The Efficacy of MSG as Positive Reinforcement in D. melanogaster Learning

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Monosodium glutamate (MSG) is a chemical used to enhance flavors in food. The purpose of this experiment was to investigate whether Drosophila melanogaster would display a preference for MSG. This was done by using MSG as the positive reinforcement in associative learning. The larvae were trained to associate the MSG with either light or dark and then their choices between the light settings were recorded. Learning indices were calculated based on these choices. The results indicated that the larvae chose the MSG associated side significantly more than the alternative side of the testing plate, supporting the hypothesis that the larvae would show preference for MSG. This result provides an opportunity for further research to be conducted on the addictive properties of MSG.

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