

**Title** The controlling of copper sulphate spraying time can improve black tea quality  
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#### **Abstract**

Always controlled environment have said to some enclosure places like growth chamber, glasshouse and hydroponics. While a change of application time of some chemicals (for example fertilizers) can be a new topic at horticultural controlled environments. To study the effect of copper sulphate spray on some tea qualitative traits, an experiment carried out using split plot with randomized block design with three replications. Copper sulphate concentrations (including; Cu0 = 0, Cu1 = 0.5% and Cu2= 1 %) and time of spraying (including; T1 = June early, 1st phase, T2= August early, 2<sup>nd</sup> phase) were distributed in main and sub plots respectively. Some important qualitative characteristics (indices) including Theaflavin (TF), Thearubigin (TR) and TF/TR ratio were measured after each spraying. Data analyze variance showed that different concentrations of copper sulphate did not have significant effect on measuring qualitative traits. However, time of spraying had significant effect on all of traits i.e. TF, TR and TF/TR. Since TF/TR ratio is one of important black tea quality index, thus we can improve tea quality by application of copper sulphate at summer especially on drought years.