

**INVESTIGATION ON THE DURABILITY OF  
DIFFERENT MULCHES AND THEIR IMPACT ON  
WEED GROWTH SUPPRESSION IN LOW-GROWN  
YOUNG TEA**

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By

**RATHNAYAKA MUDIYANSELAGE DULANJANEE THARINDI  
RATHNAYAKA**

**Tea Technology and Value Addition Degree Programme**

**Faculty of Animal Science and Export Agriculture**

**Department of Export Agriculture**

**Uva Wellassa University of Sri Lanka**

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## ABSTRACT

Mulching is an essential cultural practice for weed suppression and conservation of soil and moisture in tea lands. However, this recommended practice has been neglected by some of the tea growers due to scarcity of mulching materials and high cost of labour. The potential use of any plant material as a mulch mainly depends upon its durability. An investigation was carried out to find out alternative plant materials as mulches, which are more durable and available at a lower cost. Shoots of Diyapara (*Dillenia suffruticosa*), Flemingia (*Flemingia congesta*) and Acacia (*Acacia auriculiformis*) were selected as mulching materials, together with artificial agricultural mulch were tested against Mana grass (*Cymbopogon confertiflorus*). Plots each sized 3 x 3.6 m in a tea new clearing was covered with each mulch material simultaneously as a treatment at the rate of 1.4 kg m<sup>-2</sup> on dry weight basis. Experiment was laid out in a Randomized Complete Block Design (RCBD) with four replicates. Results indicated that both Diyapara and Acacia were found to be more durable recording the most promising weed suppression (0.61 kg fresh weight m<sup>-2</sup>) with the lowest mean weed count, (12.7) (0.09 m<sup>-2</sup>) were presented with Diyapara. The highest soil moisture retention (15%) during short dry spells, the lowest soil temperature (26-27 °C) throughout the experiment and the highest C: N ratio of 28:1 was also reported with Diyapara. There was no any significant improvement in tea growth between any of the mulch treatments (P>0.05). Diyapara has an ability to suppress weeds more effectively than other mulching materials owing to its high durability.

Keywords: Mulching material, Weeds, Durability, *Dillenia suffruticosa*, *Flemingia congesta*