

other bacteria<sup>1</sup>, could not be detected in *Neurospora*<sup>15</sup>. This distribution suggests that the path of lysine synthesis via diaminopimelic acid might have selective advantage over the alternative path only when the latter is also required as a structural component. The evolution of two paths of lysine biosynthesis therefore appears to be an understandable exception, among the amino-acids, to the unity of biochemistry.

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BERNARD D. DAVIS

U.S. Public Health Service,  
Tuberculosis Research Laboratory,  
Cornell University Medical College,  
New York 21, N.Y.

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## SYSTEMIC INSECTICIDES AND SWOLLEN SHOOT DISEASE OF COCOA

IN a previous note in these columns (*Nature*, **167**, 260; 1951) we recorded the production by Messrs. Pest Control, Ltd., Harston, Cambridge, of a new systemic insecticide, *bis(isopropylamino)fluorophosphine oxide*, which was claimed to be safe for wide-spread use by the amateur gardener. Further experience has shown that this material has very dangerous toxic properties, and it is now recommended that it be applied only in the form of capsules inserted in the soil and applied *only* to ornamental plants.

As reported in two recent communications in *Nature* (169, 120 and 334; 1952) it has been found that this same method of application, on a much larger scale, is highly successful in killing the mealy-bugs which transmit the virus of swollen shoot disease of cocoa in West Africa. The insecticide used in this case is termed 'Hanane', and it is now disclosed that this is, in fact, a mixture of the two well-known phosphorus insecticides produced by Schrader, *bis(dimethylamino)fluorophosphine oxide* and *bis(bis-dimethylamino) phosphonous anhydride*.

The proposed plan is to apply this material to the roots of all those cocoa trees surrounding a focus of infection, which, under the cutting out procedure, would be immediately destroyed. It is hoped that in this way the spread of the infection may be arrested and trees that would otherwise have been sacrificed may be saved. Only those trees which

later show signs of the disease would be cut down. The systemic insecticide would not be used alone but in conjunction with cutting out. The whole procedure would have the political advantage of being more readily acceptable to the cultivator and being applicable by untrained persons.

So far there is no evidence available that these operations will, in fact, prevent the spread of the disease, the virus of which exists not only in the cocoa, but also in many of the forest trees around. It is only too well known that the virus diseases of plants may continue to spread even when apparently good control of the vector has been secured. But if the cocoa-growing industry of West Africa is to be saved, it is well worth while making an experiment. In order to do this on a grand scale, the Government of the Gold Coast has given a contract to Messrs. Pest Control, Ltd., for the supply of £500,000 worth of 'Hanane'. To launch an experiment on this scale is a remarkable act of faith, the outcome of which will be watched with the greatest interest.

## STELLAR PARALLAXES DETERMINED AT THE CAPE OBSERVATORY

VOL. 16 of the "Annals of the Cape Observatory" contains the data for the determination of the parallaxes of 619 stars from photographs taken with the 24-in. photographic refractor of the Cape Observatory\*. Earlier results given in the "Annals" are as follows: Vol. 14, Part 1, 217 stars; Vol. 14, Part 3, 201 stars; and Vol. 15, 592 stars. The basis of selection of the stars was their credited large proper motion, and most of those contained in the present volume have a proper motion exceeding 0.20", but a few stars of later type with a smaller proper motion have been included. Owing to the fact that the copy for the press was not all available at once, the data are given in three sections, the first including stars numbered 1011 to 1421, the parallaxes for which were originally given in four lists in *Monthly Notices of the Royal Astronomical Society* during 1941-45. The parallaxes for stars numbered 1422-1523, the second series, appeared in the *Monthly Notices* in 1947, but those in the third series, numbered 1524-1624, are still awaiting publication by the Royal Astronomical Society.

The stars are arranged in order of right ascension for 1900.0, and only one name, selected as the most convenient for the identification, has been given to each star. The photographic magnitudes are new determinations made by comparison with standard stars in the *E* regions at declination - 45°. In the case of stars brighter than magnitude 5, the magnitudes generally depend on observations made with the Fabry lens of the Astrographic Telescope, though the Victoria Telescope was used for the observations of some of the faintest of these. Late in the work an attempt was made to obtain visual magnitudes for the stars, but this is not complete. Where visual magnitudes are new they are given without brackets in the catalogue at the end of the publication (pp.

\* Annals of the Cape Observatory, Vol. 16: Stellar Parallaxes (6th, 7th and 8th Series) determined in the Years 1937-1948 with the Victoria Telescope of the Royal Observatory, Cape of Good Hope, under the direction of Dr. J. Jackson. Pp. viii+331. (London: H.M.S.O., 1951.) 30s.