Dorothy Pope

You Say Tomato, I Say To-mah-to!

The purpose of this project was to see if different cooking methods (boiling, baking, steaming, and uncooked) caused the vitamin C content in tomatoes to change. I hypothesized that since vitamin C is a water-soluble vitamin, that it would decrease the most when boiled.

This experiment involved adding a starch mixture to the tomato samples (boiled, baked, steamed, and uncooked) and titrating the samples with an iodine tincture. The un-cooked tomato was used as a control. The vitamin C was calculated by seeing how much iodine (mL) was needed for the sample to turn a stable blue. For the sample to be considered a "stable blue" you had to swirl the flask around with the iodine in it and when the color would stay blue after being swirled, it would be a "stable blue".

The data collected did not support the original hypothesis. The data ranges (average plus and minus random error) for boiled tomatoes were 3.52 to 3.78 mg of vitamin C per 10 mL of tomato, versus 3.62 to 3.71 mg of vitamin C for steamed tomatoes, and 3.81 to 3.91 mg for uncooked tomatoes. Thus there is no statistical difference between boiled, steamed, and uncooked tomatoes. However, boiled, steamed, and uncooked tomatoes were all statistically different from baked tomatoes having a data range of 4.91 to 5.27 mg of vitamin C per 10 mL of tomato.

These findings lead me to conclude that when you bake tomatoes, it results in a higher vitamin C concentration.