

To: Oregon Board of Forestry
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Members Oregon Board of Forestry,

My family, friends and I are survivors of forestry herbicide exposure. We were all exposed to 2,4,5-T and 2,4-D in the Oregon Coast Range valley of Deadwood during the late 1970s and early 1980s. Many of us suffer from debilitating diseases as a result of this exposure. We also have continued exposure from TCDD Dioxin (see below) which was a manufacturing by-product of the pesticides, which has no half-life, and which adheres to soil sediment and gets into the water (springs, streams, ground water, creeks, rivers, etc.)

I personally am a breast cancer survivor whom, I am happy to say, has recently passed my five-year milestone. But this achievement has not been easy, pleasant or something that I would want anyone else to experience.

Simply put, pesticides and particularly herbicides are NOT necessary in forestry use on national, state or private forests. But unfortunately, the standard in the forestry industry, established in the 1970s by Professor Emeritus Mike Newton of OSU, is to clearcut a unit; spray it with toxic herbicides, plant seedlings, and then spray repeatedly until the seedlings outgrow any broadleaf plants that may shade them. [Please see; <http://www.forestlanddwellers.org/schools/> for examples of repeated use of pesticides near our schools.] And sadly these herbicides are NOT benign, nor are the inerts inherent in the herbicides, nor are the TCDD dioxin and other toxic by-products.

Real Oregonians suffer greatly from exposure to these toxins. Many may not even understand how they became ill, because they don't know that they have been exposed to pesticides. Additionally, most medical doctors are not trained to recognize pesticide poisoning; so many people are never correctly diagnosed. And many who become ill can't do anything other than try to recover and so never speak up and demand that they and their neighbors stop being poisoned by the pesticide application practices sanctioned by the Oregon Board of Forestry.

In fact, if a person wants to learn whether and what pesticides and herbicides are going to be used on the clearcuts near their home, school or workplace they MUST subscribe to the Oregon State Department of Forestry, pay money for that subscription, only to receive postcard notices that list sometimes six or more different pesticides that may or may not be used during a period of time that has no specific beginning date (just a month and year) and may go on for many, many months, with no actual end date. How can a person protect their family, neighbors and self with such vague information?

The Siuslaw National Forest (SNF) following the Northwest Forest Plan is the ONLY profitable forest in the nation. They do not use pesticides because they do not clearcut their forests. The late-successional-reserve thins take only the mid-size trees, leaving the old growth and small trees. By managing the SNF forest this way the old growth trees retain water, store carbon, produce cones for strong re-generation of the species, provide habitat for endangered and otherwise species, and shade the small trees. The small trees re-generate from cones dropped by the old growth trees, and grow into the mid-size trees which are later harvested to provide the wood for products we all use and value. Eventually forests that were managed into 'tree farms' from the 1970s-1990s become more like actual native forests and all the issues associated with clearcutting (no habitat for endangered species and subsequent lawsuits, silted creeks, landslides, use of herbicides and pesticides and the subsequent poisoning of human, aquatic and forest species, no storage for carbon in the era of global warming, etc.) become moot.

I believe that with a little forethought the Oregon Board of Forestry could establish rules

to ensure that Oregon's state and private forests follow the excellent model of the Siuslaw National Forest's LSR thins. Management of Oregon's forests under that model could become of higher value and perhaps extremely profitable *and* sustainable.

Just think, pesticides are petroleum-based and as we all know petroleum discovery, exploration and extraction peaked in 2006. Therefore the cost of making, buying, and applying pesticides is only going to climb.

Secondly due to global warming, as state and a nation we need to store carbon instead of cutting down in mass quantity the actual life forms that store the carbon. In fact, loss of revenue to counties from Federal timber programs could actually be off-set by the Federal Government paying Oregon's timber rich-counties for the storage of carbon in the those federal forest. This principle could be applied by the Oregon Board of Forestry to state and private forests also.

If the SNF's NW Forest Plan's successful LSR model was adopted as a standard practice for Oregon's forests then the practice and use of pesticides on all of Oregon's Forest would be obsolete. They only ones to be resistant to this change would be the chemical companies, who complicity are making money simultaneously from selling the pesticides *and* the chemotherapy people need once they are ill from exposure to the pesticides. Now, all good people would not want to endorse, support or give profit to companies that make profit from making Oregon's citizen's sick and then hopefully well, would they?

