AGRICULTURAL RESEARCH IN INDIA

INSTITUTES AND ORGANISATIONS

Вy

M. S. RANDHAWA, I.C.S., D.Sc., F.N.I.

Vice-President

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

INDIAN COUNCIL OF AGRICULTURAL RESEARCH
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Editor
U. N. CHATTERJI

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FOREWORD

There are a number of research institutes functioning under the Central Ministry of Agriculture, the Commodity Committees and the State Governments, in which research on agricultural, veterinary and animal husbandry problems is carried on. The need for an integrated account of research organisations and institutes in the country has been felt for a long time by administrators, legislators and others interested in agriculture. I am, therefore, glad that Dr. M.S. Randhawa, Vice-President of the Indian Council of Agricultural Research, has provided an integrated account of research institutions and their organisation and activities. In this task, he has received the assistance of the Directors of Central and Commodity Research Institutes, the Secretaries of the Commodity Committees and the Directors of the State Departments of Agriculture. For the first time, information about the results of various research schemes and the scope and functions of research institutes, which was scattered in various reports and publications of the Indian Council of Agricultural Research and the Commodity Committees and was available only to a few persons, has been compiled in a handy form. The book has been illustrated with interesting photographs. A number of maps have been added which show the distribution of research institutes and experimental farms and stations in various States of India.

I am sure, this publication, Agricultural Research in India — Institutes and Organisations, will be of great help to administrators and research workers as well as to public men who are interested in agriculture.

P.N. THAPAR

Secretary

Department of Agriculture,

Ministry of Food and Agriculture

NEW DELHI, The 1st March, 1958

INTRODUCTION

INDIA is primarily an agricultural country, and nearly three-fourths of its population depends directly on agriculture for a living. Therefore, agricultural development is intimately connected with the joy and happiness of the people in this country. The improvement of agriculture derives fundamentally from the work which is being silently carried on by an army of research workers in the various research institutes and stations. There are a number of such organisations and institutions in this country. It is, therefore, necessary that a connected account of the set-up, functions, and other details of such institutions and organisations should be readily available for consultation and reference. It is with this object that this book has been compiled.

Prior to 1903, there was no definite governmental policy for improvement of agriculture in this country. It is true that Famine Commissions were appointed in 1880, 1898, and 1901, and an Irrigation Commission was set up in 1903, who in their reports made some useful recommendations for the improvement of agriculture and for the promotion of welfare and prosperity of rural population. But the Famine Commissions, as the name implies, were naturally concerned primarily with the steps necessary to ameliorate the severity of famines, and the question of agricultural improvement was made subsidiary to the main problem. For example, the Famine Commission of 1880 recommended inter alia that improved agriculture should be the main step for obtaining security against disastrous failures in food supply.

The beginning of the 20th century was marked by awakening of interest in scientific study of agriculture throughout the world which had its repercussions in India as well. A forward policy in matters relating to agricultural research and improvement was embarked on by the Government of Lord Curzon. To this foresighted policy may be traced many of the steps taken subsequently for the advancement of Indian agriculture. It was realised for the first time that the establishment of agricultural research institutes and experimental farms and agricultural colleges was the first step necessary to bring about any progress in agricultural practices. It was at this time that a generous donation of thirty thousand pounds by Mr. Henry Phipps, an American philanthropist, was made available for establishment of a research institute with a fully equipped laboratory, and an experimental farm for training students, and a cattle-farm. This institution, which was called the Imperial (now Indian) Agricultural Research Institute, was established at Pusa in Bihar in 1905. It was transferred to New Delhi in 1936 after the disastrous earthquake of 1935.

At the time of the establishment of the Institute, it was visualised that it would be the apex of a research organisation with ramifications extending into the provinces. Therefore, it was decided to establish agricultural colleges equipped with expert staff for research as well as for instruction, in all the provinces. In pursuance of this policy, colleges were started or reorganised at Poona, Kanpur, Nagpur, Lyallpur, Coimbatore and Sabour.

Veterinary research had received prior attention. A central institute for veterinary research was established as early as 1889 in Poona, and subsequently shifted to Mukteswar in 1893; it was known as the Indian Veterinary Research Institute. This institution has been the pioneer in the field of veterinary research in this country.

As a result of the constitutional changes of 1919, agriculture became a transferred subject, i.e. a subject under the direct control of the provincial governments. The Government of India, therefore, divested itself, except for very limited objectives, of all powers of direction and control of agricultural and veterinary subjects, including research, teaching and policy making. There was thus no agency with specific purpose of co-ordinating work on agriculture and animal husbandry in different provinces and bringing them in line with the policy of the Central Government. It was, however, felt in course of time that the promotion and co-ordination of agricultural work should be brought about in a more effective manner than was possible with the help of the agricultural advisers to the Government of India, or through conferences of Ministers and Directors of Agriculture. It was also felt that it was essential for the advancement of agricultural research in India that the Central Institute of Agriculture established at Pusa should be brought into closer touch with the provincial departments of agriculture.

In 1928, a Royal Commission appointed to enquire into the conditions of agriculture and rural economy in this country, proposed the establishment of a Central Council of Agricultural Research with the primary function of promoting, guiding, and co-ordinating agricultural research throughout India. The aims and objects of the Council were to be as follows:

- (a) To undertake, aid, promote and co-ordinate agricultural and animal husbandry research and education;
- (b) To act as a clearing house of information not only in regard to research but also to agricultural and veterinary matters generally;
- (c) To establish and maintain a research and reference library in pursuance of the objects of the Council with reading and writing rooms and to furnish the same with books, reviews, magazines, newspapers and other publications; and
- (d) To do all other things which the Council may consider necessary, incidental or conducive to the attainment of its objects.

In pursuance of this recommendation, the Imperial (now Indian) Council of Agricultural Research was set up in 1929 as a statutory body by an Act of the Central Legislature.

The Council has developed into a premier organisation which guides, finances and co-ordinates research problems connected with agriculture and animal husbandry in the widest sense of the term. Its activities are not limited only to research projects, but also include such subjects as agricultural education and extension. It also undertakes training of students in agriculture and animal husbandry statistics, and has helped to build up a school of research in this field. In addition, it has set up two councils—one on agricultural and another on animal husbandry education. The other function in which it has taken a lead is the dissemination of results of research.

Apart from the Indian Council of Agricultural Research, there are a number of Commodity Committees which deal with research in respect of particular crops. These Commodity Committees are semi-autonomous bodies financed by grants from the Government of India, or by income from cesses, and are located in the main growing regions of the crops concerned. The earliest commodity committee to be organised is the Indian Central Cotton Committee which was established in 1921 and is located at Bombay. This Committee has provided great stimulus to research on cotton, and a number of improved varieties of cotton have been evolved in different States with the aid of funds provided by it. The advantages of commodity approach to research were clearly seen. It enabled the research workers and agricultural administrators to concentrate on problems of a particular crop whether these related to plant breeding, physiology, agronomy, plant protection, economics or technology. Realising the benefits of commodity approach to research, commodity committees were organised in respect of a number of other commodities. Thus the Indian Lac Cess Committee was established

in 1931, the Indian Central Jute Committee in 1936, the Indian Central Sugarcane Committee in 1941, the Indian Central Tobacco Committee and the Indian Central Coconut Committee in 1945, the Indian Central Oilseeds Committee in 1947, and the Indian Central Arecanut Committee in 1949. The Indian Council of Agricultural Research may be likened to a mother polyp from which daughter polyps are budded, attain maturity, and develop into full organisms which ultimately lead an independent existence. With the exception of the Indian Central Oilseeds Committee, all other commodity committees have their own research institutes. With the organisation of a series of commodity committees, the field of the Indian Council of Agricultural Research came to be limited to food crops such as wheat, rice, barley, maize, millets and pulses, tuber crops, grasses and fodder crops, spices, horticulture and problems common to various commodities such as control of plant diseases and pests, manurial trials, improved implements and dry farming in the field of agriculture, and investigation and control of animal diseases, animal nutrition, animal breeding and dairying in the field of animal husbandry.

There was one disadvantage felt in the commodity approach to agricultural research. It lay in the fact that there was lack of co-ordination, and that sufficient emphasis was not given to problems of common interest to the various crops. The Vice-President of the Indian Council of Agricultural Research who is also the President of all the Commodity Committees was the sole co-ordinating link. However, this defect has now been largely overcome by bringing together all the Directors of the Research Institutes of Commodity Committees, and the Secretaries of the Committees on the Board of Research and Extension of the Indian Council of Agricultural Research, where problems of common interest in the field of research and administration are discussed. A major measure of co-ordination in the field of research is the organisation of "Regional Co-ordinated Research Stations for Cotton, Oilseeds and Millets." The scheme for co-ordinated regional research stations for cotton and its rotation crops, viz. oilseeds and millets, is an important development in the organisation of agricultural research in the country. The necessity of organising agricultural research on a cross-commodity basis was felt for a long time, and it is gratifying that a step in this direction has been taken. It is also a matter of great consequence that an organisation of a permanent nature has been created for tackling agricultural problems on a regional basis, which will ensure maximum efficiency coupled with economy in expenditure. In these research stations, research on interrelated agricultural problems of various commodities would be carried on by a band of scientists working as a team. The establishment of these composite regional stations would also provide a coverage for fundamental research applicable to a wide range of agro-climatic conditions. Co-ordination would also be provided between the work of the proposed composite stations and the State research stations dealing with these commodities through a committee headed by the Agricultural Commissioner with the Government of India, and having the Directors of Agriculture of States, the chiefs of regional stations concerned, the Director, Indian Agricultural Research Institute, the botanists dealing with cotton, oilseeds and millets of the States constituting the region, and the Secretaries of the Indian Central Cotton and Oilseeds Committees as members. This Committee would meet annually at a suitable place in the region and consider the programme of research drawn by the chief of the regional station. The chief of the regional station will also provide guidance to the State research stations located in the region and thus act as project leader.

