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*A Bug's Death: A Study of Diatomaceous Earth and pesticides*

The purpose of this experiment was to determine whether or not diatomaceous earth could be used as an effective insect killer to kill the tree destroying insect, the pine bark beetle. I hypothesized that the micro-fossils that the diatomaceous earth is made up of would kill the insects faster than a leading pine bark beetle pesticide, cypermethrin. This experiment involved putting mealworms into plastic containers with one cup of oatmeal inside, and adding diatomaceous earth to one container, and cypermethrin to another container with mealworms. The death rate of the mealworms was measured in days. The maximum number of days each trial could take was 14 days. The data collected did support the original hypothesis. These findings lead to the conclusion that diatomaceous earth is a more effective insect killer than cypermethrin. Diatomaceous earth, on average, had a kill rate of 5.3, while cypermethrin had an average kill rate of 3.0, making diatomaceous earth a more effective killer in a controlled environment. The range between the two insect killers is 2.3 kills, making it reasonable to conclude that diatomaceous earth is a more effective insect killer in a controlled environment.