded, it should not be too difficult for farmers to share this information with the DOA.

In California, growers have successfully maintained and provided so-called 'pesticide use reports" for many years, as part of the state's pesticide registry program.

Considering the long-track and successful record of pesticide reporting by farmers and pesticide applicators in California, it should be perfectly possible for Hawaii growers to maintain and provide these type of records to the DOA.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 11:11 AM
То:	FINTestimony
Cc:	kamaaina@pilipono.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Don Najita	Individual	Support	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what specific pesticides are being used, what quantities are being used, and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public may be exposed to pesticide drift (along highways and near schools, hospitals and residential areas etc). The cost and responsibility of this disclosure should be covered by the companies using the pesticide agents. There should be very stiff penalties for failing to disclose and the filing of false disclosure statements. Further, there should be a maximum threshold of annual pesticide use set, and any operations exceeding that threshold must comply with the disclosure requirement. This would ensure that the focus will be on those operations using significant and large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption. Full disclosure will benefit everyone and will help to keep our 'aina and our water clean for the future.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 10:41 AM
То:	FINTestimony
Cc:	watsonblake8@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Blake Watson	Individual	Comments Only	No

Comments: Aloha Finance Committee, I would like to show my support for this measure by submitting an experience my son had with pesticides while attending school. In 2003, my son was attending Mt. View School on the Big Island. During midday class the windows of the classroom are kept open for ventilation. There was a flower farm next door, that was a regular user of pesticides as it turns out. One of the regular sprayings of chemicals blew right into the classrooms in even higher than normal concentrations, due to wind. The result was that more than 40 kids were sent home for a few days...most complained of lightheadedness, headache and nausea. 2 passed out momentarily. My son was not his usual self at all; his cognitive abilities where greatly slowed. Luckily that proved to be temporary. The school took action, and the farm stopped spraying the chemicals. The public needs to know what is being spraved and where. This is a public health measure, so please do the minimumthis is not a call for a ban- but just a baseline to let the public know just what is going on with our air/poison ratio, and where it is happening. Who's interest is served by not letting the public know? The extent of open field experiments in Hawaii of "2,4D resistant crops" crops is cause for concern. These experimental varieties are not even approved by the FDA, and use copious amounts of 2,4D (half of the active ingredient of Agent Orange)-because the plant is being designed to not die when they are soaked with this chemical-just the way the Roundup Ready Crop was designed. Therefore they are soaking farm fields in Hawaii with highly toxic deregulated chemicals. There should be no controversy about at least informing the public as to what types of chemical agriculture activities are going on, and where. Thank you ever so much, Blake Watson Volcano, HI

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 10:41 AM
То:	FINTestimony
Cc:	watsonblake8@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Blake Watson	Individual	Comments Only	No

Comments: Aloha Finance Committee, I would like to show my support for this measure by submitting an experience my son had with pesticides while attending school. In 2003, my son was attending Mt. View School on the Big Island. During midday class the windows of the classroom are kept open for ventilation. There was a flower farm next door, that was a regular user of pesticides as it turns out. One of the regular sprayings of chemicals blew right into the classrooms in even higher than normal concentrations, due to wind. The result was that more than 40 kids were sent home for a few days...most complained of lightheadedness, headache and nausea. 2 passed out momentarily. My son was not his usual self at all; his cognitive abilities where greatly slowed. Luckily that proved to be temporary. The school took action, and the farm stopped spraying the chemicals. The public needs to know what is being spraved and where. This is a public health measure, so please do the minimumthis is not a call for a ban- but just a baseline to let the public know just what is going on with our air/poison ratio, and where it is happening. Who's interest is served by not letting the public know? The extent of open field experiments in Hawaii of "2,4D resistant crops" crops is cause for concern. These experimental varieties are not even approved by the FDA, and use copious amounts of 2,4D (half of the active ingredient of Agent Orange)-because the plant is being designed to not die when they are soaked with this chemical-just the way the Roundup Ready Crop was designed. Therefore they are soaking farm fields in Hawaii with highly toxic deregulated chemicals. There should be no controversy about at least informing the public as to what types of chemical agriculture activities are going on, and where. Thank you ever so much, Blake Watson Volcano, HI

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 9:51 AM
То:	FINTestimony
Cc:	juliankauai@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Julian Miller	Individual	Support	No