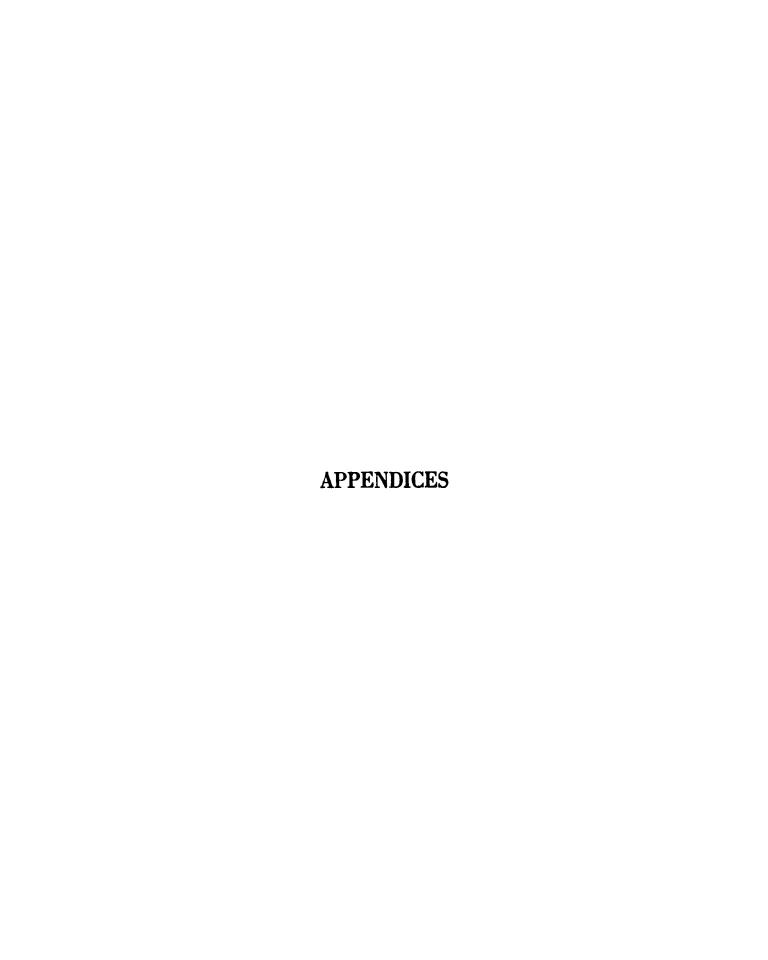
A great deal of ignorance prevails regarding the organisations and institutions which deal with agricultural research in the country. This ignorance is also prevalent among the administrators who deal with agriculture in the States. Excepting the specialists who deal with the research organisations, very little is known to outsiders about the organisation of agricultural research and the various research institutes which are functioning under the Central Ministry of Agriculture, the Commodity Committees and the States. It is with a view to making the people aware of the work which is being done in the research institutes and stations, and the organisations which maintain them that this publication

has been compiled. It is for the first time that an integrated account of research organisations and institutes in the country has been provided. The text is illustrated with photographs of the Research Institutes and Stations, a number of which were taken by Mr. H. K. Gorkha, Photographer of the Indian Council of Agricultural Research. A number of significant maps have been provided by Mr. N.S. Bisht, Director of Arts, Indian Council of Agricultural Research. I am grateful to Mr. J.V.A. Nehemiah, Secretary, Indian Council of Agricultural Research, for providing material relating to Indian Council of Agricultural Research. I am also grateful to Dr. B. P. Pal, Director, Indian Agricultural Research Institute, Dr. Pushkar Nath, Director, Central Potato Research Institute, Mr. R.L.M. Ghose, Director, Central Rice Research Institute, and Dr. Laxmi Sahai, Director, Indian Veterinary Research Institute, for providing information in respect of their respective institutes. I am also grateful to Dr. V.G. Panse, our Statistical Adviser for providing material relating to the Statistical Wing of Indian Council of Agricultural Research. I am also grateful to Dr. B. L. Sethi, Secretary, Indian Central Cotton Committee, Dr. R. Sankaran, Secretary, Indian Central Oilseeds Committee, Dr. P.K.J. Gregory, Secretary, Indian Central Coconut Committee, Dr. M.S. Patel, Secretary, Indian Central Tobacco Committee, Pandit K.N. Agha, Secretary, Indian Central Jute Committee, Sardar Pritam Singh, Secretary, Indian Central Lac Cess Committee, Shri P. P. Chandra, Secretary, Indian Central Sugarcane Committee, and Shri B.S. Varadarajan, Secretary, Indian Central Arecanut Committee, for providing information regarding organisation of their respective Commodity Committees and Research Institutes. I am further grateful to the Directors of Agriculture of all the States for providing information about their research stations in their respective States. Mr. Peshori Lal Malhotra compiled the information relating to research schemes financed by the Indian Council of Agricultural Research. I hope this information would prove very useful as reference material, and also for future planning of research. I am particularly grateful to Dr. U. N. Chatterji, Editor, Indian Council of Agricultural Research, for editing the material. It is hoped that this publication will be of interest to people who are connected with the administration of agriculture and animal husbandry research in India, as well as to those who are interested in agriculture and animal husbandry.

M.S. RANDHAWA

Vice-President,
Indian Council of Agricultural Research

New Delhi, Dated the 1st March, 1958



APPENDIX I

EXPENDITURE ON AGRICULTURAL RESEARCH

SINCE its establishment, the Indian Council of Agricultural Research has actively engaged itself in promoting research both in agriculture and animal husbandry. The Council can claim its legitimate share in the successful research achievements on rice, wheat, barley, maize, millets, pulses, oilseeds, fruits and horticulture, tuber crops, sugarcane, grasses and fodder crops, fibres, tobacco, control of plant diseases and pests, manurial trials, dry farming, investigation and control of animal diseases, animal nutrition, animal breeding and dairying. Compared to only a few schemes in 1929-30, the Council at present finances about 1000 schemes which are all in operation. In addition, 608 schemes have already been completed. Since its inception, the Council has spent Rs 5,49,48,000 on various schemes and its annual expenditure on research ranges from Rs, 55 to 60 lakhs.

A statement showing the income of each Commodity Committee and its annual expenditure on research and the expenditure incurred on research by the Central Institutes set up by the Government of India during the last five years is appended.

Statement	showing the inco	ome of the I.C.A.R.	and Commodity	Committees from	1951 to 1956	
Name of organisation	1951-52	1952-53	1953-54	1954-55	1955-56	Total
Indian Council of Agricultural Research Indian Central Oilseeds Committee Indian Central Sugarcane Committee Indian Central Tobacco Committee Indian Central Jute Committee Indian Lac Cess Committee Indian Central Cotton Committee Indian Central Arecanut Committee Indian Central Coconut Committee	51,09,700 16,17,248 6,60,689 2,28,243 10,25,539 8,43,483 11,54,060 9,278 7,45,712	51,16,400 12,35,043 20,86,707 10,57,851 10,25,010 7,89,166 12,22,366 2,06,005 3,43,265	52,94,900 15,11,229 15,30,770 10,09,805 12,40,748 7,04,543 12,96,466 1,59,147 6,77,589	79,37,800 18,32,840 8,81,808 11,02,280 25,24,664 6,89,818 12,88,636 1,67,755 7,76,163	73,14,000 23,49,389 8,62,043 19,48,053 11,46,347 7,40,659 15,08,478 2,13,752 8,26,689	307,72,800 85,45,749 60,21,417 53,46,232 69,62,308 37,67,669 64,70,006 7,56,037 33,69,418
Grand total	113,93,352	130,81,813	134,26,197	172,01,764	169,09,510	720,11,636
Statement showing the expenditure	e incurred by the	e I.C.A.R., Commo	odity Committed a	nd Central Resea	rch the ites fro	m 1951 to 1956
Name of organisation	1951-52	1952-53	1953-54	1954-55	1956	Total
I. Research Institutes Indian Agricultural Research Institute Indian Veterinary Research Institute, Izatnagar Indian Veterinary Research Institute, Mukteswar Indian Central Rice Research Institute Indian Central Potato Research Institute National Dairy Research Institute	26,69,083 3,19,327 2,57,896 6,75,615	21,63,958 29,17,225 4,03,955 3,16,728 8,25,841	24,37,376 31,02,852 4,43,659 2,83,650 8,17,798	25,69,423 30,90,684 6,46,538 288,504 8,15,036	27,15,136 27,15,136 32,72,910 7,57,329 2,89,196 8,56,750	150,52,754 25,70,808 14,35,972 39,91,040
I. I C.A.R. and Commodity Committees Indian Council of Agricultural Research Indian Central Oilseeds Committee Indian Central Sugarcane Committee Indian Central Tobacco Committee Indian Central Jute Committee Indian Lac Cess Committee Indian Central Cotton Committee Indian Central Cotton Committee Indian Central Cotton Committee Indian Central Cotton Committee Indian Central Coconut Committee Indian Central Coconut Committee Indian Central Coconut Committee	36,50,200 2,00,092 15,44,560 6,24,654 9,04,268 3,34,647 9,45,515 1,61,002 3,73,688	24,64,800 3,63,307 17,33,948 8,03,777 12,76,192 4,49,358 8,82,347 22,831 2,83,238	41,49,200 3,24,067 14,66,566 9,30,909 16,40,661 4,63,111 11,29,837 89,071 3,25,530	51,29,400 4,49,106 5,42,682 9,14,286 11,45,869 4,71,382 13,20,369 64,192 4,36,211	57,23,900 5,17,415 6,32,118 10,48,498 20,42,230 4,60,471 15,07,171 77,174 4,04,682	211,17,500 18,53 987 59,19,874 43,22,124 70,10,220 21,78,961 57 93,238 4,14,270 18,23,259
Grand total	14,51,2461	149,07,405	176,92,589	178,92,589	203,04,980	852,21,722

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APPENDIX II.

