



6.1.1 Kamanga Kenwood D. E. (1991). The effect of root pruning and bed-type on the growth of young tea (*Camellia sinensis* L.) in the nursery. (Supervisors: Dr. D. M. N. Mbewe and Dr. H. E. Nyirenda).

Two clones of tea, PC81 and PC110, were root pruned while standing on two bed types (subsoil bed and broken brick bed) to investigate the effect of root pruning, bed type and clonal type on the growth and development of the tea plants in the nursery. Clones formed whole plots; bed types sub-plots and four root pruning treatments (no root pruning, single root pruning in May, double root pruning in March and July, and multiple root pruning in January, March, May and July) formed the sub-sub plots. A total of 48 plots were arranged in a split-split plot in a Randomized Complete Block Design. Data on shoot height, shoot dry weight, root number, root dry weight, root:shoot ratio and total dry weight were collected. Clone, bed type and pruning treatments did not affect plant height, shoot dry weight, root:shoot ratio and total dry weight. Root pruning in May significantly ($P \leq 0.05$) affected shoot height of PC81 more than PC110. This resulted into higher total dry weight. The interaction between bed type and root pruning was also significant. Root pruning in May or in March and July resulted in taller plants only on those plants standing on subsoil bed. PC81 root pruned in May produced greatest shoot dry weight. Although PC110 produced more roots than PC81, root pruning generally, increases root numbers in both clones but did not influence their root dry weight and root:shoot ratio. PC110 produced higher total length than PC81 on the brick bed. The results suggest that root pruning has the potential for increasing field survival of tea transplants, but its effectiveness depends on the clone (genotype) and time of pruning. The brick bed therefore provides an alternative to root pruning because of its ability to restrict depth of root growth.