# ABSTRACT

**Title of Abstract** : COMPARATIVE STUDY OF VITAMIN C CONTENT IN ROME BEAUTY APPLES (Malus sylvestris Mill) WITH SEVERAL PROCESSING METHODS

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Background : Apples are known to contain antioxidants and vitamin C, which play important roles in protecting the body from oxidative stress and degenerative diseases. However, vitamin C is sensitive to heat, light, and oxygen, which can lead to degradation during processing.

Objective : This study aimed to compare the vitamin C content of Rome Beauty apple (Malus sylvestris Mill) in various processed forms commonly consumed by the public, including fresh apple, apple juice, cider, dodol, and apple chips.

Research Methods/ Implementation Methods : The research was conducted using a titrimetric method with 2,6-dichlorophenol-indophenol dye to determine vitamin C content. Five samples were analyzed in duplicate. The data were statistically tested using the Kruskal–Wallis and Mann–Whitney tests to evaluate differences among samples.

Results : The vitamin C content ranged from 2.85 to 12.36 mg/100 g. The highest content was found in fresh apples (12.36 mg/100 g), followed by apple juice (6.41 mg/100 g), apple extract (5.23 mg/100 g), apple dodol (2.85 mg/100 g), and apple chips (2.85 mg/100 g). Statistical analysis showed significant differences ($p < 0.05$) among the samples, particularly between fresh or juiced apples and processed forms such as dodol and chips.

Conclusion/Lesson Learned : Processing significantly reduces the vitamin C content of Rome Beauty apples. Heat treatment, oxidation, and exposure to air during processing are the major factors contributing to vitamin C loss. Therefore, consuming fresh apples provides the greatest nutritional benefit in terms of vitamin C intake.

Keyword : Vitamin C, Rome Beauty apple, processing, titrimetric method