TECHNICAL PERSONNEL OF THE CENTRAL RESEARCH INSTITUTES AND COMMODITY COMMITTEES

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	New Delhi
Name	Designation
Dr BP Pal, MSc, Ph D (Cantab), FNI, F	-
Division of Agronomy	
Dr PC Raheja, M Sc, Ph D, D Sc	Head of the Division of Agronomy
Shri S Sen, M Sc	Agronomist
Shri AR Khan, B Sc. (Ag), M Sc (Wis)	do
Post-graduate I A R I	
Dr JN Sharma, B Sc (Ag), M Sc (Bot)	do.
Assoc IARI-Hort Dip, Ph D, (Minn)	do
*Dr R D. Verma, B Sc (Pb), B Sc (Hons), M S	
Dr. Mukhtar Singh, B Sc (Ag), M Sc Ag, Ph	
Dr PN Saxena, M.A.,Ph D	Head of the Statistics Section
Shri J.J. Chandnani, M.Sc. (Ag.)	Assistant Agronomist
Shri S S Bains, B Sc (Ag), Assoc I A R I	Farm Superintendent
Dr HS Mann, B. Sc (Ag), M Sc. Agri, M Sc	
Ph D (Ag)	- Assistant Agronomist
Dr KS Yawalkar, BSc (Ag), Ph D Assoc I	
Shri S R. Obhroi, B Sc (Ag), Assoc I A R I.	Agrı Development Officer
Shri R S Gupta, B Sc (Ag), Assoc I A R I.	Assistant Agronomist
Shri A G Kavitkar, B Sc, Assoc I.A R I	Assistant Statistician
Dr Gian Singh, L V P. (Hons), P G	Lecturer in Veterinary Science
Dr AS Kahlon, MA (Economics), MA. (Hist	
Dr Diwan Singh, M Sc (Ag)	Lecturer in Agriculture
Shri K.P Misra, M Sc (Ag Bot), Assoc TAR	
Shri L.L Relwani, B Sc (Ag), Assoc I A R I.	do
Shri B P. Mathur, B Sc (Ag), Assoc I A R I	do.
Shri N K. Chopra, B Sc (Ag), Assoc. I.A R I	1000
Shri Pran Nath, B Sc (Hons), (Ag), Assoc. I A	
Shri Gurcharan Singh, D/Manager, B VSc Vety	
Shri M L Bhardwal, B A (Hons), M A (Eco)	do
Shri S.L. Pandey, B Sc (Ag), Assoc I A R I	do
Shri Niranjan Singh, B Sc (Ag), Assoc I A R I	do
Shri R B L. Bhardwaj, B.Sc (Ag), Assoc I A R	
Shri R.P. Mehta, M A (Math)	do
Shri Sharwan Kumar, M A (Math and Eco)	do
Dr GP Gupta, M Sc (Ag), D. Phil.	do 、
Dr. R C Sethi, F. Sc (Medical), L V. Sc.	do.
Shri Ranbir Singh, B Sc. (Hons), (Ag), Assoc. I	ARI do
Central College of Agriculture	
Shri S L Chowdhury, B Sc (Ag.), M A. (Eco)	Assoc. I.A R I. Demonstrator
Shri G.D Dureja, B Sc (Ag)	do
Shri. K S. Parasher, M Sc (Ag) Agro.	do.
Shri Ajit Singh, B Sc (Ag), Assoc I.A R I	do.
Shri DN Thakur, Matric	Senior Scientific Assistant
Shri Trilok Singh, B Sc.	- do
- · · · · · · · · · · · · · · · · · · ·	

Name	Designation Designation
Shri S S. Chawla, B Sc (Ag)	Senior Scientific Assistant
Shri Amar Jit Singh, B Sc (Hons) (Ag)	do
Shri Kahan Singh, B Sc. (Ag)	do
Shri Alfred Ram, Matric, 2 year's Diploma in Agric	- 20-5.
Division of Botany	E.
Dr S M Sikka, B Sc, Ph. D (London). Assoc I A.	R I . Head of the Division
Dr RD Asana, MSc, Ph. D (London), DIC ((ondon) Plant Physiologist
Dr GS Murty, M. Sc, Ph D (Minn), Assoc IA	
Dr AB Joshi, MSc, Ph. D. (Cantab), Assoc IA	
Shri H B Singh, M Sc. Assoc. I A R I.	Vegetable Breeder
Dr MS Swaminathan, BSc., (Agri.), Ph D (Cant	
Assoc I A.R I.	
Dr S P. Kohli, M Sc, Ph. D. (Cornell)	Geneticist
Shri R B Deshpande, M. Ag (Distinction), Assoc I	
Dr. N L Dhawan, M Sc, Ph.D. (Minn), Assoc I A	
Shri T J Malkani, M Sc.	Assistant Plant Physiologist
Shri M D Nandkeolyar, M Sc (Agri)	Superintendent, (BSS, Pusa)
Shri Kedar Nath, M.A., M Sc.	Assistant Wheat Breeder
Shri S S. Rajan, M.Sc	Assistant Cytogeneticist
Shri V S Mathur, M Sc.	Assistant Wheat Breeder
Shri V K. Srinivasan, M.Sc	do
Shri B S Fozdar, B Sc. (Ag), M-Sc (Botany)	Lecturer C C A
Shra V S Mani, M Sc	Assistant Plant Physiologist
Shri S P Mital, B Sc (Ag), M Sc (Botany), Assoc	
Shri Amır Sıngh, M Sc	do.
Shri S Ramanujan, B Sc, (Hons), Assoc I A R I,	Assistant Cytogeneticist
Dr HK Jain, B Sc (Hons), Assoc. I A R I, Ph. D	
Shri MW Hardas, MSc, Assoc IARI.	do
Shri Vishnu Sarup, M Sc, Assoc. I A R I.	do
Shri M V. Rao, M Sc (Ag)	Assistant Wheat Breeder
Shri Y M Upadhyaya, B Sc (Hons), Assoc I A R I	. do
Shri BS Joshi, BSc (Ag), Assoc. IAR I	Assistant Botanist
Shri L M Jaswani, B Sc (Ag) Assoc. I A R I.	do
Shri Daljit Singh B Sc , Assoc. I A R I.	Assistant Statistician
Shri G S Venkataraman, M Sc.	Assistant Botanist
Shri S P Singh, B Sc (Ag)	Assistant Plant Physiologist
Shri R K. Mehta, B Sc, Associ TAR L.	Assistant Geneticist
Shri P M Bhagchandani, B Sc., (Ag) Assoc I A R	Assistant Botanist
Shrf M G Joshi, B Sc (Ag), Assoc I.A.R I.	do.
Shri S A Dadlani, B Sc (Ag)	Research Assistant
Shri R K Chatterjee, M Sc.	do
Shri S C S Mann, B Sc (Ag), Assoc I.A R I.	do
Shri Milki Ram, B Sc (Ag)	do
Shri P L N Somayajulu, B Sc, Assoc I A R I	do
Shri J S Bakshi, M Sc	do
Shri H B Bhatia, B Sc (Ag)	do '
Shri Manmohan Auluwalia, B Sc (Hons), Assoc I A	ARI do
Shri S M Vaidya, B Sc (Ag) Assoc I A R I	do
Shri S C S Pokhriyal, M Sc (Agr) Assoc. I A R I	do
Shri M A Vishwanathan, B Sc (Ag), Assoc I A R	I do
Shri K.R. Srikantia, B.Sc., Assoc I.A.R.I	do
Shri Karambir Singh, M Sc (Ag)	do
Shri Ved Parkash, M Sc (Botany)	do
Shri V. K. Pathak, M. Sc., Assoc I A R I	do

