Report of the Minister of Agriculture for the Dominion of Canada for the year ended March 1933.

THE Canadian Ministry of Agriculture deals with a wide variety of agricultural activities covering every kind of agricultural interest which for comprehensiveness is not equalled by any other country. The record relates to the work of the Central Farm with its fourteen divisions, the work on the thirty Branch Farms and Stations and the departments of Dairy and Cold Storage, Health of Animals, Livestock, Seeds, Entomology, Fruits, Agricultural Economics and Publications. What a wide field is covered will perhaps be appreciated best when we point out that the Ministry controls even betting on race courses, a subject which one would hardly think of bringing within the ambit of agriculture. Details about the subject such as number of race meetings and racing days, amounts of money wagered, prize money, etc., are given with the same care and thoroughness as those relating, for instance, to manurial experiments, nutrition studies, releases of parasitic insects and the hundred other matters which one usually associates with a department of agriculture. This only shows in what an intimate manner the State concerns itself with the welfare of its foremost industry, investigating, directing, controlling and advising at almost every point. We may draw attention to another aspect of its work which marks it out as conspicuously different from what obtains in India, *viz.*, the extent of agricultural legislation and the administration of the numerous Acts passed thereunder. These deal with a variety of matters such as pest and weed control, guarantees of purity in seeds, fertilisers and feeds, disease control of livestock including bees, export and import control in respect of grades and standards of quality, packing, warehouse equipment, creamery, canning-house and elevator requirements and so on, a wide range of legislative control all calculated to advance the permanent interests of agriculture and the community though perhaps irksome and harassing to the individual. The Indian farmer is in the enjoyment of a blissful freedom in this respect—a freedom as blissful as that which permits smoking near a haystack. When one thinks of the prevalence of crop pests, contagious diseases of cattle and the confusion in the marketing methods in this country, one would welcome a powerful and liberal measure of reining in of this unholy freedom. The strict control methods have enabled the Dominion to benefit substantially by arrangements like the Ottawa Pact which, we are told, has materially increased the export trade in the United Kingdom.

We may now refer to some of the important items among the strictly agricultural activities of the department. One which is of timely interest in Mysore is the success which has attended what is called the biological method of insect control. The *Lecanium* scale is said to have been practically exterminated by this method, while against other important pests like the Oriental fruit moth, the satin moth, the green house white fly, the wheat stem saw fly and the corn borer, suitable parasites have been liberated with satisfactory results. We hope similar success will attend our own attempts in Mysore against the sugarcane borers. The increasingly large distribution of bacterial cultures of legumes is noteworthy in as much as it indicates that the true place of this method has at last been recognised, after the boom it once enjoyed and the disappointment it caused when the unduly high expectations were not realised. In the Division of Chemistry, experiments on pasture manuring and management confirm the now accepted conclusion that the stock carrying capacity is increased if the herbage is grazed quite young. The work relating to "quality" in produce such as protein and oil content in soyabeans, nicotine content of tobacco as related to "harshness" in smoking, is interesting and is worth being copied in India in regard to the chief products here. Manurial experiments bulk largely as usual in this Division; the results indicate the need for complete fertilisers including a suitable proportion of potash, an ingredient to which Indian soils have not always responded, at least as regards the *quantity* of produce. The Publicity and Extension Division maintains its high level as a model for propaganda methods. One of the happy features of this work is the intelligent response of the farmers themselves as evidenced by the co-operative experiments and the readiness with which questionnaires are answered. The various marketing and other surveys and studies of

the results of work are rendered easy and efficient by this attitude of the farming community and the report bears ample evidence of the advantages that have accrued thereby. The record of the year's work justifies the high reputation which the Canadian Department of Agriculture enjoys for the efficiency and diversity of its services.

A. K. Y.

The Indian Lac Industry.

TO an economically impoverished country like India, the preservation and expansion of its indigenous industries should be a matter of deep concern to the Government and to the large number of people who make their living in the industry. The Indian Lac Industry supports a large population of village tribes who cultivate lac, petty contractors who collect the raw material and a number of skilled labourers connected with the conversion of stick lac from forests into the shellac of commerce.

The entire bulk of this produce is exported away to Europe and America where the commodity enters into the manufacture of a variety of products. The continued prosperity of the Indian Lac Industry therefore is closely linked up with an expansion of its consuming industries and an extension of its uses based on industrial research.

The Government of India in pursuance of its policy of supporting indigenous industries levied a cess on the export of lac the proceeds of which have since been utilised for propaganda, marketing and research. The founding of a Lac Research Institute at Ranchi, the appointment of a Special Lac Enquiry Officer in London and more recently the deputation of three Indian Research Workers to England are the three landmarks in the scheme of stabilising the industry.

We have now before us a volume on "Lac and the Indian Lac Research Institute" by the three principal officers of the Lac Research Institute at Ranchi, during the last ten years of its existence. We have also been favoured with a copy of the technical paper on "Isolation of Pure Lac Resin", the first fruits of the Indian research workers under the auspices of the London Shellac Research Bureau.

The annual report of the Special Officer is an interesting document. In the first place, the work since its inception upto 31st March 1934 has cost the Indian Government Rs. 25,000: What is the return? one is entitled to ask.

The British manufacturers are evincing some interest in lac and the Special Lac Enquiry Officer has established and maintained fruitful connections with experts in Germany and America. He is also engaged in disseminating technical information regarding the uses of lac. He has also been doing great service to the Indian Lac Industry by organising exhibitions, writing articles on lac in important Journals and Year Books, pleading for a more extensive use of lac. Under the general advice and auspices of an Advisory Committee, the London Shellac Bureau is carrying out certain pieces of investigation relating to lac: so far, except for the fact that a few promising lines of inquiry have been initiated, nothing very striking or useful has yet come out of these endeavours.

What is most needed for the Indian Lac Industry is speeding up of research which means that all our resources, money, talent and laboratory facilities not only in Great Britain but also in India should be harnessed.

We should have a parallel Advisory Board in India who will arrange for certain pieces of work relating to lac to be conducted in Universities and Research Institutes who will gladly take up such problems. A move in this direction will speed up the progress of research on lac.

M. S.