Glenda Wiles

From:	bjhoy@localnet.com
Sent:	Tuesday, January 16, 2018 1:51 PM
To:	Ravalli County Commissioners Office
Cc:	bjhoy@localnet.com
Subject:	Glyphosate and chlorothalonil implicated again
Attachments:	Honey Bees Attracted to Glyphosate and a Common Fungicide.docx

Dear Ravalli County Commissioners and Ravalli County Board of Health,

The two pesticides (umbrella term) that I have long implicated in causing the high prevalences of new types of birth defects on newborns (human, wildlife and domestic animals) since 1995, have recently also been shown to be in part the cause of the decline of pollinators, including our very important honey bees and wild bees (see attachment).

Also, did you see the Bitterroot Star article about my new book "Changing Faces: The Consequences of Exposure to Gene and Thyroid Disrupting Toxins" which give numerous reasons for implicating glyphosate, the main ingredient in Roundup, and the fungicide, chlorothalonil, which work synergistically to cause extensive cellular damage to almost all living thing? (If not, you can read the article below on this email.) When the insecticides, neonicotinoids of various names, are added to the bees' exposure, the synergy is even more deadly. Honey bees become addicted to neonics (like humans become addicted to nicotine) so they seek pollen that contains neonics and bees exposed to both neonics and chlorothalonil simultaneously die 1000 time faster than to neonic exposure alone. The loss of pollinators is having serious affects on growing crops, gardens and fruit and affecting the availability of food for wildlife that need wild fruit to survive here in Ravalli County.

This is the link to Amazon where my book is sold and where there is an excellent review by a man I don't know. The book is available on Kindle also, but without the very enlightening photos.

<https://www.amazon.com/dp/1979134804/ref=sr_1_5?ie=UTF8&qid=1511191037&sr=8-5&keywords=changing+faces+book>

If after looking at what it says about the book and the review, if you would like your own book to read, email me at <bjhoy@localnet.com> and I will bring you a copy free of charge. You too, Glenda.
I gave a copy to the WIC ladies. The Public Health Nursing people emphatically refused a free copy, which I thought was odd.

These serious toxins are adversely affecting nearly all life, including native plants, in Ravalli County, all of Montana, the United State and the entire planet. We have to begin addressing this serious health issue somewhere and soon. Why not here and now?

Sincerely,
Judy Hoy

BITTERROOT STAR ARTICLE ABOUT CHANGING FACES PUBLISHED IN THE 12-20-2017 ISSUE.

The link takes you directly to the online article.

Local author?s book draws attention to serious dangers of pesticide use.

<http://www.bitterrootstar.com/2017/12/20/local-authors-book-draws-attention-to-serious-dangers-of-pesticide-use/>

Posted on December 20, 2017

A book written by naturalist, wildlife biologist and rehabilitator Judy Hoy of Stevensville released this week titled "Changing Faces"
chronicles in detail more than 20 years of work to document birth defects in wild animals as well as humans in the face of increasing pesticide use in the local area and elsewhere in the United States and calls for action to deal with the problem "before it is too late."

With her new book, Hoy says she wants to bring attention to the high prevalence of multiple, often inhumane birth defects in animal young, including humans, and serious damage being done to native plants. "Many of the conditions which began in 1994-95 have continued to be extremely high in prevalence," Hoy said. "Hopefully, with everyone's help, newborns in the future, including human babies, can be saved from being born with the now common developmental malformations and predisposition to adverse health symptoms often causing cancer and/or mortality."

A haiku written by Hoy adorns the back cover of the book. It states, succinctly the theme of her book: "High Rates of Defects/In Newborns is Another/Inconvenient Truth."

Issued through Amazon Press and distributed locally by Stoneydale Press of Stevensville, her book is titled "Changing Faces" with the title coming from her observation of many facial malformations in a variety of wildlife species over the years. A picture of a young elk with facial malformation adorns the cover of the book. The book's subtitle is "The Consequences of Exposure to Gene and Thyroid Disrupting Toxins." Issued in 6×9-inch softcover format, the book contains 314 pages of discussion of the issues involved.

In addition to her 20 years of hands-on research and data collection on the subject, Hoy has co-authored four published studies on these issues and sees her book as a vehicle to take what she considers a serious issue to a broader public. With the help of her husband, Bob, a retired Montana Department of Fish, Wildlife and Parks biologist and game warden, she began documenting and reporting new birth defects and other adverse health issues on mammals, birds and amphibians many years ago.

"The changes in faces due to underdeveloped facial bones is the most common of the birth defects on multiple vertebrate species, prompting the book's title," Hoy said. "Changing Faces chronicles over 20 years of observations regarding the changes in the faces, as well as serious changes in the vital organs on examined individuals. Included in the book is a discussion on how animals, plants, and the entire biodiversity of the planet are being adversely affected by a combination of factors, particularly the recent massive increase in the use of certain pesticides, fungicides and insecticides. What we can do to mitigate these devastating changes is addressed in the sincere hope that positive action will be taken before it is too late."

