STUDY ON THE GROWTH OF *Commelina benghalensis* WEED INFESTED IN TEA LANDS, ITS FEASIBILITY TO USE AS A LIVE GROUND COVER AND AS A CATTLE FEED

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ABSTRACT

Commelina benghalensis is one of the problematic weeds commonly found in tea lands. It is very difficult to manage manually due to fragmentation of vegetative parts and it is chemically managed only by phenoxy herbicides, which are currently banned. However it has favourable characteristics on tea crop such as the capability of solubilizing soil phosphorus in roots of *Commelina* through VAM mechanism. An investigation was carried out to study the feasibility of growing *Commelina* under mature tea as a live ground cover. The field experiment consisting of four treatments, *i.e.* tea alone (weed free), tea infested with *C. benghalensis* slashed at 4 and 8 weeks interval and no weeding for 12 weeks, was conducted at a Wewessa estate, Badulla. Growth performances of *C. benghalensis* and tea yield were measured. A plot study for growth performances of *Commelina* was also conducted at the Uva Wellassa University, Badulla. Further, feasibilities to use the weed as a cattle feed being a kind of biological control strategy were also investigated. Three cattle of same age were fed with a similar weight of *Commelina* weed and common grass *Megathyrsus maximus* for three consecutive days. Proximate analysis was undertaken for nutrient levels of *Commelina* to study the suitability of the weed as a cattle feed. There was no any significant difference in tea yield between treatments. When compare to the six nodal stem cutting and three nodal stem cutting there are significant difference in leaf growth and primary branch growth. The weight of *Commelina* removed with slash weeding was more or less same in all treatments. All cattle showed much preferences for *Commelina benghalensis* weed than common grasses. Proximate analysis for *Commelina* weed showed 88.93% moisture, fiber 16.52%, fiber, 17.32% fat, 12.82% ash and 15.34% protein. Compare to the *Megathyrsus maximus* there are significantly high moisture, fat and ash contents in *Commelina benghalensis*. *Commelina benghalensis* weed can be allowed to grow as a creeper for shorter period and can be used as a cattle feed.

Keywords: Biological control, Cattle feed, *Commelina benghalensis,* Live ground cover, Proximate analysis