# The Effect of Boiling Time on the Vitamin C Concentration of Green Bell Peppers

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Vitamin C has many health benefits and can reduce the risk of various diseases, but nutritionists say cooking, especially boiling, decreases vitamin C content because it is water soluble. Since green bell peppers contain high amounts of vitamin C, this project investigates the change in vitamin C concentration of bell peppers with increasing boiling time. To begin, a standard curve for vitamin C concentration was created using the indicator indophenol, which changes color from dark blue to light pink upon exposure to an acid, in this case vitamin C. Next, the peppers were boiled, and vitamin C was extracted as pepper juice. The vitamin C concentration was then determined using the standard curve. The concentration decreased in the first 10 minutes of boiling but increased steadily afterwards, and less juice was extracted as time went on. Viewing vitamin C concentration as the ratio between vitamin C and water content within the pepper, this trend can be explained by the fact that boiling also decreases water content. The vitamin C and water content decreased at different rates; however, as time went on, the water content started to decrease faster, increasing the vitamin C concentration. Overall, the vitamin C concentration did not reach that of the original, unboiled pepper. Therefore, bell peppers or any fruit or vegetable containing vitamin C should be eaten raw to get the maximum amount of vitamin C, and larger quantities of the boiled version should be consumed to obtain the same amount of vitamin C.

**Awards Won:**