

**INVESTIGATION OF THE FEASIBILITY OF
LEAVING SELECTED WEEDS SPECIES AND
SOFT HERBS IN TEA NEW CLEARING AS A LIVE
GROUND COVER**

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By

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ABSTRACT

With imposition of restriction for the use of herbicides on weed management in tea cultivation in view of increment of health awareness among tea consumer in the world, Cultural weed management strategies which are eco-friendly, are to be more focused. Ground coverage by using selected weeds and soft herbs is an eco-friendly practice to control weeds. Hence, field experiment was conducted to investigate the feasibility of leaving some weeds species and soft herbs as a live ground cover in a tea new clearing at Ury estate of the Balangoda Plantation PLC, Passara during March to May 2021. Combination of *Ageratum conyzoides* and *Bidens pilosa* and soft herbs, combination of *A. conyzoides*, *B. pilosa*, *Borreria* spp and soft herbs, combination of *A. conyzoides*, *B. pilosa*, and *Commelina benghalensis* and soft herbs, combination of *A. conyzoides*, *B. pilosa*, *Borreria* spp, *C. benghalensis* and soft herbs were used as treatments and leaving all weeds was used as the 'control'. The experiment was laid out in a Randomized Complete Block Design (RCDB) with four replicates. Weed count of removed weeds and weed dry weight were measured. Slash weeding was done at 6 week and fresh and dry weight were measured. Abundance of selected weeds and soft herb was measured once a month. Pattern of growth of selective weeds was measured weekly. The tea plant growth was also measured. The lowest weed count removed was recorded in combination of *Commelina benghalensis* and *Bidens pilosa*, *Ageratum conyzoides*, *Borreria* spp and soft herbs and it was significantly ($p < 0.05$) lower than that of control. At 8 WAT, the lowest weed dry weight was recorded in combination of *A. conyzoides* and *B. pilosa*, *Borreria* spp and soft herbs, combination of *A. conyzoides*, *B. pilosa* and *C. benghalensis* and soft herbs and combination of *C. benghalensis* and *B. pilosa*, *A. conyzoides*, *Borreria* spp and soft herbs and they were comparable and also significantly lower ($p < 0.05$) than that of other treatments. The lowest weed dry weight was recorded in combination of *A. conyzoides*, *B. pilosa* and *C. benghalensis* and it was significantly ($p < 0.05$) lower than all the other treatments. The abundance of selective weeds were increased in T1, T2, and T3 at 8 WAT. The lowest soft herb count was recorded in the control. There was no any significant improvement in tea growth between any of treatments. Thus selected weeds can be left in the field as a ground cover.

Keywords: Selective weeding, Soft herbs, Tea, Weed abundance, Weed density