

## Agriculture in Australia — I.

by

C. L. SUNDARARAJAN, B. sc. (Ag.)

The world wide distress that prevailed in the wake of World War II compelled the major powers to institute in 1950 what is known as the Colombo Plan, to render monetary and technical assistance to the South East Asian countries, to improve their living standards. Development work has been carried out so far at a cost of nearly two million pounds, of which four fifths is provided by the participating countries themselves and the balance is contributed by the United Kingdom, Canada and Australia. Under this Colombo Plan, a part of Indian Farmers were enabled to make an educational tour of Australia to see how far the methods adopted by the Australian farmers, who are reported to be the most progressive in the world could be utilised to improve the farming practices and crop production in India.

It was under this scheme that we, a party of Indian farmers, were sent to Australia. Most of the nominees are graduates in agriculture and are also practising farmers, representative of various parts of India. We arrived in Australia in the middle of November 1955 and stayed on till the first week of June 1956.

We were taken first to Canberra where we were given a series of lectures on all aspects of Australian farming. From then on, we were taken on a conducted tour to the various parts of New South Wales and Victoria, where we visited sheep stations, dairy farms, wheat farms and orchard areas. We visited a few of the Agricultural Colleges, Research Institutes, and Experiment Stations of the Department of Agriculture and of The Council of Scientific and Industrial Research Organisation. For a period of five weeks we were privileged to stay as guests, in the homes of private farmers in the fertile Murrumbidgee Irrigation Areas. This unique opportunity enabled us to come in close contact and work with the Australian farmer. After a detailed visit to the Royal Agricultural Show at Sydney, where we were given training in judging farm and animal produce and animals the party dispersed to different areas to specialise in the subjects of their choice. A few of us went to Queensland to study the cultivation of tropical crops, especially sugarcane.

## INDIAN FARMERS SEE THE VARIETY OF AUSTRALIA'S AGRICULTURE



A party of 15 Indian farmers who were in Australia for six months under the Colombo Plan to study farm methods visited Hawkesbury Agricultural College at Richmond, about 40 miles from Sydney, the capital of the State of New South Wales. The farmers inspected citrus growing, canning, bee-keeping, vineyards and other crops. Mr. J. M. Mead, an instructor at Hawkesbury Agricultural College, showing honeycombs in the bee-keeping section to the Indian farmers.

(Left to right) Messrs. C. S. Gelda (Jaipur), Satwant Singh (Pepsu), C. L. Sundararajan (Madras), K. K. Bhargave (Jabalpur) and L. N. Kolhe (Bombay State).



Farmers from India, in discussion with Australian scientists, at the Royal Agricultural Show, Sydney.

The Government of Australia had taken great pains to draw up our programme and carry it out to detail. There was nothing lacking by way of amenities provided or the facilities given for study of the problems, social and economic. The general public gave us a spontaneous welcome and our grateful thanks are due to the Government and people of Australia who did their best to make our stay both enjoyable and instructive.

**Geographical Features:** Australia is the smallest continent and the biggest island. It has an area of 2·97 million sq. miles — almost as large as the U. S. A., or 2½ times bigger than India. Geographically, Australia is the oldest continent. It has the most level surface and has no towering peaks, the highest peak being the Mount Kosciusko in New South Wales (7328 ft.)

On the whole, Australia is a continent of scanty rainfall. The North East Coast of Queensland receives the highest rainfall (160") and is of the monsoon type (summer rains). The Westerly winds skirt the Southern shores and bring reliable light to moderate rains to the southern part of the continent. This is the winter rainfall area. 37% of the entire area has a rainfall less than 10 inches and is, in effect, a desert. The main river system is that of the Murray and its tributaries the Murrumbidgee, the Lachlan and Darling. This area is highly developed due to extensive development of irrigation works.

Dense forests are found in the tropical North and open park-like forests abound the Eastern sea board. Beyond the mountains are the grass land zones with Acacias. Eucalyptus is the national tree and 600 species of it inhabit the different zones.

The average density of population is 3·02 persons per square mile, and is, therefore, the most sparsely populated of all the civilized countries of the world. The density is the highest in Victoria with 27·9 persons per square mile. 53·9% of all the population live near the coasts in 6 capital cities with a further 24·8% in other urban areas. The rural areas account for only 21% of the population. Most Australians live near the coasts mainly in south and south east and relatively few live in the north and in centre. The large population in the urban areas is an index of the growing importance of industry and commerce in the economy of the country.

The population of Australia is about 9 millions, 16% of which is engaged in agriculture and primary industries, 28·2% in the manufacturing and 55·3% in the tertiary industries.



