**HYPOTHESIS**

I predict that fresh products have more nutrition than frozen pizza brand and in store frozen pizza.

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**ABSTRACT**

The aim of this study is to compare the nutritional values of fresh and frozen meats, seafood, and vegetables. Is the consumption of frozen products detrimental to one’s health? Previous studies have shown that there was no change in vitamin C concentration in clementines and carrots after one year of frozen storage. Peas, whole green beans, and broccoli lost 10 to 20 percent of vitamin C content during subsequent frozen storage (Philips et al. 2010). For frozen oysters, the study has shown that neither the freezing method or antioxidant treatment demonstrated significant changes in moisture, crude protein, crude fat, and pH. On the other hand, oysters became more yellow in color, but were more firm than fresh oysters (Songsaenga et al. 2010). The focus of this research is to investigate the protein, fat, mineral, and vitamin content of frozen name brand pizza and cheaper store brand pizzas with fresh ingredients.

**LITERATURE REVIEW**

In order to examine and compare their benefits, the following two sections will discuss the preexisting data about the nutritional value of frozen foods.

Vitamin C Content of Fresh and Frozen Vegetables and Fruits

There are many kinds of vegetables and fruits that are modified into frozen products. The primary purpose of frozen food is to preserve it for later use. An important question, however, is whether the consumption of frozen food is detrimental to one’s health?

Several studies have researched if the vitamin C content is decreased in frozen foods (Favell 1997; Philips, et al., 2010). Two groups have researched the stability of vitamin C in frozen raw and vegetable homogenates. Both groups concluded that the variation in the rate of loss demonstrates the differing vulnerabilities of the vegetables, e.g. surface area, mechanical damage, sulphydryl content, as well as differing enzyme activities. For example, ascorbic acid (vitamin C) concentration was decreased at various storage temperatures for processed collard green and potatoes, but there was no change in vitamin C concentration in clementines and carrots after one year of storage. For the frozen peas, the ascorbic acid content decreased through the 12-month period was less than 10 percent. The whole green beans lost 20 percent of vitamin C over 12 months of storage. After the initial freezing and blanching process broccoli retained more than 90 percent of its vitamin C, and there was little further loss (<10%) during subsequent frozen storage (Philips et al. 2010).

Quality Changes in Frozen Oysters

Songsaenga, Sophanodorra, Kaewsrithongb, and Ohshimac (2010) have done the physical, chemical, microbiological and sensory analysis of frozen oysters. This study concluded that neither the freezing method a nor antioxidant treatment showed significant changes in moisture, crude protein, crude fat, pH, and TVB-N. The sensory scores decreased as the storage time increased. Quick frozen oysters showed a greater decrease in color than slow freezing. The TVB-N, a measure of decomposed protein and non-protein nitrogenous compounds of all samples increased with storage time (Songsaenga et al., 2010).

All of these studies have shown that vegetables have differing rates of losing vitamin C content. Some vegetables can lose up to 20 percent of vitamin C, but some can retain their nutrients throughout a 12-month period. The whole green beans lost 20 percent of vitamin C over 12 months of storage. After the initial freezing and blanching process broccoli retained more than 90 percent of its vitamin C, and there was little further loss (<10%) during subsequent frozen storage (Philips et al. 2010).

**METHODS**

My methodology will begin with collecting pepperoni, shrimp, and mushrooms from Red Baron frozen pizza, in store frozen pizza, and fresh market in the amount of 500 grams each. For the frozen pizza, I will collect the toppings from two plates, in case one of them has gone bad and to get the most accurate result possible. An experiment will be performed to investigate the protein, fat, mineral, and vitamin among the frozen Red Baron, store brand, and fresh pepperoni, shrimp, and mushrooms. After completing all the experiments, the quantity of protein, fat, vitamin, and mineral are recorded in a table, making it easier to compare the amount of nutrition remaining in the frozen products.

**REFERENCES**

