

CAMELLIA SINENSIS AND ALUMINIUM

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Abstract: *Camellia sinensis* is a species of plants that are responsible for the tea leaves we use. All teas of the world belong to the genus, *Camellia*. However, the debate between this plant species with aluminium has sparked recent controversies. In this short communication I will highlight the issue of the controversy surrounding *Camellia sinensis* and aluminium.

Keywords: Tea, Packaging, Leaching, Staple

1. Introduction

The importance of *Camellia sinensis* cannot be overstated. This is because the global fascination with tea is enriched by the use of *C. sinensis* in beverages. These beverages range from green to black tea. However, many questions are still hovering around health, sustainability, and the materials that are used in the packaging of tea (Singh, 2024). The controversial issues follow:

2. The Controversial Issues

In the tea industry, aluminium has become a staple. This is because aluminium offers protective qualities to tea. These protective qualities include their lightweight attributes combined with their resistance to corrosion. Therefore, aluminium packaging assists in preserving the delicate flavours and aromas of tea leaves. However, controversies still persist. One of the controversies are associated with the leaching of aluminium into tea, particularly when hot water is used. Leaching has caused debate about the safety and health risks with aluminium packaging. Furthermore, aluminium packaging is related to neurological disorders.

Although regulatory bodies consider the aluminium packaging to be safe, there are concerns from consumers who call for transparency (Singh, 2024).

Although the amount of aluminium leaching into tea is low, studies indicate that the long-term effects of this leaching on consumer remains very unclear. Studies have indicated that there is a strong correlation between aluminium accumulation and ailments such as Alzheimer's disease. However, a 100% association hasn't been established (Exley, 2014; Poch *et al.*, 2020). Therefore, it is recommended that alternatives be used so that the minimum risks associated with aluminium exposure are avoided.

Higgins (2016) states that the sustainable practices are required by the tea industry. This is ascribed to the fact that chemicals are imperative in traditional cultivation methods. These chemicals are known to cause damage to soil, as well as, contaminate water. Therefore, eco-friendly practices and organic farming are used to ensure that tea production is environmentally sustainable and economically viable. Further to

this, biodiversity and better soil conditions are obtained through organic tea farming, which results in an improved environmentally conscious consumer base.

The dialogue between the use of aluminium and *Camellia sinensis* raises many questions about tradition and modern day science. From the discussion above, producers need to design innovative packaging solutions that are aligned to consumer health and environmental expectation. Currently, light is being shown on biodegradable materials and glass containers as promising alternatives.

3. Conclusion

From what we know, there is a need for there to be an intersection of health, sustainability and materials used in the tea industry. This unionisation will help us shape our quality of tea and the essence of our consumption habits. Additionally, embracing different cultivation methods will ensure that the best teas are made available to those who cherish it, thereby making it remain as a cherished global staple.

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