

met an old man who could not say how old he was, but was obviously above 70 years. If one could accept his own account of his diet, he would have had very little of the vitamins A, B, C, or D. That would constitute a biochemical mystery making one wonder whether by some physiological process the Indian ryot had evolved the secret of protecting himself, against deficiencies of vitamins in his food. Scientists, perhaps, in an effort to explain it away, would fall back upon the abundance of brilliant sunshine which they had in India. Sir John felt that there was a great deal in it and that the abundant sunshine might somehow or other make it unnecessary for the Indian ryot to have as much vitamin supply as was needed in less sunny countries.

That did not, however, mean that there was no room for improving the diet of the Indian ryot. That could and should be improved. That problem could be solved only after they had solved the biochemical problems relating to Indian food products.

Livestock Problems.—Sir John then referred to the conditions of animal stock in India and said that everywhere in India, poor stalks of grain crops, and poor grazing fields provided the main food for cattle. That was an inadequate diet for animals. There was a great need to radically improve the dietary of animals both in quality and in quantity. He was glad to note that at the Animal Husbandry Conference held in Madras, they had on the previous day (December 14) emphasised that point. The bullock was the greatest source of power for agriculturists in India and they had to remember that power could not be produced out of nothing.

The problem of milk supply was also one which required their immediate attention. In most villages milk could be got only in very small quantities by the children and sometimes not at all.

Nitrogen Fixation in Soils.—Referring to the need for a scientific study of soils, Sir John said that they had not yet fully understood the remarkable cycle in Nature with reference to nitrogen production. Though that subject had been fairly fully studied in connection with the temperate climates, yet in the tropics it still remained to be studied adequately. Particularly, with reference to soil study, they had to conduct large scale field experiments to ascertain facts and to work out processes. Some work in that direction had been done in U.S.A. But the results obtained there did not agree with those obtained in temperate climates, such as in England. In England they had established that the source of nitrogen in the soil was leguminous plants. But in the arid regions of U.S.A., they failed to get clear evidence of fixation by leguminous plants. What they should know was whether or not, in a country like India, fixation by free living organisms played an important part as a source of nitrogen. That was a problem of fundamental importance in soil study. In England they could not determine whether nitrogen fixation proceeded independently of leguminous plants. That could only be done in a tropical climate. Even in regard to experiments connected with composts and farm manures they found that the results varied as between England and America. Therefore, if they wanted to obtain satisfactory solutions for their problems connected with agriculture, biochemists in India would have to solve them.

ANNOUNCEMENT

INTERNATIONAL SYMPOSIUM ON STABILITY

The Symposium organized by Academie Nationale de l' Air et de l' Espace, O.N.E.R.A. - C.E.R.T. will be held during November 3-4, 1987 at Paris. Further information may be had from:

Academie Nationale de l' Air et de l' Espace, 1 Avenue Camille Flammarion, 31500 Toulouse, France.