TEA FACTORY WOOD ASH AS A PLANT NUTRIENT SOURCE AND SOIL AMENDMENT

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Enormous amount of wood ash is being removed from tea factories in Sri Lanka, nevertheless still there is no efficient and proper way to reap the maximum benefit out of removed wood ash. Therefore, the main objective of this study was to investigate the suitability of tea factory wood ash as a plant nutrient source and soil amendment. A pot experiment was conducted at Tea Research Institute, Thalawakele. Three levels of wood ash i.e. 1000, 2000, 3000 kg/ha of compost or refuse tea were incorporated to the soils collected from three locations representing high, medium and low buffering capacity of soil pH. Mana Grass *(Cymbopogon confertiflorus)* was transplanted as indicator plant. One month after planting, soil samples were taken for chemical analysis. The soil pH values significantly varied among treatments and also soil series used. All the wood ash applied treatments showed significantly higher pH values compared to the control. Significant dif ference was observed among treatments and soils used in respect to soil N content. Higher N values were found in wood ash applied pots though, N in fuel wood is lost by volatilization at high temperature when burning. Out of tested treat ments, refused tea incorporat ed pots showed higher N levels. This may be due to initial high N content in refuse tea. Soil available P content varied significantly with treatment as well as soils used. Wood ash applied treatments showed higher P values compared with other treatments. Incorporation of organic materials showed slight reduction of available P in soils. A significant difference in soil available K content also observed among treatments possibly due to application of different levels of wood ash materials. Results revealed that, wood ash contain considerable amount of nutrients and hence, it can be used as a nutrient source and soil amendment.

Key words:Available nutrients, Tea soils, Wood ash