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*Say "No" to Anemia: Enhancing Iron Content in Vegetables*

Anemia affects over 30% of the world's population, but is most prevalent in women. Women between the ages of 19 and 50 require ~18mg of iron per day, and pregnant women ~27mg per day. Anemia can be treated with iron supplements or by a change in diet. Unfortunately, iron supplements often cause unwanted side-effects, including constipation, nausea, vomiting, etc.; while changes in diet can be costly or impractical. For example, despite its reputation as an iron-rich food, raw spinach only contains 1mg of iron per cup. A potential solution to this problem is to increase the amount of iron stored naturally in vegetables. The purpose of my project was to test the effect of iron supplementation of soil on iron content of the plant. Because spinach does not grow well in pots, I performed my experiments using spearmint, a model green-leafy plant. Plants were divided into four groups of four plants each; two groups (duplicates) were treated with iron-supplemented (0-50mg/ml) water and two-groups (duplicates) were treated with iron-supplemented (0-50mg/ml) water containing 1% ascorbic acid. Ascorbic acid is known to enhance iron absorption in animals. Plants were harvested, stems discarded, and leaves dry-ashed at 600°C. Iron was extracted from the ash using dilute HCL and detected using a colorimetric assay. Color changes were read on a spectrophotometer at 450nm. Results indicate that the supplements did not affect plant iron content.