

# AGROMEDICINE PROGRAM UPDATE

MUSC DEPARTMENT OF FAMILY MEDICINE – DIVISION OF PUBLIC HEALTH AND PUBLIC SERVICE  
19 HAGOOD AVENUE – SUITE 305 HOT, P.O. BOX 250805, CHARLESTON, SC 29425

William M. Simpson, Jr., Editor  
simpsovm@musc.edu  
843-792-2281 Fax 843-792-4702

Volume 16  
No 6.  
June 15, 2004

Previous issues are available at [www.musc.edu/oem/apunews.html](http://www.musc.edu/oem/apunews.html)

## Program Notes

### ➤ UPDATED and NEW PRESENTATIONS

Need a speaker for a service club, garden club, hospital or church group, FFA, or other groups in your area? Or need a presentation you can deliver yourself? The Agromedicine Program has two new presentations:

“Health Effects of Indoor Mold”—or “will that black mold get me?”

and “Emerging Infectious Diseases—West Nile, Avian Influenza, SARS and More”

Both can be tailored to a lay or medical audience and expanded or contracted to fit most time blocks.

In addition, updates have been made to “old standard” presentations on “Arthropods of Medical Significance,” “Heat Illness and Skin Cancers,” “Acute and Chronic Health Effects of Pesticides,” “Pesticide Poisoning,” “Pesticides and Cancer,” “Genetically Modi-

fied Foods,” “Noise-Induced Hearing Loss,” “Food Quality and Safety,” and “Herbal Medicines—Safe or Sorry?”

Contact the Agromedicine Office to schedule a presentation, arrange to borrow slides or a CD-rom of a presentation, or to suggest another presentation topic.

### FROM THE LITERATURE

Three articles from the *Journal of Occupational and Environmental Medicine* are featured in this month’s update.

In the first, Albers<sup>1</sup> et al examined a group of workers manufacturing an organophosphate compound and compared their neurologic function to that of unexposed workers on two occasions, one year apart. OP exposed workers had an average of 10 years of work with OP’s. Urinary excretion of OP metabolites indicated that they had an average of 30% of permissible exposure during the study period.

Their conclusion: “Chronic chlorpyrifos exposure produced no clinical evidence

of cortical, pyramidal tract, extrapyramidal or other CNS dysfunction among chlorpyrifos subjects compared with referents, either at baseline or after 1 year of additional chlorpyrifos exposure.”

While this study does not replicate the day to day exposure of pest control operators using multiple compounds, it is reassuring that even with moderate exposure over a substantial time period to a relatively potent agent, no adverse effects were noted.

Albers JW. The effects of occupational exposure to chlorpyrifos on the neurologic examination of central nervous system function: a prospective cohort study. *JOEM* 2004; 46(4):367-378

Atrazine, one of the triazine herbicides, is the most commonly used herbicide in the United States. Elevated prostate cancer incidence was found at a plant producing atrazine. (Standardized incidence ratio of 1.75; 95% confidence interval of 0.87-3.12). A case-control study from the original cohort was performed to test the relationship among

---

atrazine exposure, prostate cancer and the intensive prostate cancer screening program used at the plant. Half of the controls and no cases had left employment before the screening program began. Cases had more PSA tests than controls. There was no association between atrazine exposure and prostate cancer when those with more than one PSA test were compared.

These results demonstrate that the prostate screening program itself confounded the results of the study of cancer incidence.

---

Hessel PA. A nested case-control study of prostate cancer and atrazine exposure. JOEM 2004;46(4):379-385

A third study from the JOEM addresses the risk of non-Hodgkin's lymphoma(NHL) in various occupational groups. Researchers in British Columbia collected occupational histories on over 15000 cancer cases, including almost 800 NHL.

Despite this large sample individual occupation title groups are usually very small, making any associations at least suspect. The authors of the study, however, report elevated odds ratios with very wide confidence intervals as if they indicate causation. Thus ministers have nearly ten times the risk of follicular NHL as the general population, based on 3 cases; and foremen/women have a

---

most 12 times the risk of NHL NOS as the general population, also based on 3 cases.

Their conclusion: "Overall, the results of our study are in keeping with data from the literature and suggest excess NHL risk, particularly for a number of occupations that involve exposure to electromagnetic fields, treated and fresh wood, metals and solvents."

The authors admit that information on occupational exposures is limited and that statistically significant results could have occurred by chance as a result of multiple comparisons. They also call for "more specific studies to investigate associations between occupation and exposures to chemical substances, taking into account changes in concentration levels over time."

How many more studies do we need to conclude that we will probably never know the whole story of cancer etiology and that a healthy life-style (regular exercise, healthy weight, diet rich in a variety of fruits and vegetables, alcohol in moderation, etc.) and avoidance or limitation of exposure to known carcinogens (tobacco, arsenicals, excessive sun, etc.) is about the best we can do?

---

Band PR. Identification of occupational cancer risks in British Columbia: a population-based case-control study of 769 cases of non-Hodgkin's Lymphoma ana-

---

lyzed by histopathology subtypes. JOEM 2004; 46(5):479-489

### > **ATSDR**

Don't forget about the Agency for Toxic Substances and Disease Registry web site: [www.atsdr.cdc.gov](http://www.atsdr.cdc.gov)

It has a wealth of information about toxic chemicals including frequently asked questions handouts on toxins written for the layman and "toxicological profiles" for the professional. In addition there are a number of "Case Studies in Environmental Medicine" offering CME credits at no cost.

### > **West Nile Virus**

The first human cases of West Nile Virus have been reported in Arizona and New Mexico. Check out <http://westnilemaps.usgs.gov> and [www.cdc.gov](http://www.cdc.gov) for up to date information.

Prevention continues to be the name of the game, since no specific therapy is available for the infection. The good news continues to be that that vast majority of infections are asymptomatic or minimally symptomatic (mild "flu-like" illness) which resolve spontaneously.

---

QUESTIONS, COMMENTS,CONSULTS—  
CALL US: 843-792-3607 or  
843-792-2281  
We want to hear from you!