



*Response to Study on Organophosphates & ADHD in Pediatrics
Overview and Speaking Points
Prepared for the National Pest Management Association
By the Professional Pest Management Alliance*

Background

On May 17, 2010, *Pediatrics*, the official Journal of the American Academy of Pediatrics, published a new study authored by Maryse Bouchard, Ph.D. from the University of Montreal at Sainte-Justine University Hospital Centre and Marc Weisskopf of the Harvard School of Public Health detailing a recent study of 1,139 American children, aged 8 - 15 years, examining the link between organophosphates and the incidence of Attention Deficit and Hyperactivity Disorder (ADHD).

Although the authors clearly state that the study “*uncovers only an association, not a direct causal link*” between organophosphates – a commonly used class of pesticides in agriculture – and ADHD, the study is receiving immense media coverage as this is not only the first study of the general population with regard to pesticide exposure but also, it is the first study to examine **average** exposure to pesticides rather than **excessive** exposure. More, the Centers for Disease Control (CDC) now reports that three to seven percent of school-aged children – or 4.5 million children – are now affected by ADHD. (Please note organophosphates are not used within the structural pest control industry.)

For methodology, subjects had a single urine sample taken and tested for the level of pesticide byproducts present within their urine. It was found that those children with above-average levels of pesticide byproducts in their urine were more likely to be diagnosed with ADHD. As such, it was extrapolated that those with a greater exposure to pesticides, specifically organophosphates, were more likely to develop/be diagnosed with ADHD.

At the heart of the study, however, is a single assumption – that children are most commonly exposed to pesticides via their diet, especially fruits and vegetables. Sarah Klein of Health.com even writes in her story on CNN.com that since EPA regulations “*have eliminated most residential uses for the pesticides (including lawn care and termite extermination) the largest source of exposure for children is believed to be food, especially commercially grown produce.*”

As such, the agriculture industry, and its use of agricultural pesticides on food, is very much at the center of this report. Drs. Bouchard and Weisskopf clearly indicate in the report and within the media that organophosphates are “designed to have toxic effects on the nervous system, which is how insects are killed” and as such, it would seem “plausible,” that exposure to organophosphates might have negative effects on sensitive nervous systems, such as children. And while the study explicitly addresses the agricultural use of pesticides, it does make mention of *not* using DIY pest products within the home as one way to limit possible exposure in children. Regardless of the focus, a study that shows an association between pesticides and ADHD is certain to reignite a public discussion of the effect of any pesticide exposure upon children’s health.

Drs. Bouchard and Weisskopf have publicly recommended further research on this association. Although the methodology is wholly sound in testing one sample per child participating in the study, the research team acknowledges that its results beckon further investigation, notably whether ongoing testing might show that pesticide byproducts within children’s urine ebb and flow and if so, what factors cause this ebb and flow? In the

meantime, the study recommends four (4) general preventative measures for limiting a child's exposure to pesticides:

- Buy organic fruits and vegetables whenever possible.
- Limit or eliminate the amount of pesticides in the home, such as insect sprays.
- Limit or eliminate the amount of pesticides and/or chemicals used on lawns; Buy natural products whenever possible.
- Buy fruits that can be peeled or fruit that has a hard exterior, such as apples, which can be washed.

Statement

“The NPMA has reviewed the study produced by Drs. Bouchard and Weisskopf and believes that far greater research is necessary regarding the potential association found between organophosphates and ADHD before any definitive action is taken. Within the professional pest management industry, products used to address pest infestations – infestations, which can negatively affect public health and property – are an important and essential tool. All pest products used within the industry are reviewed and registered with the Environmental Protection Agency (EPA) and as such, consumers should feel confident that the application of such products will be done expertly and only by qualified and licensed pest professionals as directed on the product label.”

Speaking Points

- We cannot speak specifically to the use and/or prevalence of organophosphates in agricultural pest management. However, we can say that all products used in the treatment of structural pest infestations – for which NPMA members are responsible - are rigorously reviewed and registered by the Environmental Protection Agency (EPA) to be used by certified applicators for pest management. The NPMA works closely with the EPA to ensure that all products used in pest management practices are consistently reviewed, re-registered and provided with accurate and comprehensive labeling for use.
- If concerned by the issues raised in recent study offered by *Pediatrics* as related to your overall pest management plan, the NPMA encourages consumers to consult with a qualified and licensed pest professional to discuss these concerns and discuss the proactive and preventative measures that they can take to avoid pest infestations. More importantly, by working with a pest professional, consumers can ensure that a pest problem is properly identified and effectively – and efficiently – treated.