



Pathology & Biology Section – 2008

G3 The Effect of Clothing on Decomposition Rate: A Teaching Model

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The goal of this presentation is to illustrate the difference in decomposition rates and insect colonization under identical environmental conditions.

The presence or absence of clothing can alter the decomposition rate. This is a difficult concept to teach unless there is a method that can be duplicated to show both conditions under identical conditions. This study will impact the forensic science community by determining the rate of decomposition of a clothed and unclothed pig as a function of summer environmental conditions.

The presence or absence of clothing can alter the decomposition rate (Anderson 2001, Kelly 2006). This is a difficult concept to teach unless there is a method that can be duplicated to study both scenarios under identical conditions. This study was conducted to determine the rate of decomposition of a clothed and unclothed pig as a function of summer environmental conditions. Insects were collected twice a day until the dry-remains stage occurred, and climate consisting of temperature, relative humidity, rainfall, and wind speed data was collected on an hourly basis. The data show increased activity of forensically important insects to be a function of both temperature and clothing. The delay of the clothed victim to reach the dry-remains stage was significantly different than the victim without clothing. The stages of larvae collected from the clothed victim were also significantly smaller than the larvae collected from the unclothed victim at all collection dates until the unclothed victim was no longer attractive to forensically important flies.

Data collection to be demonstrated will be larva size and species composition on each pig over time. Comparisons were done as an ANOVA test and a species-diversity comparison for all days. Results will be used to set up teaching mock crime scenes to illustrate the effects of clothing on PMI calculations.

Clothing, Decomposition, Flies