Name	- Designation
Shri M P Singh, M Sc (Hons)	Research Assistant
Shri AT Natrajan, MSc, Assoc IARI.	do
Shri AT Ganesan, MA (Botany)	do.
Shri P N Bahal, B Sc. (Ag)	` do.
Shri D Jagthesan, M Sc (Botany)	do
Shri A D Saini, M Sc. (Botany), Assoc I A R I.	do.
	do.
Shri KBL Jain, BSc (Ag) (Hons), Assoc. IARI. Shri RA Pai, MSc (Botany)	do
Shri S N Kakar, M Sc (Botany)	do
Shri PN Rao, B Sc (Ag), Assoc I A R I	do
Shri Joginder Singh, B Sc (Ag), Assoc I A R I.	do
Shri B H Mathai, M Sc (Ag), Assoc I A R I	do.
	do.
Shri P.N. Nahisan, M.Sc. (Rotany), Assoc J.A.P.I.	do.
Shri R K. Agarwal, M Sc. (Botany), Assoc, I A R I.	_
Miss Sulbha Kumari, M Sc (Botany)	do.
Shri J S Dhillon, M Sc (Ag)	
Shri B C Joshi, M Sc (Botany)	do
Shri K V Satyanarayana, M Sc (Botany)	do.
Shri T A Thomas, M Sc (Botany)	do.
Shri S G Ahire, B Sc, (Ag), Assoc I A R I.	do
Shri Thamby Ninan, M Sc (Botany)	do.
Shri Joginder Nath, M Sc, (Hons) Botany	do.
Shri K R Chopra, M Sc (Ag Botany)	do .
Shri B Narsinha Murty, M Sc	do.
Shri H K Saxena, M Sc (Botany)	do
Shri DJ Singh, MSc	do.
Shri P P. Khanna, M Sc (Botany)	do.
Shri N Dutta, M Sc (Botany)	do.
Shri K V Natrajan, M Sc (Botany)	do
Shri Sewa Singh, B Sc (Ag)	Senior Scientific Assistant
Shri TR Dayani, B Sc (Ag)	do
Shri K L Sethi, M A	do
Shri D P Chopra, B Sc (Ag)	do
Shri P S. Gupta, B Sc	do
Shri Basant Kumar, B Sc (Ag)	do.
Shri P L Guglani, B A	do
Shri PN Wattal, BSc (Bot and Chemistry)	do.
Shrı Pran Nath, B A	do
Shri MBL Saxena, MSc (Botany)	do.
Shrı Bhubneshwar Parshad, B Sc	do
Shri N Gupta, B Sc, (Hons) (Botany)	do.
Shrı Rajpal Purı, B Sc	do.
Shri S R Rao, B Sc (Botany)	do
Shri V P Tewari, B Sc	do
Division of Horticulture	
	**
Dr GS Randhawa, MSc MSA (Toronto) Canada, Ph D (Mich) USA, FRHS (London)	Horticulturist
Dr B Choudhury, B Sc (Agrı), Ph D (Melbourne), FRHS	Vegetable Breeder
Shri Romesh Chander, B Sc (Agri)	Garden Superintendent
Dr Jagpal Singh, MS (Agri) Ph D (Mich. St)	Assistant Horticulturist
Shri N Nath, B Sc, M Sc (Cal)	Lecturer in Hort (CCA)
Shri R S Malik, M Sc	Research Assistant
Shri V S. Seshadri, M Sc.	do
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	Name	Ž	Designation
Divisio	n of Soil Science and Agricultural Chemistry	•	
	P Raychaudhuri, B Sc (Hons), M Sc, Ph. D (L	ond) DSc	
	I C, FNI	wildy, D St,	Head of the Division
			Special Officer, Soil Testing
	V Tamhane, B Sc. (Ag), Ph D. (London) Dakshinamuthy, Ph D (London), D Sc (Banar	or FTD	
		as), F.I F	Senior Physicist Biochemist
	B Das, Ph D (Chem)		
	C Gulati, M Sc, Ph D.		Organic Chemist
	P Dutta, B Sc (Hons), M Sc, D Sc A.R I C.		Soil Scientist
_	L M Mathur, M A.B T.		Cartographer Physical Champet
	Ramamoorthy, M Sc, D Phil, Assoc I A.R.I.		Physical Chemist
	V. Kathavate, M Sc., Ph. D.	DE D	Experimental Physicist
	LVS Satyanarayana, BSc. (Ag), Assoc IARI,	PA D.	Soil Correlator
	V Govindarajan, B Sc (Hons), Ph D, D I C.		do.
	B Roy, M Sc, Ph D, A.R I C		do.
	Sasadhar Digar, M Sc, Dip Agri.		do.
	S Krishna Rao, M Sc, Ph D, A.I I Sc, D I I Sc		Chemist
	VVB. Sundra Rao, MSc (Hons) PhD, Assoc. I	A R.I.	Lecturer
	M. A. Idnani, B.Sc. (Hons.) Assoc. I A.R. I.		Assistant Agricultural Chemist
	T. Mulwani, B Ag, M Sc, Ph D. (Lond), D I C.	. (Lond)	Assistant Soil Physicist
	RS Kartha, Ph D. (Madras)		Assistant Organic Chemist
	bhiswar Sen, M Sc, Ph D, Assoc I A.R I.		Assistant Soil Microbiologist
	V. Subbiah, M Sc, Ph D.		Assistant Soil Chemist
	R S Murthy, M Sc.		Assistant Survey Officer
	rıj Mohan Lal, M Sc, Ph D		Assistant Biochemist
	A B Ghosh, B Sc. (Hons) M Sc		Assistant Soil Chemist
	D Biswas, B Sc (Hons), M Sc., D Phil		Assistant Soil Survey Officer
	S C Mehta, M Sc		Assistant Physicist
	C. Das, M Sc, D Phil (Cal), Ph D (Leeds)		Assistant Physical Chemist
	RS Dewan, MSc		Assistant Chemist
	K. Oommen, M Sc		Assistant Soil Chemist
	IG Gopala Rao, MSc.		do.
Shrı B	BB Rudra, MSc, Assoc IARI.		do
	R Srinivasa, B Sc, Assoc I A R I.		do.
Shri Y	P Bali, B Sc, Assoc I A.R I		do.
Shrı P	M. Joshi, B Sc, Assoc I A R I.		do.
Shrı B	Shagwan Das, M Sc.		do.
Shrı V	K Mishra, B Sc, Assoc I A.R I.		do.
Shri U	JC Padhi, BSc Assoc IARI.		do.
	IG Perur, MSc		do.
Shra K	K. L. Nayar, M. Sc		do.
Shrı N	NR Datta Biswas, M Sc.		do.
Shrı P	C Thakur, B Sc, Assoc I A R I.		do.
Shrı I	IS Suhramoney, MSc		do
Shrı S	P Seth, M Sc (Hons)		Research Assistant
Shri R	k M Banerjee, B Sc		do.
Shri V	Ishwaran, M Sc		- Demonstrator
Shri K	K B Shome, M Sc		Research Assistant
Shri R	K Chatterji, B Sc (Hons.) M Sc.		do.
	Das, M Sc		do
	N Sen, M Sc		do.
	MB Sen Gupta, MSc		de.
	S Sethi, B Sc, M Sc		do
	M Nimgade, BSc (Ag), Assoc. IARI		do.
	P. Duggal, B Sc	•	do

do.

Shri R Narayanan, M Sc.

Name	Designation
Shri NB Paul, BSc, Assoc IARI	Research Assistant
Shri R K Chhibber, B Sc (Ag), Assoc. I A R I.	do,
Shri S P Jain, B Sc, Assoc I A R I.	do.
Shri O P Chawla, M Sc (Ag)	do.
Shri A K Rishi, B Sc, Assoc I A R I	do.
Shri Srivastava Syamacharan, M Sc	do
Shri V N Sant, M Sc	do
Shri N R Dutta, B Sc, Assoc I A R I.	do
Shri Gurbachan Singh, M Sc	do.
Shri R C Misra, B Sc, Assoc H B T I.	do.
Shri K Rajgopalan, B Sc (Ag), Assoc I A R I.	Soil Survey Assistant
Shri O P Dhamija, B Sc (Hons), Ag Assoc I A R I.	do.
Shri M S Khera, B Sc (Ag), Assoc. I A R I	Research Assistant
Shra Baldev Kapoor, M Sc (Hons)	d_0
Shri N K Shinde, B Sc (Ag), Assoc I A R I.	Soil Survey Assistant
Shri Y P Gupta, B Sc, Assoc I A.R I	Research Assistant
Shri R B Rewari, B Sc (Hons), Assoc I A R I	Soil Survey Assistant
Shri G Ramchandra, M.Sc, Assoc IARI.	Research Assistant
Shri R P Dhir, B Sc (Ag), Assoc I A R I.	Soil Survey Assistant
Shri H M Basabanna, B Sc (Ag), Assoc I A R I.	do
Shri R J Landey, B Sc. (Ag), Assoc I A R I	do
Shrı Kamlesh Chandra Mazumdar, B Sc	do
Shri N K Barda, B Sc (Ag)	do.
Shri A S Gowaikar, B Sc (Ag)	do
Shri Rajaram Shankar, B Sc (Ag)	do.
Shri A E Vasudeva Rao, M Sc	do.
Shri G P. Biswas, M A.	do.
Shri L S Bisht, M A	Cartographic Assistant
Shri K G Choudhuri, B Sc	Senior Scientific Assistant
Shri M B Kamath, B Sc	do
Shri K C Sikka, B Sc	do
Shri G K Barat, B Sc	do
Shri S N Datta, B Sc (Hons)	do
Shri J C Bajaj, B Sc (Hons)	do
Shri H K Gupta, B Sc	do.
Shri P.C Ghosh, B Sc	do
Shri Man Mohan Singh, Anand, B Sc	do
Shri Ramji Lal, B Sc	do
Shri TR Saini, Matric	do
Shri Dharambir Singh, B Sc.	do ,
Shri K K Oberoi, B Sc	do
Shri S K Chatterjee, B Sc	do
Division of Entomology	
Dr ES Narayanan, MA (Zoology), Ph D (London) (Entomo DIC, FRES, FESI, FA Sc	ology), Head of the Division of Entomology
Dr S Pradhan, B Sc (Hons) M Sc, Ph D (Lond) D Sc, FRES, FESI,	Insect Toxicologist
Dr MG Ramdas Menon, BSc, Ph D (Bombay)	Systematic Entomologist
Dr NC Pant, MSc (Agri), PhD (Lond), DIC	Insect Physiologist
Dr Rattan Lal, B Sc (Hons), M Sc (Hons), Ph D	Entomologist
FRES, FESI, Assoc IARI	Radio Tracer Studies
Dr BK Srivastava, M Sc (Ag), Ph. D (Kansas)	Entomologist Seed Testing
Shri H N Batra, B Sc (Agri), Assoc I A R I	Assistant Ecologist
Shri SM Chatterjee, MSc, Assoc IARI, FRES, FAZ.	Assistant Systematic Entomologist

Name	Designation
Shri PB Mookerjee, BSc Assoc IARI	Assistant Entomologist
Shri M G Jotwani, B Sc (Hons), Assoc. I A R I	do
Dr BR Subba Fao, B Sc. (Hons), Assoc. I ARI, Ph D. (Mys),	_
FAZ.	do
Dr HJ Bhambhani, BSc, Ph. D (Lond), Assoc. IARI.	do
Shri Y P Beri, B Sc (Agric), M. Agric. Sc. (Australia)	do.
Shri P L Sharma, M Sc. Ag	do
Shri M G Chacko, M Sc, Assoc I A R.I.	Research Assistant
Shri Kundan Lal, M Sc (Hons)	do.
Shri H D Vasu, M Sc (Entomology)	do
Shri K.M. Peswani, B.Sc. (Agri), Assoc. L.A.R.I.	do
Shri J K Nayar, M Sc (Zoology)	do
Dr DP Srivastava, MSc, D Phil.	do.
Shri Prakash Sarup, M Sc., Assoc I A R.I.	do.
Miss Swaraj Ghai, M Sc (Zoology)	do.
Shri J Gopala Krishna, M Sc (Ag), Assoc I A R I.	do.
Shri Saran Singh, M Sc. (Hons), Assoc I A R I.	do.
Shri S K Bhatia, M.Sc, Assoc I A R I.	do
Shri S Raj Wadhi, M Sc.	do.
Shri Baldev Prashad, M Sc., Assoc. I A R.I	do.
Shri Bhupender Kumar Rai, B Sc (Hons) (Agr), Assoc I A R I	do
Shri G R. Sethi, M Sc. (Zoology)	' do
Shri G R. Sharma, B Sc (Agri)	do
Shri M K. Krishna Pillai, M Sc	do
Shri Ramachandra Rao, B Sc (Ag), Assoc. I A R.I.	do
Shri H S Sangwan, B Sc (Hons) (Ag), Assoc I A R I	do
Shri R N. Katiyar, M Sc (Agri)	do
Shri G W. Rahalkar, M Sc. (Zoology)	do
Shri P N Saxena, M Sc	do.
Shri A K Sharma, M Sc, Assoc I A R I.	do
Shri G C Sharma, B Sc (Hons) (Ag), Assoc I A R I	do
Miss R B Kaur, M Sc.	do.
Shri K G. Phadke, M Sc	do
Shri M T Joseph, M Sc	Senior Scientific Assistant
Shri N Bhattacharji, B Sc. (Ag)	do
Shri S C Chopra, B Sc (Hons) (Agri)	do
Shri Krishan Kumar, B Sc	do
Shri G K Girish, B Sc	do
Shri Dan Singh, B Sc	do
Miss Prakash Gupta, M Sc (Zoology)	do
Division of Mycology and Plant Pathology	
Dr R.S Vasudeva, Ph D (Lond) D Sc (Lond) DIC, FNI	Head of the Division
Dr BL Chona, Ph D (London), DIC (London)	Systematic Mycologist
Dr R. Prasada, M Sc, D Sc (Agra)	Mycologist
Shri P M Varma, B Sc (Hons), M Sc	Virus Entomologist
Dr. S P Capoor, M Sc, Ph. D (Lond)	Virus Pathologist
Dr MK Hingorani, Ph D (Minnesota), Assoc IARI	Plant Bacteriologist
Dr SP Raychaudhuri, M Sc, D Phil, FLS, Assoc. I A R I	Virus Pathologist
Dr D Suryanarayana, M Sc, D Sc (Agra)	Plant Pathologist
Shri Ram Lal Kunjal, M Sc.	Mycologist
Dr M L Sattani, M Sc, Ph D (Minnesota)	Assistant Plant Pathologist
Shri V C Lele, M Sc	Assistant Mycologist
Shri RN Azad, BSc (Ag), Assoc IARI	Assistant Virus Pathologist
Shri L M Joshi, M Sc	Assistant Mycologist

