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NORTHERN CALIFORNIA CANCER CENTER FINDS INCREASED RISK OF MOST COMMON FORM OF CHILDHOOD LEUKEMIA ASSOCIATED WITH RESIDENTIAL PROXIMITY TO AGRICULTURAL PESTICIDES

Unique database of agricultural pesticide application records informs research

FREMONT, CA (September 24, 2009) – **Northern California Cancer Center (NCCC)** research reveals that children exposed to agricultural pesticides applied near their home may experience an increased risk of the most common form of childhood leukemia.

The NCCC study, led by Rudolph Rull, Ph.D., used a database unique to California to reveal an elevated risk in acute lymphoblastic leukemia (ALL) among children living near applications of certain categories of pesticides used in agriculture. The study's findings were recently published in the journal, *Environmental Research*.

California is one of the few states in the country that requires active reporting of pesticide applications, including time, place, and the type and amount of pesticide used. For this study, researchers were able to link children's entire residential histories from birth to the time of case diagnosis to this pesticide-use reporting database and identify agricultural pesticides that were applied within one-half mile of each residence.

The innovative use of residential histories allowed the researchers to look at different time periods of exposure, such as the child's lifetime or first year of life, while accounting for changing addresses during childhood. These residential histories were collected by the University of California, Berkeley, from 213 children diagnosed with ALL and 268 children without leukemia enrolled in the Northern California Childhood Leukemia Study.

The scientists selected over 100 of the most commonly used pesticide active ingredients to examine from over 600 used on crops between 1990 and 2002, the time period of the study. The children's lifetime exposure to these ingredients was ranked into three levels: low, moderate, and high. The study revealed an elevated risk of ALL associated with moderate exposure, but not high exposure, to pesticides classified as organophosphates, chlorinated phenols, and triazines, and with agricultural pesticides used as insecticides or fumigants.

"These initial findings suggest that there may be a specific agent or set of agents that can increase the risk of this disease among children," said Dr. Rull. "Our future work would include examining additional cases more recently diagnosed and attempting to identify the pesticides that may play a role in the development of this disease."

In addition to Dr. Rull's latest findings, NCCC is at the forefront of research that investigates how the environment where people live may affect their cancer risk.

About NCCC:

The Northern California Cancer Center (www.nccc.org) is the only center in the country dedicated solely to cancer prevention research. It is recognized nationally as a leader in researching the causes and patterns of cancer across the population and improving the prevention and detection of cancer.

Editors note: Dr. Rull and his team members are available for interviews. Please contact Serena Espinosa at 510-608-5160 or serena.espinosa@nccc.org.

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