



Physical Anthropology Section – 2008

H48 Mummification and Palynology: What We Can Learn in Regards to Time and Location of Death

Cheslee Cornell, and Nicole A. Wall, MFS, College of Saint Mary, Forensic Science Program 7000 Mercy Road, Omaha, NE 68106*

This research is dedicated to the amount of time it takes for the mummification process to take place in piglets, while being buried in different materials such as; a tarp, a rug, a plastic bag, and a fleece blanket. These piglets were documented periodically for changes in decomposition using soil analysis and also for pollen deposition. Acetolysis will be used to process and stain the pollen for identification and imaging purposes. It has been proven beneficial to use swine in order to determine different aspects of the decomposition process which helps death investigators to accurately determine time of death issues. Also, checking different types of pollen present in different regions of Nebraska has been proven very beneficial in determining location and season of death as well. The piglets were buried in multiple locations around Omaha, NE. They were buried in Ashland, NE; Bennington, NE; Atkinson, NE; and Valley, NE. The soil types were identified and certain results regarding pH, conductivity, and moisture content were recorded. Currently, we are also considering lipid phosphate and fatty acid methyl ester analysis (along with nitrogen and carbon content) to give us more input concerning the certain soil changes that occur during the decomposition process. In the end, a timeline and pollen profile will be constructed based on the data obtained to help investigators understand the time it may take for small human victims to reach natural mummification status and also assist in determining the location (season) death.

Mummification, Soil, Pollen