Comments: We need real reporting by those who are spraying all kinds of known and unknown pesticides. We have a right to know what others are spraying and how much especially if the trades are constantly blowing pesticides in our direction. Reports will help researchers to correlate health issues for plants, animals and humans. If those spraying unknown pesticides are in hazmat suits then its criminal not to report to the public. Also these sprays may be building up in the soil (non-biodegradable) which the next owners of that land and land nearby should be able to find out about. This bill will give pesticide reporting some teeth and that is needed. If Monsanto/Dow/Syngenta and others can 'donate' large sums of money to politicians then they have the money to put up a paper and send in a report on what they are spraying on the general public.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 9:51 AM
То:	FINTestimony
Cc:	juliankauai@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Julian Miller	Individual	Support	No

Comments: We need real reporting by those who are spraying all kinds of known and unknown pesticides. We have a right to know what others are spraying and how much especially if the trades are constantly blowing pesticides in our direction. Reports will help researchers to correlate health issues for plants, animals and humans. If those spraying unknown pesticides are in hazmat suits then its criminal not to report to the public. Also these sprays may be building up in the soil (non-biodegradable) which the next owners of that land and land nearby should be able to find out about. This bill will give pesticide reporting some teeth and that is needed. If Monsanto/Dow/Syngenta and others can 'donate' large sums of money to politicians then they have the money to put up a paper and send in a report on what they are spraying on the general public.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 9:39 AM
То:	FINTestimony
Cc:	sylpartridge@yahoo.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Sylvia Partridge	Individual	Support	No

Comments: Strong mandatory public disclosure amendments as to what pesticides are being used (when and where and in what quantity) are urgently needed to make this a bill which supports the health of the community. Companies should be responsible for their own disclusure compliance and there should be tough penalties for those who fail to disclose or give the wrong information.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.
From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 9:35 AM
То:	FINTestimony
Cc:	michaelbroady@gmail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Michael Broady Jr.	Individual	Support	Yes

Comments: Aloha, my name is Michael Broady Jr., I am a life long resident of O'ahu, a student at Leeward Community College, and a small organic farmer practicing biodiverse permaculture on limited land. I support the disclosure of pesticude usage, so that local residents may be informed of what chemicals are being used near their homes and schools. I also strongly urge you to amend this bill to reinstate public disclosure regarding where, how much, and what type of chemicals are being applied. In Waimea / Kekaha on Kaua'i, the company DuPont Pioneer is facing a lawsuit for the impacts of pesticide drift on the health of local residents. This same company, DuPont Pioneer, is registered as the owner of 3,257 acres of land surrounding my grandparents in Waialua on O'ahu (according to Dept. of Planning and Permitting's Honolulu Land Information System). If they can disregard human health on Kaua'i, why would they care any more for my grandma and grandpa? Please protect my ohana by requiring the disclosure of pesticides used. I need to know what chemicals DuPont Pioneer is spraying, so that I can test to be sure my grandparents aren't breathing them.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 7:56 AM
То:	FINTestimony
Cc:	sungods79@yahoo.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Sol Kahn	Individual	Support	No

Comments: I firmly believe that there is over-use of pesticides here on Kauai and throughout the state. It is being abused and is causing almost irreversible damage to our precious resources. Its seeping into our drinking water, killing our soils, killing our reefs, killing the sea urchins, making sea turtles sick, making PEOPLE, CHILDREN SICK! This is not acceptable and the large amounts of "POISON" many companies are spraying MUST be monitored. This is POISON they are spraying and it is dangerous and needs to be taken seriously. Just because a crop of corn looks nice or a golf course is glowing green doesn't mean its right and healthy. What about the ocean and the poison that goes onto the reefs from the run-off of these applications when it rains??? What about the school children that breath in the chemicals when they are sprayed into the air and its a windy day? Do you want your kid breathing in DEADLY chemicals? Reports must be filed as to which chemicals, how much, where, when, how its being applied, and mostly experimental chemicals need to be known. All this information should be made to the public. This is just insanity thats going on with the amounts of poison that were putting into our soil, air, and ocean. Please wake up and realize that these issues are are serious importance and that these pesticides, insecticides, and herbicides must be monitored and not allowed to be applied in amounts that could and do harm the fragile ego-system where we live and most of all its people and children. I strongly feel we need to take a better look at how we are regulating pesticide use and how we can better regulate it and diminish it. Thank you. Kauai Resident Born and Raised, Concerned Father, Sol Kahn

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 5:40 AM
То:	FINTestimony
Cc:	leslielarsen@earthlink.net
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Leslie Larsen	Individual	Support	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements. There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption. Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance. Support HB673!

