

# The Role of *Apis mellifera* on the Preservation of Organic Tissue

Deamer, Piper (School: Fremont High School)

Five million gallons of formaldehyde are used in the funeral industry annually. Formalin based products are designated biohazards and carcinogens. To reduce groundwater pollution, natural, unpasteurized honey is a potential alternative. Eighteen one inch cubes of chicken breast were placed into containers filled with one cup of unpasteurized honey; leaving the control group uncovered. Every three days, over the course of two weeks, each sample was swabbed and inoculated onto nutrient agar plates, along with the control samples for bacterial comparison. The bacterial colonies were counted after three days, as well as recounted on the last day of experimentation to verify the amount of growth. The data showed that the number of bacterial colonies observed decreased the longer the chicken was submerged in honey. Each honey-covered sample had significant loss of moisture, causing it to become extremely tough. The chicken also became slightly translucent, appearing clear and caramel colored. The control group produced an odor of rotting meat (due to increased microbial breakdown), while the honey submerged samples did not exhibit the odor. In conclusion, honey was successful at inhibiting bacterial growth and preserving the tissue samples in a dehydrated form. The data supports that honey could be an alternative source option for preservation of organic tissue.

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