

Letters from our Correspondents Overseas and in India.

London

PROSPERITY TO INDIAN AGRICULTURE.

(FROM OUR OWN CORRESPONDENT.)

3rd December.

IT is perhaps natural, in view of their superior resources in terms organisation, finance and personnel that the plantation industries, in India as in other tropical countries, have led the way in the application of scientific methods of cultivation; and in that respect, as Sir Albert Howard indicated in an address at the Royal Society on "The Manufacture of Humus by the Indore Process," history is repeating itself, for it is the plantation industries which are applying this process on the largest scale. This is peculiarly apposite because, as the former Director of the Indore Institute recalled, prior to the investigations which led to the discovery of the new process, there was an idea of examining the experience of old cultivation systems like the Chinese—the very continuance of which over several thousand years is a proof of efficiency—and illuminating them in the light of modern science. In the result, the Indore process, while founded on correct bio-chemical principles, is not far from Chinese or other more primitive methods evolved empirically in many parts of the world. What the Indore experiments proved was that one of the chief factors involved in raising crop-production to a much higher level throughout the world was the orderly utilisation of the waste products of agriculture itself. Probably, however, this discovery would have received less recognition from the plantation industries if the world slump had not enforced drastic reductions in overhead expenditure, including the amount spent on fertilisers, and predisposed managements to try out new methods. The first results obtained have led to its rapid adoption.

In Kenya, as Indian coffee producers will be interested to learn, the Indore process has become

the routine practice on most of the well-conducted coffee plantations, and the results obtained suggested that something similar should be attempted with regard to tea. In August, 1933, Sir Albert Howard mentioned, he succeeded in interesting a former member of the research staff of the Indian Tea Association, Dr. C. R. Harler, just before his appointment as Research Officer to the Kanan Devan Hills Produce Co., in Travancore. Dr. Harler encountered no difficulties in working the Indore process; ample supplies of vegetable wastes and cattle manure were available, the local labour took to the work, and the estate managers at once became interested and soon enthusiastic. Subsequently representatives of the North-East India and Ceylon tea industries became interested, and in less than a year many trials have been carried out in India and Ceylon, the initial results being entirely satisfactory and justifying the expectation of still more imposing results for 1935. Sir Albert Howard claims, indeed, that:—

The large-scale trials which Dr. Harler has initiated in Travancore leave little doubt that the general introduction of the Indore method is certain to improve the fertility of the gardens and lower the cost of production of tea. What the effect of humus will be on quality remains to be seen. One could deal with this point more definitely if more were known about the root system of the tea plant and the manner in which the plant and the soil come into gear throughout the year by means of the absorbing roots.

Among the men engaged in the production and sale of tea an uneasy feeling can be detected that the use of artificial manures has been followed by loss of quality. One of the planters in the Darjeeling district, Mr. G. W. O'Brien, the proprietor of the Goontee Tea Estate, who continues to produce tea of the highest quality, has never used artificials since the estate came under his management thirty-one years ago. The only manure used is cattle manure and vegetable wastes.

The sugar industry, too, stands to gain not less than tea from lower costs of cultivation in order to offset lower prices, and the experiments conducted have shown that the average sugar-cane estate can produce most of the manure it needs. East of Suez there will be no dissent from Sir Albert Howard's conviction that if the contest between cane and beet could be fought out without the intervention of tariffs, quotas and so forth, cane would win easily.

An Opportunity for Urban Centres.

It is not only the rural industries which can contribute to, and accelerate the application of, the Indore process, for it can be applied to municipal waste (town refuse and night soil) and is already being so applied by a number of Indian municipalities as far apart as Indore City, Secunderabad, Shahjahanpur (U.P.) and Sabour (Bihar and Orissa). In Ceylon some of the urban authorities have begun to convert their municipal wastes into humus. In Nairobi, in East Africa, a factory, under commercial control, has proved extraordinarily successful and profitable, and Sir Albert Howard makes the somewhat startling suggestion that "the present water-borne methods of sewage disposal should be given up in all new towns, in all extensions of existing towns, in all new land settlement schemes and new villages, and replaced by a more rational system which does not also waste large volumes of valuable water. In this way the losses involved in our present wasteful system could be restricted. In the course of time our water-borne system will, in all probability, be replaced by something much more sensible."

How to Improve Indian Cotton.

In recent years much has been done in Lancashire to popularise Indian cotton and there is no slackening in a campaign of great potential benefit to both countries. Is India, on her part, making the maximum effort to effect those improvements in the quality of her cotton which are admittedly so desirable from every standpoint? Sir Albert Howard answers that question with a stinging and emphatic negative. Let it be borne in mind, as he recalls, that a large portion of the money spent on working out the Indore process was financed by, and was originally devised to help, cotton growers to combat a factor which limits the great possibilities of India as a producer of raw cotton. This factor—poor soil aeration after the cotton is sown—operates both on the black cotton soils of the Peninsula and also on the drier areas of the alluvium of North-West India where this crop is grown. Nowhere have the practical advantages of the Indore process been demonstrated more convincingly than on Colonel Cole's estate at Coleyana (Punjab) where a compost factory was established in June, 1932. The cotton crop has distinctly benefited by the dressings of humus; the quality of the fibre has improved;

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higher prices are being obtained; the irrigation water required is now one-third less than it used to be. The neighbouring estates have all adopted composting, and inquiries about the process are being received from the large cultivators in the neighbourhood. A promising beginning has therefore been made in removing the factor which is holding up the yield and depressing the quality of Indian cotton. In view of the results secured, it might have been expected that the Indian Central Cotton Committee would have launched a vigorous campaign to broadcast the knowledge and application of the new process throughout the cotton-growing areas. On the contrary, according to Sir Albert Howard, whose long experience and practical achievement lend weight to his indictment, the funds of this body "are now largely devoted to matters of only secondary importance..... Far too much attention is being paid to plant breeding and the distribution of seed..... The factor limiting growth, namely, poor soil aeration, must first be removed so that the work of the plant breeder can produce its full effect. It is only by the combination of better soil conditions with improved varieties that the cotton growers of India can materially benefit from agricultural research."

The technical aspect raises issues which the experts must fight out between themselves, but the commercial aspect is that cotton cultivation, outside the United States, is spreading to countries whose products threaten increasing competition with Indian staples which therefore require every reinforcement in yield and quality which the research workers can contribute. In any discussion on Sir Albert Howard's criticisms, which the Central Cotton Committee can hardly afford to leave unanswered, it will be agreed that the decisive consideration should be the interests of the Indian cotton-grower. It is a question not only of gaining new markets, such as Lancashire, but of retaining older outlets in face of increasing competition from countries as far apart as China and Brazil.