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Organochlorine Pesticide Contamination in Minnesota Grey Wolves (*Canis lupus*) and White Cedar (*Thuja occidentalis*)

Leah Maurer

Illinois Wesleyan University

Amanda Solliday

Illinois Wesleyan University

Lindsay Schelling

Illinois Wesleyan University

Given Harper, Faculty Advisor

Illinois Wesleyan University

Jeffrey Frick, Faculty Advisor

Illinois Wesleyan University

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Poster Presentation P48

ORGANOCHLORINE PESTICIDE CONTAMINATION IN MINNESOTA GREY WOLVES (*CANIS LUPUS*) AND WHITE CEDAR (*THUJA OCCIDENTALIS*)

Leah Maurer and Amanda Solliday, and Lindsay Schelling
and Given Harper* and Jeffrey Frick*
Biology and Chemistry Departments, Illinois Wesleyan University

This study examines patterns of organochlorine (OC) pesticide (e.g. DDT) contamination in grey wolves (*Canis lupus*) and northern white cedar (*Thuja occidentalis*) collected from Minnesota. Few studies have been conducted to document OC contamination in wolves from North America, which may accumulate high levels of the compounds because they are at a high trophic level. Conifers are good indicators of atmospheric organic contamination because of the lipophilic nature of their needles. Kidney and bark samples were collected in 2002 and 2003 and tested for the presence of 17 OC pesticides and metabolites utilizing gas chromatography. The wolves were taken via a lethal control effort by personnel from the Animal and Plant Health Inspection Service (APHIS) division of the USDA. Forty-four of 55 kidneys contained OC compounds in amounts above the lower detection limit. In the kidneys where pesticides were found, the level of total OCs ranged from 7.89 to 1,647.01 ppb (parts per billion). Of the 15 bark samples tested, all contained OC pesticides in detectable levels. Total OC levels in individual samples ranged from 504.56 to 10,244.1 ppb. There was no significant difference in total OC levels between adult and juvenile wolves. Likewise, there was no significant difference in total OC levels between males and females. However, total OC levels in tree bark (Median (M) = 2,357.26 ppb) were significantly greater than total OC levels in wolves (Median (M) = 92.53 ppb). Conifers are unable to metabolize OC compounds, which may explain the higher concentration in the bark samples. Our results confirm that OC contamination still exists in the tissues of organisms in North America, despite a ban on the use of these compounds for a considerable number of years.