



Agricultural Health Study

STUDY UPDATE

2015

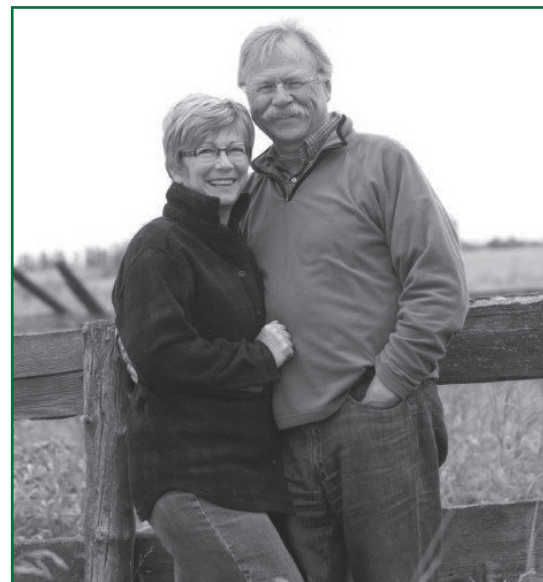
MESSAGE FROM THE EXECUTIVE COMMITTEE

Dear Agricultural Health Study Participant,

Thank you for your continued participation in the Agricultural Health Study (AHS)—2014 was a productive year! The information you and other participants provided enables us to better understand how agricultural exposures affect people's health.

This newsletter highlights results from two recently completed studies and a new research project that is getting underway. We have many plans for important research over the next several years, and we look forward to your continued participation, even if you have retired from farming.

For more information about the AHS, please visit our website (<http://aghealth.nih.gov>) or call us at 1-800-4-AGSTUDY (1-800-424-7883).



PROTECTIVE GLOVES AND WORKPLACE HYGIENE REDUCE THE RISK OF PARKINSON'S DISEASE

Exposure to agricultural pesticides may increase a person's risk of developing Parkinson's disease. In 2011, AHS researchers reported that participants who used paraquat or rotenone were twice as likely to develop Parkinson's disease as people who didn't use these chemicals.

In a new AHS study, researchers found that using chemical resistant gloves and practicing good workplace hygiene, such as washing hands and changing clothes after using pesticides, may help protect you against Parkinson's disease. In the study, Parkinson's disease was associated with using paraquat or permethrin among individuals who didn't regularly wear

gloves, but not among applicators who wore them regularly. Similarly, trifluralin was associated with an increased risk of Parkinson's disease only among participants who didn't regularly use good workplace hygiene.

This study provides more evidence of the benefits of using such protective measures. We encourage all AHS participants to regularly use protective equipment and follow good workplace hygiene. For more information about Parkinson's disease and its treatment, see: www.ninds.nih.gov/disorders/parkinsons_disease/parkinsons_disease.htm.

The AHS is a collaborative effort of the National Cancer Institute, National Institute of Environmental Health Sciences, U.S. Environmental Protection Agency, and the National Institute for Occupational Safety and Health.

AHS EXECUTIVE COMMITTEE

Michael C. R. Alavanja, DrPH
Laura Beane Freeman, PhD
Aaron Blair, PhD, Emeritus
 National Cancer Institute
 Rockville, MD

Honglei Chen, MD, PhD
Freya Kamel, PhD
Dale P. Sandler, PhD
 National Institute of
 Environmental Health Sciences
 Research Triangle Park, NC

Kent Thomas, BSPH
 U.S. Environmental Protection
 Agency
 Research Triangle Park, NC

Cynthia Hines, MS, CIH
 National Institute for
 Occupational Safety & Health
 Cincinnati, OH

PESTICIDE USE AND NON-HODGKIN LYMPHOMA

AHS researchers recently found an association between the use of certain agricultural pesticides and non-Hodgkin lymphoma (NHL), a cancer of the white blood cells. AHS participants had similar rates of NHL as the general population in Iowa and North Carolina. However, AHS participants who used lindane and DDT, both chlorinated insecticides, were more likely to develop NHL than participants who didn't use them. Lindane and DDT were commonly used in the past, but are no longer sold in the United States. Pesticides that are still in use—terbufos, diazinon and permethrin—were also associated with an increased

risk of developing specific subtypes of NHL. This study provides new leads regarding possible links between specific pesticides and the development of NHL and specific subtypes of NHL. These leads will be evaluated in future investigations. The study looked only at insecticides, fungicides, and fumigants; we will examine potential links between herbicides and NHL in the future. For more information on NHL and its treatment see: www.cancer.gov/cancertopics/types/non-hodgkin.

Alavanja, et al., *PLoS One*. 2014;9:e109332.

AHS LAUNCHES NEW STUDY OF HEALTHY AGING

After two decades of taking part in the AHS, many participants are now over age 60. The AHS is one of the few studies that can provide information about healthy aging for farming communities. We are interested in learning more about the health of older farmers and their families who may have lived and worked on farms for decades.

This year we will begin a new study to learn whether exposure to pesticides or other farming activities affects memory

later in life. We will carry out the study, called the Agricultural Health Study of Memory in Aging (AHS-MA), with Duke University investigators. AHS participants will be asked to complete a short telephone interview and some will be invited to participate in additional memory evaluations. This new project will help researchers develop strategies for farmers and their families to remain active and healthy for years to come. We encourage you to participate in AHS-MA if you are selected.

BIOMARKERS OF EXPOSURE AND EFFECTS IN AGRICULTURE (BEEA)

We are continuing to enroll participants in the AHS sub-study, BEEA, through 2015. This study will help us better understand how pesticides affect people's risk of getting certain diseases. We will ask participants

to complete a questionnaire and provide blood, urine, and house dust samples. As always, your information will be kept confidential. We hope you will participate if selected.

