

ABSTRACT

Fertilizer studies in Kenya tea industry have focused predominantly on compound NPK. These fertilizers cannot be easily manipulated for specific soils and tea clones. In this respect, Athi River Mining limited has produced Mavuno blended NPK fertilizers with calcium (Ca) and magnesium (Mg). However, their application rates that would result in optimal nutrients uptake are lacking. This is the knowledge gap that this study sought to address. Therefore, the fertilizer blends were assessed for their effects on nutrients uptake at different rate in two sites. The sites were selected purposefully, one in the eastern and the other in the western tea growing areas. Randomized complete block design (RCBD) were used to select 36 trial plots in the two areas which were treated with three fertilizer types where one type was control, and four fertilizer application rates with one rate being a control. The trial was replicated three times Leaf samples were collected and analyzed for nutrients content. The data were then subjected to the analysis of variance (ANOVA) using Mstat C computer software package. Two leaves and a bud had higher nitrogen content (Timbilil 4.84%; Kagochi 4.53%) compared to deficient levels in mature leaf (Timbilil 2.26%; Kagochi 2.95%). This study has shown that supplementing the soil applied NPK fertilizers with calcium, magnesium and micronutrients resulted in better nutrients uptake.