Name	Designation
Shri T K Kariani, B Sc. (Ag), Assoc I A R I	Assistant Virus Pathologist
Shri B S Bajaj, M Sc	Assistant Plant Pathologist
Shri S D Gera, M Sc	Lecturer in Mycology
Dr Kishan Singh, M Sc, Ph D (Louisiana)	Assistant Plant Pathologist
Shri H S Sahambi, M Sc	Assistant Virus Pathologist
Shri DP Misra, MSc	Assistant Mycologist
Dr Gopal Swarup, M Sc, M S Ph D (Kansas), Assoc I A R I	Assistant Mycologist
Shri M L Seth, M Sc	Assistant Virus Pathologist
Shri J N Kapoor, M Sc, Assoc I A R I.	Herbarium Keeper
Shri S N Chatterjee, M Sc, Assoc I A R I	Virus Entomologist
Shri DN Srivastava, BSc (Ag), Assoc IARI, MS (Wiscons	
Shri M H Rao, B Sc (Ag), Assoc I.A R I, M S. (Wisconsin)	do.
Miss Dulari Kak, M Sc	do
ShriCL Sethi, M.Sc.	do
Shri Harnek Singh, M Sc	do.
Shri G P Anand, M Sc	do
Shrı O P Sehgal, M Sc	do.
Dr JS Grewal, MSc, PhD (Allahabad)	do
Mr. Nirmaljit Singh, B Sc (Ag), Assoc I A R I.	do
Shri K.L. Adlakha, M.Sc	do
Shri V M G Nair, M Sc, Assoc I A R I	do.
Shri P C Joshi, M Sc	do.
Shri D C Sharma, M Sc, Assoc. I A R.I.	do
Shri M S Chatrath, M Sc.	do
Shri P L Ganju, M Sc	do
Shrı Dharm Vir, M Sc	do
Shri H S Gill, M Sc	do
Mr YP Rao, BSc (Hons), Assoc IARI	do.
Shri Trilochan Singh, B Sc (Hons) (Ag), Assoc I A R I.	do
Shri K S Vashisth, M Sc	Demonstrator
Shri DG Rao, BSc (Ag), Assoc IARI.	Research Assistant
Shri M D Mishra, M Sc, Assoc. I A R I	do.
Shri K L Dhingra, M Sc	do
Shri K M Dutt, Matric	Senior Scientific Assistant
Shrı Gırdharı Lal, B A	do
Shri Amar Singh, B Sc (Hons) (Ag.)	do
Shri Chanan Singh, B A	do.
Shri PS Pathanian, Matric	do.
Division of Agricultural Engineering	
Shri J S Manku, B Sc (Eng), A M I Mech. E, A M I E,	Officer-in-Charge,
AMI Prod E, Assoc Mem ASAE	Division of Agricultural Engineering
Shri J R Badola, B Sc Agricultural Engineering	Mechanical Engineer
Shri R P Singh, M Sc (Agronomy), B Sc (Agricultural	
Engineering)	Assistant Engineer
Shri TS Mukherjee	Research Assistant
Shri J S Dhillon, B Sc Agricultural Engineering	do
Shri Shiv Dayal, Diploma in Mech Engineering	Workshop Foreman
Shri G D Chatterjee, Certificate course in Mech Engineering,	
Certificate course in Aviation	Assistant Foreman
Shri R B Gupta, B Sc	Senior Scientific Assistant

CENTRAL RICE RESEARCH INSTITUTE Cuttack (Orissa)

	Cuttuck (Classe)
Name	Designation
Shrı R L M Ghose, M Sc, F A Sc	Director
Agronomy Division	
Dr M V. Vachhani, B Ag, Ph D Shri M S Chaudhury, B Sc (Agri), Assoc I Shri M V Rao, B Sc (Agri) Shri K Satyanarayan Murty, M Sc	Agronomist ARI. Research Assistant do. do
Botany Division	
Shri R L M Ghosh, M Sc, F A Sc Shri S Sampath, M A. Shri W T. Butany, M Sc, Assoc I A.R I. Shri R.K. Misra, M Sc Shri R Seetharaman, M Sc Shri C. Gangadharan, M Sc. Shri D V Seshu, M Sc.	Geneticist and Botanist Cytologist Assistant Botanist Research Assistant do do. do.
Chemistry Division Dr. C T Abichandani, M Sc, Ph D Shri S. Patnaik, M Sc. Shri R R. Dutta, M Sc	Agricultural Chemist Research Assistant do.
Entomology Division	
Shri P Israel, MA, FRES Shri G Vedamoorthy, MA., Assoc IA.R I Shri YS Rao, MSc	Entomologist Research Assistant do
Plant Pathology Division	
Shri S Y Padmanabhan, M A. Assoc I A R Dr Durgadas Ganguly, M A, D Phil.	I. Mycologist Assistant Mycologist
Statistics Division	
Sha M.P Jha, M Sc.	Statistician
Farm Division	
Shri M Subbiah Pillai, B A , B Sc (Agri) Shri C N Relwani, B Sc (Agri)	Farm Superintendent Research Assistant
Scheme for co-operation in rice research	with rice growing States
Shri N A Parasuram, B Sc (Agri) Shri G H Chandwaii, B Sc (Agri) Shri M V S Sastry, M Sc Shri N K Chau Patnaik, M Sc Shri J Veera Raghavan, M Sc Shri C S Krishnamoorty, B Sc (Ag), Assoc	Liaison Officer do Research Assistant do do do IARI.
Indian Council of Agricultural Research S	
Dr S Govindaswami, M Sc, Ph D Shri M J Balakrishna Rao, M Sc. Shri T E Srinivasan, M Sc Shri P Narasimha Rao, M Sc.	Assistant Botanist Research Assistant do do

CENTRAL POTATO RESEARCH INSTITUTES

1. CENTRAL POTATO RESEARCH INSTITUTE, SIMLA

Name Designation Botany Dr Pushkarnath, M Sc, Ph D, Assoc I.A R I Director Shri M L Khanna, B Sc (Ag), Assoc I A R I. Botanist Shri K P Sharma, M Sc, Assoc I A R I. Research Assistant Shri K.K. Batra, B Sc (Hons) do Cytogenetics Dr D Srinivasachar, M Sc, Ph D (Wis), Assoc I A R I. Cytogeneticist Shra R.S. Dwivedi, M.Sc. (Agri.) Research Assistant Plant Pathology Shri B L Dutt, M Sc (Hons) Virus Pathologist Dr CS Ramamurthi, MSc, (Hons), Ph D (Cora), Assoc IAR1 Assistant Plant Pathologist Shri B Ganguly, B Sc (Ag), Assoc I A R I. Research Assistant Plant Physiology Dr Rajat De, M Sc, Ph D Plant Physiologist Shri S C Verma, M Sc. Research Assistant **Statistics** Shri M S Singal, B A (Hons), Assoc I S I. Statistician 2. CENTRAL POTATO RESEARCH STATION, PATNA Botany Assistant Botanist Shri MJ Deshmukh, MSc, Assoc IARI. Shri S K Anand, B Sc (Agri) Research Assistant Agronomy Dr Mukhtar Singh, M Sc, Ph D (Edin) Agronomist Shri HN Akhade, BSc, Assoc. IARI Research Assistant Shri R R Choudhary, M Sc (Agri) do Plant Pathology Dr KD Paharia, MSc, PhD Plant Pathologist Shri V C Gupta, M Sc (Ag) Research Assistant Entomology Dr KK Nirula, M Sc (Hons), Ph D, Assoc IARI Agrı Entomologist Shrı C L Jolly, M Sc. Research Assistant Chemistry Shri K. Swaminathan, B Sc (Hons) do Agricultural Engineering

3. POTATO BREEDING AND CERTIFICATION STATION, KUFRI

Agrı Engineer

Shri P N. Mathur, M Sc Assistant Botanist
Shri B L Barua, B Sc (Ag), Assoc I A R I.
Shri Pran Singh, B Sc (Ag)
do

Shri DN Zutshi, BSc (Ag), Dip GMI

CENTRAL POTATO RESEARCH STATIONS—(Contd)

Name Designation 4. REGIONAL EXPERIMENTAL CENTRES Babugarh (UP) Shri G T Chhabria, B Sc. (Ag) Research Assistant Ootacamund (Madras) Shri K.R. Alwa, B Sc. (Ag) do. Poona (Bombay) Shrı J T. Karnani, B Sc. (Ag) do. Juliundur (Punyab) Shri Pritam Singh, B.Sc (Ag) do Darjeeling (West Bengal) Shrı B N. Roy Choudhary, M Sc. do 5. SEED MULTIPLICATION STATION, MUKTESHWAR Mukteshwar (UP) Shri M.B Patkar, BSc, Assoc IARI. Seed Development Officer Shri Raghbir Singh, M Sc. Research Assistant Shri S S. Saini, M Sc. do. 6. TUBER CROPS SECTION Patna Station (Bihar) Shri Harı Kıshore, M Sc, Assoc I A R I. Assistant Botanist

Research Assistant

Shri K.N Chhibber, B Sc. (Ag)

INDIAN VETERINARY RESEARCH INSTITUTE Izatnagar (U.P.)

