

Investigating the Microbial Variants in Kombucha and Its Effect on Reproduction and Motor Activity in *Drosophila melanogaster*

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Introduction:



- Bacteria exist in every animal's body, including the *Drosophila melanogaster*.
- They are a model genetic organism, with many similarities to humans, with 60% of the genes being conserved
- Gut and digestive tract of the *Drosophila melanogaster*.
- Kombucha is a

Experimental Design:



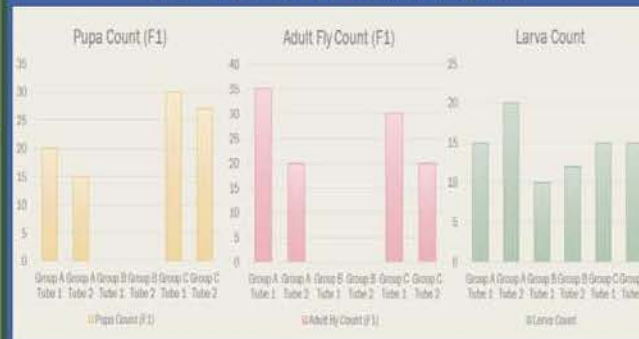
- Start with 5 female and 5 male flies per tube
- Two tubes per group
- Group A: Control group (no kombucha)
- Group B: 1:3 ratio of kombucha to water used to prepare the food
- Group C: 1:1 ratio of kombucha to water used to prepare the food
- Pass flies every 5 days into a tube of the same food
- Observe and record data after 13 days

Objectives:



- Determine the ingredients (bacterial composition) of the kombucha
- Determine if kombucha is beneficial to fly health: life span, reproduction, motor activity

Results and Conclusion:



- From this data one can conclude that the kombucha when given in to large of a dose greatly diminishes the growth and survival of the larva until they reach the adult stage.
- There is enough evidence to suggest that if given in smaller doses that the kombucha may increase the total population of the adult flies.
- The initial qualitative data also shows that the original food recipe may need to be altered to compensate the moisture levels of the food as this may have had a direct impact on the population size as well.

Future Direction:

- In future trials I will be testing smaller doses of kombucha to see if there is a more direct correlation between concentration and population in the three stages observed.
- In the next trial after passing the flies four times, I will separate them into two subgroups, one that will continue the same food and one that will continue on the

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