

ABSTRACT.

The air spora was sampled at a single site in Jamaica from May 9th, 1968 to May 9th, 1969, using a Hirst spore trap. The components of the air spora were analysed to determine their frequencies, and an attempt has been made to explain their distribution with respect to changing environmental factors.

Fungal spores were found to be the numerically dominant members of the air spora, comprising 98.73% whilst pollen comprised 0.40% of the total material observed.

Few spore types made up the majority of the fungal air spora, namely Cladosporium, Sporobolomycetaceae group, Diatrype, Glomerella, hyaline and coloured basidiospores, and septate fusiform spores.

Seasonal periodicity studies on twenty five fungal types showed that sixteen attained a high number of spores released during wet periods, four during cooler months, and five showed no seasonal trends.

Diurnal periodicity studies on twenty five fungal spore types showed all had a maximum release of spores at some time during the day. However, this maximum release of spores was shown, for some spore types, to reflect the diurnal periodicity of rainfall whilst in others the diurnal periodicity persisted for up to six days after rainfall had ceased. The magnitude of the maxima for the numbers of spores

released was also amplified by rainfall.

Investigation of the effect of rainfall on the numbers of spores released showed that the amount and duration of rainfall, the time of day rain occurs, and the length of the dry period preceeding rain were of varying importance to particular spore types.

It was shown that meteorological factors, in particular rainfall, can greatly influence the numbers of the air spora. Thus changes in the weather can profoundly affect the allergic patient.