

High Fructose Corn Syrup and Sucrose: Effects on *Mus musculus* Physiology

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The project's purpose is to test the effects of foods with HFCS and sucrose on the mass, BGL, and body fat of mice. This project can help support or deny the theory that HFCS is causing obesity. It was expected that the mice that ate HFCS food would have a greater increase in mass, BGL, and body fat than the mice that ate sucrose food. Two mixtures of food were made that contained oatmeal, strawberry applesauce, maple syrup, and bread. One mixture had only had HFCS and the other had only sucrose for sugar. Both mixtures had equal calories per serving. Then ten mice were fed an equal number of calories each day for twenty weeks. Each mouse had its own cage. Five mice ate HFCS food and five mice ate sucrose food. Before feeding, the mass, BGL, and body fat of each mouse were measured. Every week, the mass of the mice was measured, every five weeks, the girth width (body fat) of the mice was measured, and at the end of the experiment, the BGL of the mice was measured. According to the statistical analyses performed, the HFCS food caused a significantly greater rise in body fat than sucrose food, sucrose food caused a significantly greater rise in BGL than HFCS food, and that although there was no statistical significance in the differences in mass between HFCS and sucrose food, the HFCS mice did gain more in mass than the sucrose mice. Thus, the hypothesis is partially accepted.

Awards Won:

American Physiological Society: APS Exceptional Science Award for \$500