

**IMPACT OF CLIMATIC PARAMETERS ON TEA  
(*Camellia sinensis* L.) YIELD IN UVA MEDIUM  
REGION**

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## ABSTRACT

Tea has been main stay of Sri Lanka's economy for more than a century and still continues to occupy an important place. Climate has a great influence on tea yield and all most all climatic parameters are affected to it. But rainfall pattern (length of dry and wet seasons) and temperature are two key factors on the variability of tea production. Uva is one of the major tea planting regions and it has great climate variability. Determining the impact and optimum level of climatic parameters on yield, identifying vulnerable areas and forecasting of tea yield are very much important in climate change scenario. Uva medium region was selected to conduct the research and ten estates were selected from five AEZ according to tea land extend and accessibility. Data was collected for past ten years period of time and monthly variations of yield and selected climatic parameters (rainfall, temperature, and sunshine hours) were considered. Equations and graphs were developed for each climatic parameter by using quadratic regression analysis and yield was predicted according developed yield index by using time series analysis. There is a polynomial relationship between tea yield and rainfall of previous month. Optimum rainfall varied from 186.5 mm (IM1a) to 252.2 mm (IM2b) in this region. Therefore physical properties of soil should be increased IM2b AEZ. Reduction of rainfall by 10 mm per month from optimum value was found to reduce 0.36 – 1.12 made tea  $\text{kg}^{-1}\text{ha}^{-1}\text{month}$ . High amount yield declining is showed by the IU3c AEZ while IM2b showing minimum. Therefore IU3c region is highly vulnerable to rainfall change. Therefore awareness program on drought mitigation methods should be conducted for above region. Identifiable relationship could not be found between sunshine hours, temperature and yield. Cropping season is identified from March to June and none cropping season is identified from July to February. Highest yield will be predicted in May month for the Uva medium region. Therefore preparation should be made for yield harvesting and processing of tea in May month.