

achieved a definite measure of success and the Conference recommended that further trials might be made

The Conference also resolved that it was desirable that further studies of various diseases, parasites and predators of locusts and grasshoppers should be undertaken in close collaboration by entomologists, mycologists, bacteriologists and zoologists

The major locust and grasshopper pests of various regions of the world, such as the Desert Locust, the Red Locust, the African Migratory Locust, the South American Locust, the Oriental Migratory Locust, the Brown Locust, the Moroccan Locust, etc., were then individually considered by the Conference, and in each case lines on which further investigations might be pursued were indicated

Lastly, recommendations were made for the permanent supervision of the known outbreak centres of (1) the Red Locust, (2) the African Migratory Locust and (3) the Desert Locust as also for the formation of a co-operative organisation between neighbouring countries for the patrolling of the outbreak areas at the appropriate time each year, with a view to suppressing incipient outbreaks. A plan for international co-operation between countries of Eastern Europe—Bulgaria, Greece, Rumania and Yugoslavia—for their protection against the Moroccan and Italian Locusts, was approved by the Conference, and it was agreed to recommend to their respective governments the constitution of a Committee of Biological Research and Control in regard to these locusts

It will be seen from the above summary of the resolutions passed that a most comprehensive and useful programme of work was gone through by the Conference. In view of the circumstance that a good deal of independent work, under varied conditions, is

being carried on in countries subject to the attacks of locusts and grasshoppers, and there is apt to be much delay in the publication of the results of the investigations for various reasons, it happens that many of the investigators remain unaware of the work and experience of similar workers in other parts of the world. International locust conferences of the present type would therefore be of the utmost value in co-ordinating research work on the Locust and Grasshopper Problem in different parts of the world and more than all in bringing about a live and personal contact between workers in distant regions

In two respects however, the Proceedings of the Fourth Locust Conference compares unfavourably with the Report of the Third Conference held in London. First in the case of the latter the Proceedings were issued remarkably quickly (in fact within a period of two months) while the one under review appears to have taken about 15 months for publication. This fact should however apparently have been due to the unfortunate demise of His Majesty, the late King Fouad of Egypt, not long after the close of the Conference and possibly also to various political happenings in Egypt. Secondly whereas in the case of the Proceedings of the London Conference all the papers and reports submitted to the Conference were included as appendices to the Proceedings, and indeed formed a very valuable part of the publication it is regrettable that in the case of the publication under review the papers and reports fifty one in number, have been entirely left out although the Conference had expressly recommended that they might be published as appendices. It is however, to be hoped that some arrangements might still be made to have the appendices published separately in the near future. Y R R

Epidemiology of Epidemic Dropsy.*

A PAPER giving an excellent historical review of epidemic dropsy, an investigation of the social and dietetic factors involved in the spread of seven separate outbreaks, and an account of experimental attempts to produce symptoms of the disease in human volunteers in Calcutta gaols has recently appeared. The conclusion is reached that epidemic dropsy is caused by the ingestion of an unknown toxin present in some specimens of mustard oil. This was based partially on the finding that no case was found amongst non consumers of mustard oil and that other things being equal, the incidence of the disease increased with an increase in the quantity of oil consumed. Further, samples of oil used by patients in these outbreaks were fed to eighteen volunteers in prison. Eight of these developed signs and symptoms characteristic of epidemic dropsy while eighteen controls remained healthy, on an identical diet minus the oil.

This work certainly indicates that mustard oil must play some rôle in the aetiology of the disease, but before the presence of a toxin can be accepted further details of its chemical and

pharmacological properties must be forthcoming. A more plausible theory of the action of the mustard oil is that its ingestion in large amounts sets up a gastro intestinal disturbance which prevents the proper assimilation of Vitamin B₁, and that in persons living on diets containing only minimal quantities of this vitamin signs and symptoms of its deficiency set in. Drs Lal and Roy state that they can readily distinguish epidemic dropsy from beri beri but all the symptoms they describe are common to both diseases. More satisfactory is the view that these two conditions are both manifestations of the same fundamental pathological processes in one the gastro intestinal and in the other the neurological symptoms preponderating.

The work of Peters has shown that the function of Vitamin B₁ in pigeons and rats is the oxidative removal of pyruvic acid especially from the brain. In the absence of the vitamin this acid accumulates in the blood. The demonstration by Platt and Lu at Shanghai of large quantities of pyruvic acid in the blood of beri beri patients provides striking evidence of the fundamental rôle of the vitamin in the aetiology of this disease. A similar finding in case of epidemic dropsy would be of the greatest interest.

R P

* "Investigations into the Epidemiology of Epidemic Dropsy" by R. B. Lal, S. C. Roy and Ghosal, *Indian Journal of Medical Research*, 1937, 25, 163-259