



Comparison of heavy metals (Pb and Cd) present in green tea and black tea

• Vidisha Singh • Mrinal • Shital
• Jyotsana Kumari

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Corresponding Author : Jyotsana Kumari

Abstract : *The current study is aimed to determine the concentrations of lead and cadmium (heavy metals) in samples of green tea and black tea and to compare them. Two samples of each green tea and black tea were taken. The investigation was performed using the atomic absorption spectrometer (AAS). The estimated daily intake (EDI) of Pb and Cd was compared with allowable daily intake (ADI). Results showed that one black tea sample contained both Pb and Cd which could be detected and it was found to be in permissible limit. Determining heavy metal content is still very important,*

because these metals are present in soils due to increased industrial activity and the use of pesticides and fertilizers.

Keywords : *Heavy metals, tea, AAS, EDI, ADI.*

Introduction :

Tea is a product of the leaves of the “Camellia Sinensis” plant. The records show that the first tea factory was built in 1932 in Lahijan. Day-by-day the number increased and there were 162 activated factories in 2010. Unfortunately, despite a lot of activities, the tea industry has not been observed in improving its quality in recent years. The beneficial effects of drinking tea, such as the prevention of cancer because of the presence of polyphenolic substances, the reduction of serum cholesterol (Salahinejad and Aflaki, 2010), the prevention of low-density lipoprotein, and decreased instance of cardiovascular disease, have made it one of the most popular beverages (Chung et al., 2003; Fung et al., 2009; Salahinejad and Alfaki, 2010). Studies have also shown that the regular consumption of tea can contribute to the daily dietary requirements of some elements (Karak and Bhagat, 2010). Black tea is the most common type of tea. It is processed in five steps: withering, rolling, fermentation, firing

Vidisha Singh

B.Sc. III year, Chemistry (Hons.),
Session : 2016-2019, Patna Women's College,
Patna University, Patna, Bihar, India

Mrinal

B.Sc. III year, Chemistry (Hons.),
Session : 2016-2019, Patna Women's College,
Patna University, Patna, Bihar, India

Shital

B.Sc. III year, Chemistry (Hons.),
Session : 2016-2019, Patna Women's College,
Patna University, Patna, Bihar, India

Jyotsana Kumari

Asst. Prof., Department of Chemistry,
Patna Women's College, Bailey Road,
Patna – 800 001, Bihar, India.
E-mail : kumari68jk@gmail.com