Name

Designation

Dr ND Kehar, Sc D.

Director

Animal Nutrition Division

Dr DN Mullick, MSc, Ph D Dr K Sahai, MSc, Ph D Dr BN. Majumdar, MSc, Ph. D.

Officers in the Schemes

Dr SN Ray, MSc, Ph D, Dr, R Mukherjee, MSc, Ph D. Shri Brahm Dutt, BA, LVP, Dr PC Sawhney, MSc, Ph D

Biological Products Division

Shri C Seetharaman, B Sc, G M V C, B V.Sc (M Sc (Vety)

Dr. T S Gulrajani, Ph D

Shri K C Sinha, G B V C,

Shri B M Thakral, L V P

Shri D R. Uppal, B A G B V C

Shri Gopal Rai, G P V C

Shri S S Jawa, L V P (Hons)

Shri S S Khera, B V Sc

Animal Genetics Division

Dr P Bhattacharya, M Sc, Ph D Shri Gajjan Singh, B V Sc, G M V C. Shri S V Chandiramani, B Sc (Agri) M S Dr S R Guha, Ph. D

Officers in the Schemes

Dr S S. Prabhu, Ph D
Dr D P Mukherjee, M Sc, Ph D.
Shri S N Luktuke, G B V C
Shri S N Chatterjee, G V Sc,
Shri Chet Ram, G V. Sc,

Poultry Research Division

Shri S G Iyer, G M V C
Capt S B V Rao, L V P (Hons)
Dr S Bose, Ph D
Dr V N Murty, M Sc, Ph D
Dr T D Mahadevan, Ph D
Dr. A K Pal, M Sc, Ph D
Shri H P Tandon, L V P (Hons) B V Sc,

Parasitology Division

Dr HD Srivastava, D Sc Dr R P Chaudhary, M Sc, Ph D Shri B N Soni, B Sc (Agri) (Edin) Dr C T. Peter, M Sc (Vety), Ph. D Dr S C Dutt, M Sc, Sc D. Shri B S. Gill, M V. Sc. Research Officer (Physiology)
Assistant Research Officer (Training)
Assistant Research Officer (Biochemistry)

Research Officer (Trace Element) Research Officer (Paddy Straw) Assistant Research Officer (Trace Element) Assistant Research Officer (Urea)

Head of Division

Research Officer (Vaccine)
Research Officer (Rinderpest Vaccine)
Research Officer (Sera)
Assistant Research Officer (Goat Tissue Vaccine)
Assistant Research Officer (Sera)
Assistant Research Officer (Product Testing Virus Vaccine)
Assistant Research Officer (Bacterial Vaccine)

Head of Divison

Assistant Research Officer (Artificial Insemination) Assistant Research Officer (Genetics) Assistant Research Officer (Climatology)

Research Officer (Quantitative Inheritance)
Research Officer (Draught Capacity)
Research Officer (Sterility)
Assistant Research Officer (Sterilisation)
Assistant Research Officer (Immunogenetics)

Head of Division

Research Officer (Pathology)
Research Officer (Farm)
Assistant Research Officer (Biochemistry)
Assistant Research Officer (Poultry Technology)
Assistant Research Officer (Training)
Assistant Research Officer (Poultry)

Head of Division

Research Officer (Entomology)Research Officer (Hides and Skins)
Assistant Research Officer (Helminthology)
Assistant Research Officer (Helminthiasis)
Assistant Research Officer (Protozoology)

INDIAN VETERINARY RESEARCH INSTITUTE —(Contd)

Name

Designation

Officers in the Scheme

Dr PG Deo, MSc, Ph. D.

Pathology and Bacteriology Division

Shri M R. Dhanda, L.V P., M S. (Michi)
Shri J M Lal, L V P (Hons)
Shri M S Menon, I D D, G V Sc.
Shri P R. Nilakantan, G M.V C, B V. Sc.
Shri G L. Sharma, L V.P, M S, Ph. D.
Shri H S Dhillon, B A. L V P.
Shri Gajender Singh, B Sc, L V P.
Shri P C Gangulee, B Sc, B Sc. (Zoo), G V. Sc.
Shri M S Jayaraman, G M V C,
Dr. S S Negi, M Sc, Ph D

Officers in the Schemes

Shri B K. Kathuria, G B V.C. Shri M S Sethe, L V.P.

Assistant Research Officer (Helminthic Aspects)

Head of Division
Research Officer (T B and J D)
Research Officer (Rinderpest)
Research Officer (Bacteriology)
Research Officer (Pathology)
Assistant Research Officer (Rinderpest)
Assistant Research Officer (T B and T D)
Assistant Research Officer (Bacteriology)
Assistant Research Officer (Anaerobes)
Assistant Research Officer (Biochemistry)

Assistant Research Officer (Rabies)
Assistant Research Officer (Mastitis)

NATIONAL DAIRY RESEARCH INSTITUTE Karnal (Punjab)

ixarnar (Funj	auj
\ . Name	Designation
Dr KK Iya, Ph D, AII Sc, IDD (Hons)	Duector
Dr NN Dastur, MSc, PhD, AII Sc	Chemist
Dr S C Ray, M Sc, Ph D	Technologist
Dr. C.P. Anantakrishnan, M Sc., Ph D., F R I C., A I I Sc	Technologist
'A M Tech (I) Gt Brit	
Dr H Laxminaryana, M Sc, Ph D	Bacteriologist
Shri N N Simha, B E	Dairy Engineer
Dr TM Paul, MSc, PhD, ARIC Art Tech(I) Gt Brit	Assistant Dairy Chemist
Shri R S. Singh, G V Sc, B V Sc, A H, M S (U S A)	Cattle Officer
Shri S C. Kahai, B Ag	Agriculture Officer
Shri K S Gunnery, M Sc	Assistant Research Officer
Shri S R Jayashankar, M Sc	Research Tech Assistant
Shri Joginder Singh, M Sc. (Tech)	do.
Shri O Brave, M Sc (Agri)	do.
Shri V. Lakshminarsimha, M Sc	do
Shri Iqbal Nath, LVP	Supervisor
Shri Anand Parkash Sharma, B Sc (Agri)	Technical Assistant
Shri S N Sharma, I D D	Supervisor
Shri C Banjamin, I.D D	, do
Shr K D. Law, I D D	do
Shr O.K. Thomas, I.D D.	Technical Assistant
DAIRY SCIENCE COLLEGE, ÑATIONAL DAIRY	RESEARCH INSTITUTE, KARNAL
Shri Ramesh Chander Chandan, M Sc (Hons)	Lecturer (Chemistry)
Shri A K Banerjee, B Sc (Agri) (Eng)	Lecturer (Engineering)
Shri R M Tiwari, M A L T.	Lecturer (English and Hindi)
Shri K A Abraham, B Sc (Agri) (Engineering)	Demonstrator (Engineering)
Shii K A Sumitra, L Ag, I D D	Demonstrator (Animal Husbandry)
Shri I N Arora, B Sc (Agri)	Demonstrator (Agriculture)
Shii R A Ramanujam, B Sc	Demonstrator (Chemistry)
•	AIDN BECKARON BYOMMIN BANGALORS
SOUTHERN REGIONAL STATION OF THE NATIONAL I	
Shri A J Lazarus, I D D, Cert in Adv A H	Officer In-charge
Shri J Krishmurthy Vasantv, C M V C, B V Sc Shri D Narayan, I D D	Research Officer (Artificial Insemination) Superintendent
Dr ML Mathur, M Sc, Phd, ARIC, AIARI	Assistant Research Officer (Animal Nutrition)
Shri D Venkatappiah, M Sc	Assistant Dairy Chemist
Dr Kerala Verma, M Sc, Ph D Shri L P Maruthamuthu, I D D	Assistant Research Officer Research Technical Assistant
Shri TV Arunachalam, I D D	A took to the state of the stat
Shri TV Kumar, BV Sc Shri MR Srimiyasan, MA, AII Sc.	Technical Assistant Research Technical Assistant
Shri K C Nayar, M Sc.	do
Shri M K Sastri, B A , I D D , A I D R I	do
Shri G M Azmatulla, I D D	do Santurar Associant
Dr VKN Nambuidripad, MSc, PhD Shii RA Srinivasan, MSc	Sanıtızer Assistant Research Technical Assistant
Shri M K Krishna Iyengar, M Sc., I D D	do
Shri Sukumar De, M Sc , I D D	ďο
Shri N B. Shroff, M Sc Shri S N. Anantaramiah, M Sc	do do
Shri S N. Ghosh, B Sc	do
Shri S R. Sampath, M Sc	do
Shri K Anantaswamy, I D D	Supervisor
Shri MV Gundu Rao, I D D Shri MC Mannar, I D D	do do
Shri T A Narayanswamy, L E E	Farm Engineer
Shri S Sankaran, I D D	Lab Assistant
Shri M N Sarathy, I D D	do
Shii Keshavamurthy Rao, B Sc	do

CENTRAL FISHERIES RESEARCH STATIONS

DEEP SEA FISHING STATION AND ICE AND COLD STORAGE PLANT, BOMBAY

Designation

Superintending Engineer Deputy Director Manager Technologist Technical Assistant

Shri K F Lilauwala, Marine Engineer B O T. Cert.
Shri A I George, M Sc.
Shri S P Killekar, M S (U S A.)
Shri F D'Mello, M S (U S A)
Shri S Gupta, M Sc.