Australia is mainly a pastoral and agricultural country though, of late, many new industries have sprung up and she is bidding to become an exporter of manufactured articles. The net value of primary production in primary industries in 1953—1954 was £ 1092 millions as opposed to that of £ 1231 millions from secondary industries.

Australia's greatest rural industry is wool growing, followed by wheat, cattle and sugarcane. Other important products are fruits and vegetables.

**General Conditions of farming:** Australia is truly blessed with a variety of soils in different climatic regions. Land is available in plenty and man has the option to pick and choose the type of land best suited to his type of farming. Since the population is small, each farmer is assured of an acreage as would give him a good standard of living. The acreage, of course, depends upon the type of farming and fertility of the land. Fallowing and green manuring are extensively practised and the modern tendency in many of the farms is to have a harmonious combination of sheep and beef cattle raising in conjunction with cereal farming. A 3 to 5 year rotation is followed and use of nitrogenous fertilisers is almost wholly restricted to sugarcane and other commercial crops, while use of superphosphate and of minor elements, wherever necessary, is widely prevalent. Each individual farm is enclosed by barbed wire fencing and each farm is self-contained with its own farm house, quarters for the employees, (permanent and seasonal) and buildings to house the machinery. Scarcity of water is the bane of the country and water for domestic use is collected and stored off in tanks from the corrugated iron sheet roofs of the homestead.

**Agricultural Labour:** Shortage of labour is an expression one hears often. Labour, as understood in the densely populated parts of the world, is unknown, and the farmer has to rely on his own strength and ingenuity for carrying out all the operations on the farm. He needs not only to be a good tiller of the soil but must be a skilled mechanic, an efficient veterinarian, an able engineer and to a lesser extent these days, a good cobbler too. No job is too big and nothing too mean for him. A number of labour-saving devices and implements are perforce devised and utilised on the farm and in the house to minimise the drudgery of every-day operations. The farmer works long hours during the season and constructs or repairs farm buildings or machinery during the off

season. A few hands are employed during the harvest season to assist the farmer in his work. The farmer's wife knows of no help to assist her in housekeeping.

The farmer reads the latest journals and text books on subjects of his choice and is thoroughly conversant with the latest developments. It often happens that a farmer is well ahead of the Experimental stations in the adoption of improved cultural methods or of new varieties of crops.

Employee-labour is not very efficient. All employees are by law compelled to be members of the Australian Workers' Union, and their conditions of service, scales of pay, work-load etc. are governed by various awards of Industrial tribunals. Each one is assured of a basic or living wage and it is illegal to offer or accept any wage lower than the basic wage. This basic wage is revised every quarter according to the cost of living Index. The basic wage is defined "as the minimum wage for unskilled labourers at a standard appropriate to the normal needs of the average employee regarded as a human being living in a civilized community." At present the basic wage is about £ 13/- for a 40 hours week. The disparity in income between different strata of society is small and hence the standard of living of the population as a whole is high. No home, not even of a labourer is complete without a radio, frigidaire and many other equipments.

**Agricultural Education:** No village, as known in India, exists here. Each farmer lives on his own farm for the efficient management of it. The Government does not grudge spending any amount on the provision of amenities to the rural areas. Rural electrification is highly developed and extension of telephone and other means of communication have made rapid strides. Primary and secondary schools have been started in rural areas and the State-organised transport for children attending these rural schools have alone cost the treasury £ 2½ millions in 1953 — 1954. Medical aid is available in every area though the need for it is limited because of the robust health of the population.

The farmers' children grow in natural surroundings, develop a liking for farming and, in a few instances, complete their education by attending one of the colleges of Agriculture. More than 60% of the products of the college go back to land and the Nation is the better for having a set of practical farmers well versed with the theory of it.

Agriculture is given a prominent place in the curriculum of rural schools. In the colleges of Agriculture greater emphasis is laid on the practical training with the minimum of theory. These colleges award diplomas and students having an appetite for scientific research go up to Schools of Agriculture in the Universities for their degree courses.

**Farm finance:** The Australian farmer is not handicapped for want of capital to carry on the farming operations. Government agencies like the Rural Bank of New South Wales advance appreciable amounts to the farmers on the security of their lands. Merchant houses and Banking Institutions have branches in all rural areas and advance loans to farmers at reasonable rates of interest (5 to 6% per annum). Co-operative Banks are conspicuous by their absence. The whole structure of rural finance is based on solid foundations of mutual trust and confidence.

Speculative buying of farms in many of the closely settled areas is prohibited by a system of supervision on all sales of farms, and this has the healthy effect of preventing over-capitalisation of farms.