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	Crystal Thornburg-Homcy [cravegreens@gmail.com]
Sent:	Wednesday, February 20, 2013 7:43 AM
To:	FINTestimony
Subject:	support of HB673

To: House Committee on Finance

Re: Bill HB673 HD 2 (Pesticides): T estimony in strong support with amendments for MANDATORY PUBLIC DISCLOSURE

I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements.

There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption.

Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. The DOA will tell you they don't have the staff and resources to implement a new law. The people on Kauai and around the State will tell you, enough already. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties in ensure compliance.

Pesticide Registry Factoids

- Some form of pesticide registry, or laws that track pesticide use have existed for many years in states like California, Colorado, Florida, Louisiana, Maryland, Michigan, New York, Pennsylvania, West Virginia, and Wisconsin
- Because of the U.S. Workers Protection Act, growers and commercial pesticide users already maintain a log of pesticide products and use rates on ag sites, and this information is shared with field workers and applicators.
- Proper pesticide records are required to continually fine-tune pest control programs on the farm. Because this information is already kept and recorded, it should not be too difficult for farmers to share this information with the DOA.
- In California, growers have successfully maintained and provided so-called 'pesticide use reports" for many years, as part of the state's pesticide registry program.
- Considering the long-track and successful record of pesticide reporting by farmers and pesticide applicators in California, it should be perfectly possible for Hawaii growers to maintain and provide these type of records to the DOA.

Lethal Links

by Joan Conrow | Mar 14, 2012 Share on linkedin Share on facebook Share on twitter Share on email More Sharing Services 7 Two Oahu attorneys are taking a new approach to challenging pesticide abuse. On Feb. 29, Kyle Smith and Gerard Jervis filed a class action suit in First Circuit Court against Mid-Pacific Country Club (MPCC) on behalf of Kailua residents living adjacent to the golf course. The complaint asks for a halt to pesticide use while potential risks are investigated. It also demands notification of residents before pesticides are applied and monetary damages for impacts to their homes.

The two men filed a similar complaint last December on behalf of 150 people living near Pioneer Hi-Bred International's genetically modified seed corn fields at Waimea, Kauai. Both lawsuits contend that residents-and their homes-have been harmed by pesticides and pesticide-laden dust.

"Once you spray pesticides, they don't stay put, especially in windy areas like Kailua and Waimea," Smith said. "We think people have a right to know what they're being dosed with, especially those living by golf courses, as they use many more pounds of pesticides per acre than farmers," he added.

"These are cutting-edge lawsuits" because they're addressing the question of pesticide use in terms of how it affects people's property and quality of life, Smith explained.

Initially, in a Jan. 19, 2012, letter to the MPCC board of directors, the attorneys proposed mediation "to identify impacted homes, provide warnings to the community, and design a substantive plan to move MPCC away from unnecessary pesticide applications." When the board did not respond, the attorneys proceeded with the lawsuit.

In a previous legal action, MPCC admitted using 2,4-D, Dursban and 27 other types of pesticides on its links, but said it used the products according to label instructions, which require no warnings. MPCC attorneys had no comment.

Thank you for your time.

Mahalo, Crystal

Crystal Thornburg-Homcy P.O. Box 606 Haleiwa, Hi. 96712 USA www.beyondthesurfacefilm.com

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 10:49 PM
То:	FINTestimony
Cc:	snsmith808@yahoo.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Stephanie smith	Individual	Support	No

Comments: Pesticide is poison. We should know what poisons we are being bombarded with everyday. We are not guinea pigs, my families health is my first concern

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 6:56 PM
То:	FINTestimony
Cc:	Bmurphy420@mail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Brian Murphy	Individual	Support	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 6:56 PM
То:	FINTestimony
Cc:	Bmurphy420@mail.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Brian Murphy	Individual	Support	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 6:42 PM
То:	FINTestimony
Cc:	earlewave@hawaiiantel.net
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

<u>HB673</u>

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
danitza galvan	Individual	Support	No

Comments: Please give this measure STRONG MANDATORY PUBLIC DISCLOSURE AMENDMENTS.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

TESTIMONY RE: HB673

With our roads, parks and schools being sprayed with toxic pesticides (often unknown until I have to rush my asthmatic child to the ER), I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals, parks. residential areas, etc).

The cost and responsibility of this disclosure should be covered by the companies. There should be stiff penalties for failing to disclose and the filing of false disclosure statements.

There should be a maximum threshold of annual pesticide use determined and operations that exceed that threshold must comply with the disclosure requirement. This ensures the focus will be on those operations using large amounts of pesticides and not burden small farms who use modest amounts, do not use experimental chemicals and who actually grow food for local consumption.