CENTRAL INLAND FISHERIES RESEARCH STATION, CALCUTTA

CENTRAL INLAND FISHERIES RESEARCH STATION, CALCUTTA		
Dr BS Bhimachar, DSc, FASc, FNI	Chief Research Officer	
Dr TVR Pillay, M Sc. Ph D.	Research Officer	
Shri Y R Tripathi, M Sc.	do.	
Dr K.K. Sarojini, M A., Ph D.	do	
Shri S M. Banerjee, M Sc	do	
Shri V R. Pantulu, M Sc	Assistant Research Officer	
Shri J.C Malhotra, M Sc	Fisheries Training Superintendent	
Miss Eva Mitra, M A.	Research Assistant	
Shri N R.D V. Thampuran, M Sc	do.	
Shri N Dutta, M Sc	do	
Shri A K. Banerjee, I Sc	do.	
Shri B B Bose, M Sc	do"	
Shri R D. Chakraborty, M Sc.	in an artist do	
Shri M. Mydeen Kunju, M.Sc.	do.	
Shri R.M. Bhowinch, B Sc.	do	
Shra A K Naskar, M Sc.	do.	
Shri DV Pahwa, MSc	do	
Shri H R Kandar, B Sc	Survey Assistant	
Shri S N. Dutta, B Sc	do.	
Shri S P Singh, B Sc	do	
Shri C B Srivastava, M Sc	do	
Shri M J Bhagat, B Sc	do	
Shrı A. Chowdhury, B Sc	do	
Shri K P Srivastava, B Sc	do.	
Shri S Deshmahapatra, B Sc.	do.	
Shri K Misra, B Sc.	do.	
Shri S Banerjee, M.Sc	do	
Shri S Jena, M Sc.	do	
Shri D D Chakraborty, M Sc	Computor	
Shri R. Balasubramanayam, B Sc	Assistant Fisheries Training Superintendent	
Shri K H Alikunhi, M Sc.	Research Officer (Cuttack)	
Dr M T. Phillipose, M S, M Sc, Ph D	do	
Shri H L Chaudhuri, M Sc.	Assistant Research Officer (Cuttack)	
Shri V. Ramachandran, B Sc	Research Assistant (Cuttack)	
Shri M A. Vijayalakshaman, B Sc	do	
Shri S B Singh, B Sc	do	
Shri K L Shegal, M Sc.	do	
Shri S. Patnaik, M Sc.	do	
Dr VG Jhingaran, MSc.	Research Officer (Balugaon)	
Shri K H Sujan Singhani, B Sc.	Research Assistant (Balugaon)	
Shri P Roy, B Sc.	do	
Dr. M P Motwani, B Sc, Ph D.	Research Officer (Allahabad)	
Shri A. David, M Sc.	Assistant Research Officer (Allahabad)	
Shri S J Karamchandani, B Sc.	Research Assistant (Allahabad)	
Shri B N Saigal, M Sc.	do	
Shri A.K. Gorai, M Sc.	Research Assistant	
Shri M K. Kutty, M A.	do	

CENTRAL FISHERIES RESEARCH STATIONS—(Contd)		
Name	Designation	
Shri H P C Shetty, M A, M Sc.	Research Assistant	
Shri S N Chatterjee, M Sc	do.	
Shri K V Ayanger, M Sc	do.	
Shri A N Ghosh, M Sc	do.	
·	GICAL STATION, COCHIN	
Shri G K Kurian, M Sc.	Assistant Director, Technology (Gear)	
Shri A T Sharif, B Sc	Assistant Director, Offshore Fisheries Station, Cochin	
Shrı A F De'Meilo, M Sc	Fishery Technologist	
Shri Shrikant Pandurang Killekar, M S. (U S A)	Manager	
Fisheries Extension Units		
Shri K N Das, M Sc	Fisheries Extension Officer (Calcutta)	
Shri K V Rao, M Sc, L T.	Fisheries Extension Officer (Mandapam)	
Shri M Peter Devasundam, M A	Assistant Fisheries Extension Officer (Mandapam)	
Shri R D Chakrabarty, M Sc	Assistant Fisheries Extension Officer (Gauhati)	
Shri S J Rajan, B A	Assistant Fisheries Extension Officer (Bhopal)	
Shri H G Hingorani, B Sc	Assistant Fisheries Extension Officer (Allahabad)	
Shri CG Krishnamurthi, MSc	Assistant Fisheries Extension Officer (Hyderabad)	
Shri K B L Saxena, B Sc (Hons), M Sc	Extension Assistant (Calcutta)	
Shri M L Rastogi, M Sc	Extension Assistant (Gauhati)	
Shri A Ghosh, M Sc	Extension Assistant (Gauhati)	
Shri M A Saieed, B Sc	Extension Assistant (Hyderabad)	
Shri Madhusudan, M Sc.	-do-	
Shri K K Mahajan, M Sc	Extension Assistant (Allahabad)	
Shri D K Kaushik, B Sc	Extension Assistant (Bhopal)	
CENTRAL MARINE FISHERIES F	RESEARCH STATION, MANDAPAM	
Dr S Jones, D Sc, F A Sc, F Z S I	Chief Research Officer	
Dr R Raghu Prasad, M Sc, Ph D	Research Officer	
Dr. H L Arora, M Sc, Ph D	do	
Shri N K Velankar, M A.	do	
Shri S K Banerji, M A.	do.	
Shri L B Pradhan, M Sc	do	
Dr (Mrs) F Thivy, MA, PhD.	Assistant Research Officer	
Shri R Viswanathan, MA, MSc.	do	
Shri PR Sadasivan Tampi, M Sc.	do	
Dr Samuel V Job, MA, PhD	do.	
Shri S V Suryanarayana Rao, M Sc	do	
Dr V Krishna Pillai, M Sc, Ph D.	do	
Shri PV Kamasastry, M Sc.	do.	
Shri M J George, M Sc	do	
Shri K V Sekhran, M Sc	do.	
Shri V Balan, M A	Research Assistant	
Shri S Ramamurthy, MA, MSc	do	
Dr P Vijayaraghavan, M Sc, Ph D.	do.	
Shri T Tholasilingam, M Sc.	do	
Shri C Mukundan Menon, M Sc	do.	
Shri M Rajendranathan Nair, M Sc.	do.	
Dr R Prasanna Varma, MA, Ph D.	do	
Shri K Krishna Rao, M Sc.	do.	
Shri T K Govindan, M Sc	do.	
Shri Rajendra Mohan Dhawan, M Sc.	do.	
Shri K N. Krishna Kartha, M Sc. Shri P.K. Talwar, M Sc.	do.	
OULLE, N LAIWAE, WLAE,	46	

Shri P.K. Talwar, M.Sc.

do,

CENTRAL FISHERIES RESEARCH STATIONS—(Contd.)

Name

Shri A V V Satyanarayana, B Sc. Shri A P Valsan, B Sc. Shri P V. Ramachandran, B Sc Shri M S Muthu, M A.

Staff at Substations

Shri R Velappan Nair, M Sc Shri M Krishna Menon, MA, MSc. Sri R. Jayaraman, M.A. Dr R. Subrahmanayan, M Sc., Ph D., F.R.M.S., F P S., F A.Sc. Shrı G. Venkatraman, M A. Dr G Seshappa, M Sc, Ph D. Shra P C George, M A. Shri L R. Kasturiranjan, M A., M Sc, L.T. Dr. A. Anantarama Sastry, D Sc. Shri V. Ramamohana Rao, M Sc Shri K C. George, M Sc. Shri S V. Bapat, M Sc. Shrı N. Radhakrıshnan Shri M S. Prabhu, M Sc. Shri D M. Punwani, B.Sc. Miss P D. Nayak, M Sc. Shri V M. Deshmukh, M Sc Shri J P. Karbhari, B Sc. Shrı V N. Bande, M Sc. Shri K Nagappan Nair, M Sc. Shri B Krishnamurthy, M Sc. Shrı Syed Basheeruddin, B Sc. Shri P. Udaya Varma Thirupad, B Sc. Dr V Balakrishnan, Ph D Shri K Srinivasan Rao, M Sc. Miss M Dharmamba, M Sc. Shri K. Venkatanarayana Rao, M Sc. Shri M Narayananbutty, B Sc. (Hons) Shri K H Dhulkhed, M Sc. Miss F S Shaik Mahmud, M Sc. Shri CV Gangadara Reddi, M Sc Shri B T Antony Raja, M A., M Sc. Shri T A. Mammen, M Sc. Shri S Gopalan Nayar, B Sc. Shri A S Kaikini, B Sc Shri P T. Meenakshisundram, B Sc Shri C P Shanmughavalu, B Sc. Shri S A Mukarram, B Sc. Shri K., Venkata Subba Rao, M Sc Shri M G Dayanandan, B Sc. Shri A K Chatterice, B Sc Shri V Sadasiwan, M.A., M.Sc. Shri K H Mohamed, M Sc. Shri P Mazumdar, B Sc. Shri S S Dan, B Sc Shri N D Chhaya, M Sc. Shri M G. Bhide, B Sc Shra K.Y. Telang, M Sc.

Shri T K. Srinivasan, B Sc. (Hons)

Shri S S. Gogate, B.Sc.

Survey Assistant Extension Assistant Research Assistant do.

Designation

Research Officer (Vizag)

Research Officer (Cochin)
Assistant Research Officer (Bombay)
Assistant Research Officer (Kozhikode)
do.
Assistant Research Officer (Karwar)
Assistant Research Officer (Mangalore)
Assistant Research Officer (Cochin)
Assistant Research Officer (Cochin)
Research Assistant (Cochin)
Research Assistant (Cochin)

Assistant Research Officer (Karwar) Research Assistant (Karwar) Assistant Research Officer (Bombay)

Special Survey Assistant (Bombay)
Research Assistant (Bombay)

do.
Survey Assistant (Bombay)
do.

Assistant Research Officer (Madras)

do.
Survey Assistant (Madras)
Chemical Assistant (Madras)
Research Assistant (Vizhingam)
Research Assistant (Waltair)
Research Assistant (Waltair)
Research Assistant (Calicut)
Survey Assistant (Calicut)
Research Assistant (Ratnagiri)
Research Assistant
Research Assistant
Research Assistant (Vizhingam)

Research Assistant (Vizhingam)
Research Assistant (Tuticorin)
Research Assistant (Quilon)
Survey Assistant (Trivandrum)
Survey Assistant (Mangalore)
Survey Assistant (Nagapattinam)
Survey Assistant (Tuticorin)
Survey Assistant (Nellore)
Survey Assistant

Survey Assistant
Survey Assistant (Alleppy)
Survey Assistant (Calcutta)

Assistant Research Officer (Calcutta)

do.

