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A literature survey has been carried out in order to determine the current state of knowledge on the basic air drying characteristics of agricultural crops, with special reference to tropical agricultural products. This survey showed that there was little or no information available for most types of crops of interest to the Caribbean Region. A piece of equipment was thus designed and built to enable the weight loss characteristics of materials during drying to be determined continuously. In the apparatus, these weight changes were determined by measuring the strain changes in a freely supported beam on to which the basket containing the material was hung; the basket was located inside the drying chamber through which the drying air was passed. A computer method was also developed for analysing the results obtained. The drying curves obtained from the apparatus were shown to be reproducible and the apparatus gave satisfactory results for a variety of crops, including cassava, cocoa, pigeon peas and rice. The apparatus also gave satisfactory results on cassava drying over ranges of air temperatures and superficial air velocities. The apparatus was also used to determine heat transfer

coefficients, mass transfer coefficients and diffusion coefficients during cassava drying. It was concluded that the continuous weighing and recording apparatus operated satisfactorily and could be used to determine the drying characteristics of the majority of tropical agricultural products of interest to the Caribbean Region over a range of varying operating conditions. Recommendations for further work are also presented.

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