Developing Scientific Method to Calculate the Surface Moisture of Fresh Green Tea Leaves on Wet Days

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Plucking is the most labor-intensive field operation in tea plantations. Laborers are paid according to the kilograms of shoots plucked by the workers. Interview with workers as well as management has been used to deduct the weight of green tea leaf of 1 kg per plucking round only when there is rain during the plucking time. This is happened due to the water content in the green leaf or leaf carrying bags. Although this practice is approved by the estate level workers union, any estate does not have any systematic methodology or governing law/ regulation to demonstrate that this deduction is appropriately justifiable. Moreover, the pluckers have some doubts related to the deduction of the weight of leaf plucked by them. Therefore, this study was focused on generating and evaluating of the scientifically accepted method to determine weight reduction of tea shoots plucked from the moisture of shoots during rainy days. Nuwara-Eliya Estate, Labukelle, and Tyllyrie Estate, Dikoya were selected for the study. Secondary data of rainfall within early 5 years periods were collected from the offices of the estates and primary rainfall data were obtained using a moisture analyzer after artificial rainfall was applied to leaf taken from selected fields. The quantitative analysis methods were used for data analysis including an analysis of independent and dependent variables, hypotheses testing, correlation, and regression analysis. A regression model was developed to calculate the surface moisture content of leaf during a rainy day. This model can be used to calculate the amount of weight to be deducted from the weight of tea leaf during rainy days and is only applicable to Nuwara-Eliya and Dimbula region.

Keywords: Plucking, Green leaf, Deduction of the weight of leaf, Surface moisture content, Wet days