

March 26, 2013

Ms. Beth Patrino
Committee Administrator
House Committee on Agriculture and Natural Resources
Oregon State Legislature
900 Court Street NE, Room 347
Salem, Oregon 97301
March 27, 2013

Re: HB 3364, Relating to integrated pest management.

Dear Chair Witt and Committee Members:

Thank you for the opportunity to provide testimony concerning House Bill 3364, the plan for agency coordination for Oregon's State IPM policy. I am writing this letter in support of passage of HB 3364.

In my practice as a Developmental-Behavioral Pediatrician, I review the history of prenatal exposure to medications or drugs which affect the brain, because we know that even very low doses of such substances, which may have little or no effect on the mother, may be severely detrimental to the development of the fetus. For example, it is well known that alcohol consumption during pregnancy, which has only a mild effect on the mother's adult brain, can cause severe disability in her child. Prenatal exposure to medications prescribed for neurological or psychiatric conditions, such as medications for epilepsy, can cause severe disability.

Similarly to intoxicating drugs and psychiatric medications, many pesticides have effects on human nerve function. Pesticides are designed to destroy insects by affecting their nerve function. People and insects use many of the same chemical nerve signals, such as acetylcholine. The licensing of most pesticides may require toxicity testing, but very rarely requires developmental toxicity testing. This is in spite of the fact that many pesticides are well known to impact neurotransmitter function. The burden of proof of safety has been left to the community. Fortunately, the scientific community has taken up this responsibility, to determine whether the use of pesticides have adverse effect on development of children.

We need to know the answers to two questions: one, are these chemicals, as currently applied, now detectable in the body fluids of pregnant women?; and two, do these chemicals, at the concentrations found in the body fluids of expectant mothers, adversely impact the development of children? These questions have now been answered, by independent scientific investigations, and the answers are "yes" and "yes".

To summarize several studies: Detectable levels of common pesticides metabolites have been found in the urine of pregnant women, and in umbilical cord blood, and in meconium (newborn feces). These studies were well designed, using large populations and controlling for factors such as income and education. When exposed children are compared to

children without exposure, dose-related effects are found in the exposed children. Children exposed prenatally to common pesticides have abnormal newborn reflexes, lower scores on cognitive testing at 3 years of age, increased symptoms of poor attention and of hyperactivity, and increased autism symptoms, such as avoiding eye contact, rocking of head and body, and being unresponsive to affection.

I don't need to tell you that we are now in an era of very tight state budgets. Nor do I need to point out that a large portion of the state budget goes to education and social services, and that a large proportion of those budgets go to special education needs and support services for people with disabilities. We cannot afford to manage state lands in such a way that increases the need for special education services.

In summary, it has been established that current practices of pesticide usage lead to maternal exposure, and thus, fetal exposure to known neurotoxins. This level of exposure, which does not cause symptoms in the mother, does have subtle, but measurable, significant, and clinically relevant effects on children. Integrated pest management on Oregon state lands and in state facilities, with the goal of reducing pesticide exposures for the public and for state workers, is a very modest and reasonable approach to reducing toxin exposures to unborn Oregonians.

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References:

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- (2) Young, JG, Eskenazi B, Gladstone EA et al. (2005) Association between *in utero* organophosphate pesticide exposure and abnormal reflexes in neonates. *Neurotoxicology* 26: 199-209.
- (3) Eskenazi B, Marks AR, Bradman, A et al. (2007) Organophosphate pesticide exposure and neurodevelopment in young Mexican-American children. *Environmental Health Perspectives* 115: 792-798.
- (4) Rauh, VA, Garfinkel, R, Perera, FP et al. (2006) Impact of prenatal chlorpyrifos exposure on neurodevelopment in the first 3 years of life among inner-city children. *Pediatrics* 118: e1845-1859.