Changing Faces: The Consequences of Exposure to Gene and Thyroid Disrupting Toxins retails for $12.00 and will distributed locally by Stoneydale Press, 523 Main Street, Stevensville, Montana 59870 ? phone
406-777-2729 or via its website at www.stoneydale.com.

The book is also available on-line through Amazon Books and Hoy noted that all profits from Amazon online sales of Changing Faces will go to help pay for food and medical expenses for injured and orphaned wildlife in western Montana. She said that when someone orders the book from Amazon, all profits over printing and mailing costs will go into the Bitterroot Audubon Wildlife Rehabilitation Fund at the Rocky Mountain Bank in Stevensville.

Honey Bees Attracted to Glyphosate and a Common Fungicide

(*Beyond Pesticides*, January 12, 2018) Honey bees display a concerning attraction to the herbicide glyphosate and the fungicide chlorothalonil at certain concentrations, **new research** from scientists at the University of Illinois (UIL) reveals. Results are reminiscent of a **2015 study**published in the journal *Nature*, which found that honey bees display a preference for foods treated with**neonicotinoids, a class of insecticides implicated** in global pollinator declines. Since the crisis became public knowledge in 2006, managed honey bees have experienced **unsustainable levels of colony loss**, and **one in four species of native bees** in North America and Hawaii are at risk of extinction. This new research adds to growing concerns that, while neonicotinoids continue to play a primary role in the pollinator crisis, their elimination would still leave a myriad of other toxic chemical threats to the recovery of these critical species, upon which so much of our food supply relies.

UIL scientists investigated honey bees' preference for a range of pesticides as well as a number of naturally occurring chemicals that honey bees would likely encounter in the field. In the experiment, pollinators were put in a large enclosure and allowed to fly to different feeders stocked with either sugar syrup and the chemical being tested, or plain sugar syrup, which acted as a control.

Unsurprisingly, the naturally occurring chemical quercetin, indicative of pollen production in flowers, was the most attractive substance to honey bees at all concentrations tested. "That makes sense, because everything the honey bees eat has quercetin in it," May Berenbaum, PhD, said in a **UIL press release**. "There's quercetin in nectar, there's quercetin in pollen. Quercetin is in honey and beebread, and it's a reliable cue that bees use to recognize food."

However, when allowing pollinators to forage on glyphosate-infused sugar syrup, honey bees prefer the concoction when concentrations were at 10 parts per billion, a dose likely to be encountered in the field, but not at greater amounts. Likewise, at .5 and 50 parts per billion (ppb), honey bees prefer the chlorothalonil spiked sugar syrup over the control, but not at higher amounts of 500 ppb. "The bees are not only not avoiding this fungicide, they're consuming more of it at certain concentrations," Dr. Berenbaum said.

Glyphosate has been linked to **impaired learning in honey bees**, with evidence that field realistic doses of the chemical cause delays in the return of foraging honey bees to the hive. In regards to chlorothalonil, as far back as **2013, research identified exposure to the fungicide** as a factor increasing the risk of honey bees

contracting the deadly gut parasite *Nosema ceranae*. In 2015, two studies identified fungicides, such as chlorothalonil, as more significant concerns to pollinator health that previously realized, leading David Goulson, Ph.D., a bee biologist at the University of Sussex, to say that the studies "suggest that the fungicides may be having more profound effects on bees than would have been expected from the standard lab toxicity studies," and that the research "demonstrates very clearly how the cocktail of chemicals used in modern farming makes farmland an inhospitable place for bees."

Subsequent research **published in 2016** indicates that chlorothalonil has significant impacts on the gut microbiome of honey bees, reinforcing previous research that the chemical makes honey bees more susceptible to parasites and other diseases. **A late 2017 study** by Cornell University researchers found that fungicide use, particularly chlorothalonil, was compounding risk and toxicity for U.S. bumblebee species, with scientists going as far as indicating that fungicides are likely playing a more significant role in declines of these species than previously realized.

Dr. Berenbaum has a reasonable explanation for why pollinators may choose to ingest substances that are hazardous to their health. "Honey bee foragers are gleaners," she said. "They're active from early spring until late fall, and no single floral source exists for them for that whole season. If they don't have a drive to search out something new, that's going to seriously compromise their ability to find the succession of flowers they need. Unnatural chemicals might be a signal for a new food." Thus honey bees, not knowing any better, may be continuously testing the waters with novel chemicals in their environment.

While we can't expect pollinators to know better, regulators in the U.S. and abroad should take heed and act now to protect these critical species from toxic exposure wherever the science identifies it. More information about the plight of pollinators can be found on Beyond Pesticides' **Bee Protective webpage**, where we track the latest science and policy developments on the pollinator crisis.