G94 Decomposition of Child-Sized Remains in Dumpsters

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After attending this presentation, attendees will have an increased understanding of the decomposition of child-sized remains placed in a dumpster.

This presentation will benefit the forensic community, as well as those in the fields of the postmortem interval estimation and rate of decomposition research. It may benefit investigations of children killed and placed in dumpsters. The research demonstrates that a child-sized carcass placed in a black plastic bag and in a closed dumpster will decompose at a slower rate than one placed in a dumpster unbagged. Both pigs in dumpsters decompose more slowly than a control pig outside the dumpster.

The results of this research will benefit forensic science in the fields of postmortem interval estimation and rate of decomposition research. It may benefit investigations of children killed and placed in dumpsters. The research demonstrates that a child-sized carcass placed in a black plastic bag and in a closed dumpster will decompose at a slower rate than one placed in a dumpster unbagged. Both pigs in dumpsters decompose more slowly than a control pig outside the dumpster.

Research on child-sized remains has been done by depositing pigs in a variety of ways including surface deposit, shallow grave, covered by branches and debris, suspended by a rope, and rolled in carpet (Morton and Lord, 2002). However; there is not much study, if any, on the decomposition of child-sized remains in a dumpster, despite the forensic cases where children's bodies have been disposed of in this fashion. The aim of the research is to understand the environmental and taphonomic factors that affect the postmortem interval (PMI) on child-sized remains in a dumpster.

This thirty-day project began on June 15, 2008 and ended July 15, 2008. Three small pigs, which were humanely dispatched, were used as child-sized remains. Pigs were chosen because their internal structures and progression of decomposition are similar to humans. Two pigs were placed on plywood in individual dumpsters and the third was placed on plywood on the ground as a control. The control pig was not covered but protected on all sides by a chain-link fence.

A four-lead temperature coupler was placed with each pig and programmed to take hourly temperature readings for the duration of the project. Each pig was weighed daily using a digital scale and their girths measured. An incised wound was also placed behind the right shoulder of each pig.

Each board was weighed without a pig and then with a pig subtracting the difference for obtaining the weight of each pig. The two dumpsters were each two cubic yards in size with two plastic lids. The lids were kept closed except for collecting data.

The pigs in the dumpsters had temperature leads placed in the following locations: in the mouth, underneath the pig (between the pig and the plywood), hanging loose inside the dumpster and hanging outside the dumpster. The control pig had a temperature lead in the ground approximately two inches in front of the pig in lieu of the temperature lead hanging loose inside the dumpster; other temperature leads were placed in the same positions as with the pigs inside the dumpsters. Data collection was performed each day. Information recorded included weather conditions, body temperature, container temperature, and carcass weight loss. Photographs were also taken of each carcass.

General decomposition patterns were observed on each of the specimens. Fly succession following the usual pattern for the region was noted on all three specimens. As measured by weight loss, the control pig decomposed at a faster rate than either pig in a dumpster. The pig in a bag in the dumpster decomposed more slowly than the pig not in a bag in the dumpster. The initial data suggests that the decomposition rate of remains placed in a dumpster is noticeably inhibited.

Decomposition, Dumpsters, Taphonomy

 ** Presenting Author*