Of course, no one ever speaks about the secondary costs to the communities in Oregon due to the use of pesticides, but I feel I must mention these. Please consider the cost of the following:

- 1) The clean-up and the remediation of TCDD dioxin and other long-lived toxics in our soils and water;
- 2) The health costs and burdens to our state and national treasuries (costs for supporting once functional and productive people who now have life-threatening and debilitating conditions and disabilities);
- 3) The environmental and citizen lawsuits to stop clearcutting of old growth and 100 year + second growth trees, and violations to ESA, Clean Air Act, and Clean Water Acts;
- 4) The loss of native species and plants: salmon, spotted owl, marbled murrelet
<<http://www.google.com/search?hl=en&client=safari&rls=en&sa=X&oi=spell&resnum=0&ct=result&cd=1&q=murrelet&spell=1>> , and many others;
- 5) The loss of stored carbon and future carbon stores;
- 6) The use of ever-scarcer petroleum-based products to pollute our stream and soils depleting that petroleum from being used to develop viable alternative energy resources to maintain our lifestyles and for our children.

Need I say that this 'standard practice of forestry' seems crazy in light of the fact that real options exist to use our forests in ways that actually make sense?

The Oregon Board of Forestry has in its power to change the policies from the 'standard practice' to a sincerely healthy forest practice. Please use your power wisely to change Oregon's forest policies, practices and rules, and stop the practices of clearcuts, application of pesticides on Oregon's forests. Please set policies to have pesticide companies and applicers remediate the soils and streams of toxins where pesticides had been and have been used for decades and currently are being used. Please establish policies to create our forests as carbon stores so that our children do not face a future without hope. Please address the realistic external costs to all of Oregon's residents and species. And please use your power with respect to all life on behalf of all of us.

Thank you,

Amy Pincus Merwin

Agent Orange Chemical, Dioxin, Attacks The Mitochondria To Cause Cancer, Study Shows

ScienceDaily (Dec. 21, 2007) ~ Researchers with the University of Pennsylvania School of Veterinary Medicine have demonstrated the process by which the cancer-causing chemical dioxin attacks the cellular machinery, disrupts normal cellular function and ultimately promotes tumor progression.

The team identified for the first time that mitochondria, the cellular sub-units that convert oxygen and nutrients into cellular fuel, are the target of tetrachlorodibenzodioxin, or TCDD. The study showed that TCDD induces mitochondria-to-nucleus stress signaling, which in turn induces the expression of cell nucleus genes associated with tumor promotion and metastasis.

The mechanism the research team has described is directly relevant to understanding incidences of breast and other cancers in human populations exposed to these chemicals. With a better understanding of this underlying cellular mechanism, researchers hope to improve their understanding of tumor growth and promotion.

"Now that we have identified this signaling mechanism we can look at ways to disrupt this complex chain of events," said Narayah Avadhani, chair of the Department of Animal Biology at Penn's School of Veterinary Medicine and the study's lead investigator. "Our ultimate goal is to block the propagation of this mitochondrial stress signaling and inhibit the expression of the proteins that combine to assist cancer growth."

A well-characterized mechanism of TCDD action occurs through activation of arylhydrocarbon receptors, AhR, by directly binding to the protein subunits. Activated AhR mediates the transcriptional activation of many genes including those involved in fatty acid metabolism, cell cycle regulation and immune response. The present study, however, shows that TCDD starts the chain of events that promote tumor progression in vivo by directly targeting mitochondrial transcription and induction of mitochondrial stress signaling.

A unique feature of this TCDD-induced signaling is that it does not involve the action of AhR but occurs through increased calcium levels in cells and activation of calcium responsive factors. A net result of signaling cascade is slowing down of cellular apoptosis, increased cell proliferation and tumor cell metastasis. Taken together, this study describes a novel mechanism of TCDD-induced tumor progression and emergence of metastatic cancer cells.

TCDD is the most toxic compound in the dioxin family. Formed as a by-product during waste incineration, paper, chemical and pesticide manufacturing, it was the toxic ingredient in Agent Orange and closed the Love Canal in Niagara Falls. The public health impact of dioxin, according to the Environmental Protection Agency, compares to that of the pesticide DDT.

The study appears online and in the Dec. 17 issue of the Proceedings of the National Academy of Sciences and was performed by Avadhani, Gopa Biswas, Satish Srinivasan and Hindupur Anandatheerthavarada of the Penn School of Veterinary Medicine.

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Adapted from materials provided by University of Pennsylvania.

<http://www.sciencedaily.com/releases/2007/12/0712171406.htm>