**Agricultural Extension:** The organisations responsible for the advancement of farming in all its phases are far too many to mention in detail. The Department of Agriculture is highly organised in each state and it works in the same way as its counterpart in India, except that the Australian Department has, by the confidence reposed on it by the farmers, become a force to be reckoned with while handling any rural problems. The Department works in close liaison with C. S. I. R. O. and Universities who initiate works of fundamental importance. Because of the smaller number of farmers to deal with, the staff of the department know each farmer personally and this leads to better understanding of mutual problems. In certain areas like the Murrumbidgee Irrigation areas or in certain industries like the sugar industry, the farmers are under the immediate guidance of special agencies like the Water Conservation & Irrigation Commission or the Bureau of Sugar Experiment Stations.

Commercial Specialist Services to carry out engineering works like levelling and to supply pedigree seeds and pedigree stud animals, insecticides, fungicides, and, in fact, every requirement of the farmer are found in every corner of the country and the Department of Agriculture is not bothered with this sort of service.

The Farmers' organisations are scattered throughout the country. They have sprung up from among the farming public and are well patronised by them. They have regular meetings in which they discuss their problems, exchange notes and submit their considered views and demands to the proper quarters. Each centre of population has got its own show ground, often owned by the farmers' organisation, where the local Agricultural Society holds its annual exhibition and awards prizes to the winners in the competitions. The agricultural Clubs, the Farmers' & Settlers' Association and other similar organisations are the watchdogs of the interests of the farmers and they issue weekly and monthly journals for the benefit of the farmers. The Royal Agricultural Societies are the premier organisations and they have as their object, the exhibition of agricultural, livestock and other products of individual States and to conduct contests in agricultural production in different parts of the State. The Royal Easter show conducted by the Royal Agricultural Society of N. S. W. is truly the greatest show on earth, where, in 1956, 20,000 pedigree livestock and 900 agricultural and livestock products were exhibited. About a million people were estimated to have visited the shows and the prize money given away to prize winning exhibits amounted to £ 30,000/. The Department of Agriculture lends the services of its staff for judging the exhibits.

The stock of the farmer in the public life is very high and his influence in the Government of the day is immense.

**Agricultural Production:** Volume of agricultural production is neither controlled nor under any restrictive practices, except in the case of sugarcane and, to a lesser extent, in case of rice. But the marketing of all commodities is controlled by various Marketing Boards constituted under the Marketing of Primary Products Act. A singular exception is wool which is sold in the free markets by public auctions. Representatives of producers have an effective voice in these boards and it is this body which is responsible for laying down standards of production, fixing up local and export prices and ensuring the orderly marketing of the products. The Commonwealth Bureau of Agricultural Economics carries out surveys of cost of production of various commodities and, based on its reports, the Commonwealth Government grants subsidies from out the general revenues in suitable cases. The whole aim is to prevent the exploitation of farmers by middle men, stabilise the prices of agricultural commodities on a scale of parity with the cost of industrial goods and ensure the farmer a decent standard of living.



The system of giving Income-Tax rebates and depreciation allowances to investments made in farms are intended to attract sufficient capital to the rural areas.

The action taken by the farmers themselves in organising gigantic Co-operatives for the processing of their products—Armony Coop. Canery, Leeton Co-op. Cannery, the Rice Growers' Co-op. Mills and various butter factories—and for supply of their requirements at reasonable cost, has the effect of ensuring to the farmer a fair deal in all his transactions. These co-operatives, it must be understood, have sprung from below and not super-imposed on the farmers by any Government agency.

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### Rice Hispa (*Hispa Armigera* Ol.)

by

DR. M. Q. KHAN, M. SC., PH. D. (London), D. I. C.  
and  
D. V. MURTHY, Dip. Agric.,  
Assistant Entomologist, Hyderabad Agricultural Dept.

**Introduction:** Rice Hispa (*Hispa armigera* Ol.) is one of the major pests of Rice crop in the Hyderabad State causing an average loss of 10% in yield. Occurring on both the seasonal crops, the winter sown crop, known as *Tabi*, planted in December–January is more attacked than the monsoon crop known as *Abi*, sown during the months of June–July. In years when the south-west monsoon rains are late, *Abi* crop also is damaged to a very considerable extent. In Hyderabad State the pest is found in all the rice growing districts. It is locally called “*Nalla Purugu*” (Black Insect). The annual average infestation of Rice Hispa is 15,000 acres on an area of 14.5 lakhs of acres grown in the State.

Padwick (1948) in his review on Plant Protection and Food crops in India mentions that in 1946, Rice Hispa caused a heavy loss on 20,000 acres of Rice crop in Madhya Pradesh. Trehan and