Acidity Of Different Samples Of Tea Leaves.pdf

Analysis of heavy metals such as As, Cr, Cd, Pb and Se in fresh tea leaves is important because they are toxic and can be transported into humans and animals via the food chain. The concentration ranges of Cd, Pb, As and Se in fresh tea leaves were (0.030.13), (0.051.14), (BDL to 2.06) and (0.471.31g/g), respectively (Table 3). Several studies have previously reported on the presence of trace elements in tea leaves and soil of tea gardens in Bangladesh [32 35]. The mean Cd concentration in fresh tea leaves was 0.090.03g/g (Fig. 3), which was lower than the World Health Organization (WHO) recommended limit of 0.10g/g [36]. The Cd concentration was also lower than that reported for fresh tea leaves from India (0.430.01g/g), China (0.770.02g/g), Japan (0.150.01g/g), and Italy (0.090.01g/g) [37] (Table 4). Moreover, our result was also lower than Cd content of tea samples from Turkey (0.500.10g/g) [28]. The variations in heavy metal contents of different samples may be due to differences in geographical location, environmental conditions, seasonal changes, physiochemical characteristics of the growing regions and matrix-to-matrix transfer. Quality control for pH and alkalinity consists of normal pH measurement and titration of a sample prepared by the WRRC and sent to you prior to field collection. There will be three of these samples. Several days prior to sampling, you will receive the first QA/QC sample from us, along with a postcard for reporting your results. This is a diagnostic sample. Follow the procedures described for pH and alkalinity measurement. Analyze two separate aliquots of this sample and report your results to us on the postcard. You will be called if we find a significant discrepancy between what we expect and what you measured. We will work with you to troubleshoot the problem so that you are confident of quality analysis for the field samples. Two other QA/QC samples will arrive just before field sampling. Unlike the first QA/QC sample, these are used to document data quality by helping us to statistically define the accuracy and precision of your analyses. Analyze two separate aliquots of one of these immediately prior to measuring pH and alkalinity on field samples; analyze two separate aliquots of the second QA/QC sample immediately after analyzing the field samples. In other words, the first two samples analyzed should be from one of the QA/QC bottles, then analyze the field samples, and finally analyze two samples from the other QA/QC bottle. Results should be reported on the pH & alkalinity lab data sheet.

Soil acidity and alkalinity measured in a range of soils from rainwater runoff (HL-1) to basic sand, to alkaline sand, to soil with a pH of 11.5-13.5 for comparison with the normal soil pH of 5.5-7.5, as listed in Table 4. Soil acidification and alkalinity were measured by the pH rebound method, and test soil were taken for three time, average values were obtained after three times. The three measured pH values, 6.3, 7.2 and 7.8 (HCL3) were very high, which were beyond the normal soil pH of 5.5-7.5 Flux-ionization mass spectrometry (FIMS) is a highly sensitive and accurate method for the elemental speciation and detection of trace-metal components [19, 20]. This technique employs high-mass resolution and mass accuracy for accurate determination of analytes in complex samples. Thus, no matrix interference and no preconcentration is required. Moreover, determination of elemental composition is conducted in a single experiment without any sample pretreatment. In addition, FIMS offers advantageous detection sensitivity and selectivity [19, 20]. Mg present in tea samples is associated with sucrose and tannins and can interact with K. In the present study, the determination of Mg was achieved with the help of HPLC using a gradient reversed phase C-18 chromatographic system. The mobile phase consisted of water containing 5% acetonitrile and 0.5% formic acid (pH was adjusted to 4.2 using 6N HNO 3). The Mg content was found to be increased with increasing concentration of tea in the sample. From the obtained HPLC chromatogram, the linear regression equations are y = -4062.05x+55.290 (r2 = 0.9990) and y = -95.974x+100.80 (r2 = 0.9988) for green and black tea samples, respectively. 5ec8ef588b