Analysis of stem diameter cocoa

Statistical analysis showed that the diameter of the cacao tree is not affected by the treatment of TDE but is affected by time (Table 4). Stem diameter of cocoa in roofing and control plots showed no significant differences, although there are differences in soil moisture content on plot roofing and control plots. However, the longer the drought stress given increasing stem diameter.

Table 3. Leaf Mass per area (LMA) of cacao leaf before and during roofing periode

January 07 (before roofing)		August 08 (6 months roofing)		March 08 (13 months roofing)	
Control	Roofing	Control	Roofing	Control	Roofing
(mg/cm^2)					
8,2±1,2^a	8,7±1,6^a	8,2±1,2^a	8,2±1,5^a	9,1±1,6^a	8,7±1,1^a

Note: Figures followed by different letters in each row indicate significantly different (DMRT test at p <0.05).

Table 4. Stem Diameter of cacao tree during drought experiment

February 07 (before roofing)		March 08 (13 months roofing)	
(cm)			
Control	Roofing	Control	Roofing
29,72^a	29,76^a	33,67^b	33,44^b

Note: Figures followed by different letters in each row indicate significantly different (DMRT test at p <0.05).

TDE system using the framework of bamboo and plastic panels under the canopy of trees and tree guards effectively reduce the volume of rain that falls into the plot by 79%. Measurement of soil water content around cocoa trees 5 and 13 months after plot roofing roofing showed lower than control plots. Soil water content plot roofing months to five 41% lower, and on 13th month roofing plot soil water content 57% lower than the control plot.

Although the water content in plots roofing decreased but has not led to differences in changes in the number of leaves, cocoa LMA and stem diameter when compared to plants in control plots. Throughout the study, all variables increase observations. This shows the intensity of the drought of the TDE system