

**SHORT-TERM EFFECT OF BIODYNAMIC VITALIZER
APPLICATION PATTERN ON YIELD OF
TEA (*Camellia sinensis* (L.) O. Kuntze)**

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by
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ABSTRACT

Biodynamic farming differs from other organic approaches given the usage of unique vitalizers following moon rhythms. A field study was conducted at Bio Tea Garden, Haldummulla, Sri Lanka to evaluate the effect of biodynamic vitalizer application pattern on yield of selected tea cultivars (TRI 2025 and CY9). Cow Pat Pit (CPP), which is a widely used vitalizer, was applied as both soil manure (rate of 25.00 g L⁻¹) and foliar manure (rate of 13.21 g L⁻¹). Measurements were undertaken in two consecutive ascending – descending moon cycles. Two vitalizer application patterns were used as proper application and opposite application. As the proper application, foliar manure application was practiced in ascending period and soil manure was applied in descending period whereas as the opposite application, foliar manure was applied in descending period and soil manure in ascending period. Control plots were maintained without vitalizer application. The experiment was performed in a split plot design with three replicates. Yield parameters were recorded every week as yield (kg ac⁻¹), mean shoot weight (g shoot⁻¹), and shoot density (shoot number ft⁻²). Soil and leaf chlorophyll analyses were undertaken after two months from first application of CPP manure. Moisture, pH, electrical conductivity (EC), organic carbon, and nitrogen (N) contents were taken as soil parameters in addition to estimating soil microbial biomass carbon and Colony Forming Unit (CFU) of soil fungi at the end of the experiment. Results revealed that there was no significant difference ($p>0.05$) in yield and soil parameters, before and after vitalizer application in both cultivars, after two cycles of CPP manure application. However, mean values obtained for yield, mean shoot weight, and total chlorophyll content were 4.78 kg ac⁻¹, 0.529 g shoot⁻¹ and 67.88, respectively. The soil organic carbon content, organic matter content, microbial biomass carbon content, total nitrogen content, CFU of fungi, pH and EC

gave the mean values of 1.54%, 2.61% , 0.0451%, 0.083%, 26.91×10^{-3} , 6.01 and 122.12×10^{-3} mS, respectively. The findings indicate that there was no short term effect of biodynamic vitalizer application pattern on yield parameters of tea with respect to the given cultivars, leaf parameters and soil parameters. Therefore, long term field experiments are suggested.

Key words: Biodynamic vitalizer, Ascending and descending moon, Cow Pat Pit manure