content between different plantations. Although this will be discussed more fully elsewhere, it seems clear that *Nigrospora* sp. is an extremely common component of the air spora of Jamaican banana plantations.

Because of the small numbers of *B. theobromae* spores trapped, it was not possible to distinguish any clearly defined periodicity. It was, however, unusual to trap spores during the period 20.00–06.00 hr. The highest 2-hourly estimate recorded was 858 spores per cubic metre, when a clump of spores was trapped. The average daily mean concentration throughout the sampling period was only 8 spores per cubic metre. Such meagre counts could not be correlated with fluctuations in weather conditions. It was concluded that this fungus is a relatively infrequent member of the plantation air spora.

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Biotin Requirement and Carbon and Sulphur Sources in *Aspergillus* and *Neurospora*

CONIDIA of the mould *Aspergillus nidulans* were unexpectedly found to require a small amount of biotin (or larger amounts of desthiobiotin) for initial growth, when plated on to a minimal medium of Czapek–Dox, at a density of no more than 10^3 per dish. This fact seems to be in contradiction to what was previously considered to be their basic requirement. Biotin must be added to the minimal medium, for a total germination of wild-type conidia, to the extent of 10^{-6} gm./ml. This corresponds to about 1/100–1/10 of the amount required by the biotinless mutant *bi*-1.

Sometimes a few wild type conidia germinate in the absence of biotin to give rise to normal colonies, the conidia of which, however, have not acquired biotin independence.

When the carbon source (usually glucose 4 per cent) is replaced with an equal concentration (w/v) of fructose, ribose, glycerol or intermediates from Embden–Meyerhof, of tricarboxylic, or pentose cycle (pyruvate, acetate, succinate, citrate, gluconate) good growth takes place in the absence of biotin. If the glucose is replaced with an equal concentration of sucrose, maltose or dextrin, the basic requirement for biotin is retained. Under our conditions glucose-6-phosphate or glucose-1-phosphate are not utilized as carbon sources (even with added biotin).

Mixtures of glucose and fructose support growth in the absence of biotin, if the amount of fructose is equal or superior to the amount of glucose, whatever the total sugar concentration in a large range (0·2–8 per cent).

A role of biotin in glycolysis, namely as a coenzyme in the hexokinase or in glucose-6-phosphate dehydrogenase systems, was proposed by Moat and Liechstein and Strauss and Moat[2] in biochemical work with *Saccharomyces*. However, this finding was not confirmed by Siepmann and MacDonald[3]. Our results with the carbon sources are compatible with a role of biotin in some initial steps of glucose metabolism.

A variety of nutritional mutants (*ribo*-1, *an*-1, *pro*-1, *paba*-1, *ad*-20, *nic*-2, *lys*-5, *orn*-4) retained the basic biotin requirement of the wild-type, except the parathiotrophic mutant *s*-12, which grew, although with a delay of 24–48 hr., in the absence of biotin. (For description of mutants see Käfer[4].) As this mutant requires reduced sulphur as the only addition in a minimal medium, we looked for a possible effect of the replacement of the source of sulphur on the biotin requirement.

Replacement of 4 mM sulphate (which is the only source of sulphur in the Czapek–Dox minimal medium) by an equimolecular concentration of reduced sulphur (sulphite, thiosulphate, sulphide, cystein) or cysteic acid, allows wild-type conidia to give rise to colonies in the absence of biotin, though growth is delayed 24–48 hr. Addition of biotin ($2 \cdot 5 \times 10^{-9}$ mM) restores the growth to a normal rate.

Methionine, which is utilized in the presence of biotin as a reduced sulphur source by the parathiotrophic mutant, does not support growth in the absence of biotin. Moreover, the methionineless mutant *meth*-1 retains the biotin requirement of the wild-type.

A wild-type strain of *Neurospora crassa*, commonly regarded as a biotin-requiring mould, is able to grow in the absence of biotin if glucose is replaced by fructose, or sulphate by sulphide, on the same Czapek–Dox minimal medium. In the latter case, growth is improved by the addition of biotin.

Many species of moulds are reported to need biotin[5]. It would be of interest to elucidate the mechanism of this requirement, which appears to be similar in *Aspergillus* and *Neurospora*.

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Transfer of Ova to the Bursa Ovarii and the 'Suspended Loop' of Tube in the Rabbit

IN mammalian species successful ova transfer is possible when the ova are replaced inside the Fallopian tubes or uteri of laparotomized synchronous recipients. In species with confined bursa ovarii, like the mouse, the ova can be transferred into the fat pad adjacent to the bursa ovarii, through the capsular membrane and into the bursa proper[1]. Intravaginal ova transfer was not successful in cattle[2], owing