Please, pass into law this year something that is meaningful. The industry will tell you more time is needed to study the issue. Governmental agencies will tell you the signs get stolen, they don't have the staff and resources to implement a new law, or some other lame excuse when the health of the people of Hawaii and our fragile ecosystem are at stake. This legislature has been talking about the pesticide issue for years now. People are getting sick. Pass a strong disclosure law today that makes the companies responsible for their own disclosure and build in penalties to ensure compliance.

Thank you, Diane Koerner 14-5027 Kapoho Beach Rd. Pahoa, HI 96778

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 6:26 PM
То:	FINTestimony
Cc:	una@hawaii.rr.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Una Greenaway	Individual	Support	No

Comments: Chairperson Luke, and Vice Chair Nishimoto: Please pass this bill. I am a 35 year resident of Hawaii, and for too long I have heard the stories of accidental poisonings of citizens. We deserve to know when restricted pesticides are being used. The school children on Kauai and all the others. Please do this for the healt of our people. Mahalo Una Greenaway

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 6:14 PM
То:	FINTestimony
Cc:	ellie.snyder@rare-dear.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Eleanor Snyder	Individual	Support	No

Comments: I fervently support this bill for Mandatory Public Disclosure of pesticides being used in any form on any lands in our state. It is wrong for the users to be allowed to poison us.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 4:03 PM
To:	FINTestimony
Cc:	juliahorn1@yahoo.com
Subject:	*Submitted testimony for HB673 on Feb 21, 2013 16:00PM*

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Julia Horn	Individual	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing _, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, February 19, 2013 5:30 PM
То:	FINTestimony
Cc:	Robert@bamboomoonvideo.com
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM

HB673

Submitted on: 2/19/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Dr Robert Zelkovsky	Individual	Support	No

Comments: I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publically posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc).

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Wednesday, February 20, 2013 4:15 PM
То:	FINTestimony
Cc:	palidogs@hawaiiantel.net
Subject:	*Submitted testimony for HB673 on Feb 21, 2013 16:00PM*

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Caki Kennedy	Individual	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing _, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From: Sent: To: Subject: Cherub Silverstein [cherubbliss@hotmail.com] Wednesday, February 20, 2013 4:14 PM FINTestimony In support of HB673

I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The use of pesticides across the state is leading to high rates of numerous illnesses, degrading the health of our soil and making food security a difficult goal to reach. If organic farmers need to disclose their use of organic fertilizers than 'conventional' farmers should be held to the same standards and disclose their use of pesticides. Please think about where your food comes from next time you bite into that tasty fruit or veggie and think about the pesticide use that you could potentially be ingesting, this is for the publics good. I humbly ask you as a public official to make the right choice for the community of Hawaii. Mahalo nui, Cherub Silverstein

From: Sent: To: Subject: Cherub Silverstein [cherubbliss@hotmail.com] Wednesday, February 20, 2013 4:14 PM FINTestimony In support of HB673

I support the passage of HB673 and strongly urge this committee to amend this measure to require mandatory public disclosure as to what pesticides are being used, what quantities are being used and where they are being used. There should be an annual public disclosure report required as well as publicly posted signage in areas where the public might be exposed to drift (along highways and near schools, hospitals and residential areas etc). The use of pesticides across the state is leading to high rates of numerous illnesses, degrading the health of our soil and making food security a difficult goal to reach. If organic farmers need to disclose their use of organic fertilizers than 'conventional' farmers should be held to the same standards and disclose their use of pesticides. Please think about where your food comes from next time you bite into that tasty fruit or veggie and think about the pesticide use that you could potentially be ingesting, this is for the publics good. I humbly ask you as a public official to make the right choice for the community of Hawaii. Mahalo nui, Cherub Silverstein

From:	mailinglist@capitol.hawaii.gov		
Sent:	Wednesday, February 20, 2013 3:49 PM		
To:	FINTestimony		
Cc:	joshuanipp@gmail.com		
Subject:	Submitted testimony for HB673 on Feb 21, 2013 16:00PM		

<u>HB673</u>

Submitted on: 2/20/2013 Testimony for FIN on Feb 21, 2013 16:00PM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
joshua nipp	Individual	Support	No

Comments: Aloha, I am a resident of kauai. I believe that we should always be honest. Why hide the chemicals we are using on hawaii lands. People should be informed about what environmentally is going on around them. People, not only corporations should be able to have input and access to what is being sprayed around them. Corporations should not be afraid to list and acknowledge exactly what chemicals they are applying to our aina, and further along our rivers and ocean. Aloha, joshua nipp.

Please note that testimony submitted less than 24 hours prior to the hearing , improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.