

connected by plastic tubing into a 20 liter-sized plastic cans. Location of the inter cans is 5 m, so that each plot contained 42 cans.

Measurement of through fall in the control plots using 25 cm diameter plastic drain pipe length of 4 m and placed under the canopy of trees at a height of 50 cm and 120 cm. Water that flows from the gutters are accommodated in a given plastic funnel. In each control plot has the gutter with a distance of 6 units which is 15 m. Measurement of the volume of water in can measured every week, or if can already nearly full, and this is very dependent on high rainfall. Therefore can checks done every day.

7. Measurement weather

Temperature and humidity under the canopy of trees was measured using Hobo, placed on wooden poles at a height of 80 cm and 200 cm. To measure the temperature and humidity and daily rainfall at the study site was built a weather station located 20 m research plots on the right side with a height 5 m. Temperature and relative humidity was measured using a CS 215, Campbell Scientific Inc., Logan, UT, USA, rainfall was measured by using ARG 100, Campbell. Data recorded at intervals of five seconds is stored in CR800 data logger (Campbell) once every 30 minutes. All of data were analyzed by using SAS (Shapiro-Wilk Statistics).

RESULTS AND DISCUSSION

Analysis of Throughfall and Weather in the TDE System

Through fall measurement results on the TDE system used for the simulation of drought stress on cocoa agroforestry as long as 13 months (March 2007 - March 2008) shows the TDE system is effective to reduce infiltration of rain falling on cocoa agroforestry. This is indicated by a percentage decline in month to 4-13 by 79% (Table 1).

Table 1. Percentage decrease in throughfall in research plots

Month	Percentage decline in throughfall
2 (April 2007)	52%
3 (May 2007)	41%
4-13 (June 2007-March 2008)	79%

Data G.Moser, October 2008, personal communication.