B **SUMMARY**

Contract Number: RG/95/AG/03

Title of Project: Environmental manipulation: A strategy to assure yield stability and the export quality of tomato, grown during the rainy season.

Institute: University of Peradeniya

Chief Scientific **Investigator**: W.A.P. Weerakkody

Period of Contract: 2 years

Scientific Background and Scope

Protected culture is predominantly used in the temperate region where the cultivation of perishable crops is restricted due to seasonal weather changes. Because of the intensive environmental control, it leads to greater yield and quality of produce compared with the conventional open-field culture. It has also successfully introduced to the tropical region in order to avoid the problems of excessive rain and drought. Therefore, this study was conducted to examine the possibility of evading production constraints of vegetables that are related with excessive rain by using protected culture and some improved technology.

Experimental Method

The investigation was carried out in two phases. In the first phase (in 1996), two types of indoor structures and a package of improved technology were compared with the conventional open-field cultivation of tomato in two steps, during Yala and Maha. The evaluation was done in terms of growth, yield and fruit quality. The study was done in the Midcountry wet zone as a replicated field trial. The trial in Maha was basically a repetition of the Yala trial with the objective of preventing the errors occurred in the Yala trial. In the 2nd phase (in 1997), the treatments that showed comparative success over the others were further modified and employed in a field experiment to examine the stability of earlier results under differences in location and variety.