Research Assistant (Calcutta)
Survey Assistant (Gopalpur)
Survey Assistant (Vebraval)
Survey Assistant (Surat)
Survey Assistant (Satpati)
Survey Assistant (Pamban)
Chemical Assistant (Bombay)

FOREST RESEARCH INSTITUTE AND COLLEGES

Dehra Dun (U. P.) Name Designation President, FRI and Colleges Shri R D Datta Shri I J Malhan, B A Registrar Shri K K Shome, M A (Com) Accounts Officer Medical Officer Dr RN Gideon, MB, BS Composite Wood Branch Dr D Narayanamurti, M Sc, A I I Sc, A I C, F Inst P, Chief Research Officer AM Chem E, Dr Ing, FNI **Junior Research Officer** Shri Nirmal Chand Jain, M Sc Shri BN Prasad, MSc do do Shri Joseph George, M Sc do Dr PR Rao, DSc Wood Seasoning Branch Chief Research Officer Shri M A Rehman, M Sc, A R I Junior Research Officei Shrı Jaı Kıshen, M Sc Minor Forest Products Branch Chief Research Officer Shri R L Badhwar, M Sc Shri S Ramaswami, M A Diploma I F S College, Dehra Dun Forest Officer Junior Research Officer Shri A C Dey, I Sc Statistical Branch Dr KR Nair, MA, MSc, PhD (Lond), FSS, FASA Chief Research Officer Shri R P Bhargava, M A, M Sc, B L Junior Research Officer (Assistant Statistician) **Entomology Branch** Dr RN Mathur, MSc Ph D Chief Research Officer Dr PN Chatterjee, D Phil Junior Research Officer Shri P K Sen Sarma, M Sc Junior Research Officer Silviculture Branch Silviculturist Shri S K Seth, M Sc, A I F C Assistant Silviculturist Shri GS Mathauda, MA, AIFC Shri S N Dabral, B Sc Statistical Assistant Silviculturist Shri Jai Singh Pal Yadav, M Sc (Agri) Junior Research Officer (Soil Chemist) Shri Vinod Kumar Sharma Officer-in-charge, Photo Section Timber Engineering Branch Shri N J Masani, B E (Civil), A M I E (India) Chartered Engineer Senior Research Officer-in-Charge **Botany Branch** Shri M B Raizada, M Sc Senior Research Officei-in-Chaige Shri G R Hingorani, M Sc Junior Research Officer Shri HS Rao, DSc, FBS do Shri K C Sahni, M Sc do Cellulose and Paper Branch Dr R V Bhat, M Sc (Tech), Ph D (Bombay), Ph D (Mrefer), ARIC, ATI Senior Research Officer-in-Charge

Shri Man Mohan Singh, M Sc Shri K C Virmani, M Sc (Tech) Wood Preservation Branch

Shri M G Karnik, M Sc

Dr A Purushotham, M Sc, D Sc.

Dr SRD Guha, MA, MSc, PhD, A.RIC.

Shri J N Pande, B Sc Shri N R Dass, M Sc

Senior Research Officer-in-Charge

Junior Research Officer Research Officer

Junior Research Officer

do

do

do

FOREST RESEARCH INSTITUTE AND COLLEGES—(Contd)

Name Designation **Timber Mechanics Branch** Shra A C Sekher, M Sc Senior Research Officer-in-Charge Shri BS Rawat, BE, AMIE (India) Junior Research Officer Wood Anatomy Branch Shri S S Ghosh, M Sc Senior Research Officer Shri K Ramesh Rao, MA, BSc (Hons) Junior Research Officer Shrı S K. Purkayastha, M Sc Logging Branch Shri Niranjan Singh Senior Research Officer-in-charge Service Branch Senior Research Officer-in-charge Shri PS Shivaram, BE. (M and E) (Mechanical Engineer) **Chemistry of Forest Products Branch** Dr PS. Rao, DSc, FA.Sc Junior Research Officer Mycology Branch Dr B K. Bakshi, Ph D Junior Research Officer-in-charge **Publicity Branch** Shri O P Bhargava, B Sc Dip For (Oxon), A I F C, D D R. Publicity and Liaison Officer (Hons) Shri K.A. Isaac, B Sc, M Lib Sc Librarian Forest Education Shra P D. Stracey, I F S Director of Forest Education INDIAN FOREST COLLEGE, DEHRA DUN Shri Y M L. Sharma, M Sc, I F C Dean, Indian Forest College Shri N J. Masani, B E (Civil) A M I E (India) Chartered Engineer Lecturer-in-Engineering and Surveying Shri O P Bhargava, B Sc., Dip For (Oxon), A I F C., D D R. (Hons) Lecturer Shri S A Shah, B Sc (Hons), A.I F C, B F S. Shri A L Rao, A.I F C do Shri PG Sathe, AIFC do. Shri AB Rudra, MSc, AIFC, WBFS do. Shri O E Peters, B Sc, D P E PT. and Games Instructor NORTHERN FOREST RANGER'S COLLEGE, DEHRA DUN Dr S Krishnaswamy, B Sc (Mysore), M Sc (Cal), A.I F C, Principal Doctor of Forestry (Yale, USA) Shri Jaswant Singh, DDRH, PFS (II) Instructor Shri J C Varmah, M Sc, M A (Oxen), F B S (Forestry) do Shri Ram Prakash, MADDR Assistant Instructor Shri LS Khanna, DDR do Shri M V. Achar, M Sc, B E Assistant Instructor in Engineering and Surveying SOUTHERN FOREST RANGER'S COLLEGE, COIMBATORE Dr DA Rama Rao, BSc, AIISc, Ph D Principal Shri K.K Nair, BSc, AIFC Instructor Shri S V Venkataramanan, B A, M R H do Shra V Govind Menon do. Shri T K Rajagopalan, B Sc., D D R Assistant Instructor Shri S S Harisinghani, M R H. do. Shri J P Thomas, M Sc, BE Assistant Lecturer in Engineering and Surveying Shri V M Narasimhan, B Sc, D D R

FOREST RESEARCH LABORATORY, BANGALORE

Instructor-in-Charge, Regional Forester's School

Dr M N. Ramaswamy, M Sc, D Sc (Munich) F A Sc Senior Research Officer-in charge Shri B K. Chelvarajan Junior Research Officer

COTTON TECHNOLOGICAL LABORATORY Matunga (Bombay).

Name	Designation
Dr RLN Iyengar, DSc	Director
Shri Hanrao Navkal, M Sc	Senior Research Officer
Shri K-S Bhujang, M Sc (Tech)	do
Shri V V Gupta, B Sc Tech, (Manch), B Sc (Bom)	Spinning Master
Shri V Venkataraman, M A	Statistician
Dr V Sundaram, M Sc, Ph. D, ARIC.	Junior Research Officer
Shri Jai Prakash, M Sc	do
Shri S M Betrabet, M Sc	do
Shri N Balasubramanian, B Sc B Sc. (Tech)	Research Scholar
Shri TV Krishnan, M Sc	° -do
Shri V G Munshi, M Sc	do.
Shri V N Modak, B Sc.	Supdt Testing House
Shri P S Sambamurthy	Senior Assistant (Testing)
Shri R G Panvalkar, B Sc.	do
Shri P V. Nachane, B Sc	do
Shri B G Mehta	do
Shri S Samson, B Sc, LLB	do.
Shri S B Mogre, M Sc	do.
Shri P D Vakil	do.
Shri CAS Iyer, BSc	do.
Shri S Ramanathan	do
Shri N C Chiplunkar, B Sc.	Junior Assistant (Testing)
Shri J M Shah, B Sc	do.
Shri K P Ramakrishna Pillai, B Sc, AT.I.	do.
Shri R Narayan Rao, B Sc.	do.
Shri H M Almeida, B Sc.	do.
Shri R Braganza, B Sc.	do.
Shri K N Sheshan, B Sc.	do.
Shri P G Oka, B Sc	do.
Shrimati S B Pai, B Sc (Hons)	do.
Shri G G Phadnis, B Sc	do
Shri M S Sitaramiah, B Sc	do.
Shri M N Upponi, B Sc.	do.
Shri M S Sawant, B Sc.	do.
Shri M G Rege, B Sc	do.
Shri R Dwarkanath, B Sc.	do
Shri S Srinivasan, B Sc	do
Kumarı Indira G Bhatt, M Sc. Shri M G Nambiar, B Sc	do do.
Shri K S Subbanarasimha, B Sc.	do.
Mrs K L. Datar, B Sc.	do. do
Shri S V Shetye, B Sc.	do
Shri K Venkateswaran, B A.	Senior Assistant (Statistics)
Shri P D Ghangurde, M Sc.	-do
Miss S P. Gupte, B A	Junior Assistant (Statistics)
Shri DG Shete, LME	Gin Supervisor
Shri HV Tamhankar LME, LEE.	Electrician
Shri A G N Iyengar,	1st Spg Assistant
Shri PB Joshi, LTM	2nd Spg Assistant
Shri T S Jaganath, B Text.	-do
Shri Y N Tendulkar	Draftsman
Shri Mohd Mastan Shaikh	Mechanic
	*

COTTON TECHNOLOGICAL LABORATORY—(Contd)

Name Designation

Shri N G Paul, B Sc.	Senior Assistant (Technological)
Shri M Radhakrishnan, B Sc	do
Shri K S Marar, B A., LL B.	do.
Shrı S K Iyer	Junior Assistant (Technological)
Shri K G Deo	Senior Assistant (Technological)
Shri Y N Yardi	Junior Assistant (Technological)
Shri K V N Nayar	Senior Assistant (Technological)
Shri W R Sharma	Junior Assistant (Technological)
Shri L R Jambunathan, B Sc.	Senior Assistant (Technological)
Shri H R Nayak	Senior Assistant (Technological)
Shri M U. Parmar, M Sc.	Senior Assistant (Technological)
Shri R C Sanklia	Junior Assistant (Technological)

INSTITUTE OF PLANT INDUSTRY

Indore (Madhya Pradesh)

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Ň	ame

Designation

Shri J L Merh, M Sc Shri P D. Gadkari, M Sc, M Ag (Texas)

Shri Bholanath, M Sc.

Shri K M Simlote, M Sc (Ag) Hons, B Ag, LL B

Shri D Ganesan, M Sc

Shri V B. Sahasrabudhe, M Sc

Shri Sardarsingh, B Sc

Shri T M Koyal, B Sc (Agri)

Shri H P Bhatia, M Sc

Shri S N Kulkarni, M Sc

Shri Amerjit Rampal, B Sc (Agr) Shri Puransingh Sangwan, M Sc (Egypt)

Shri K N Agrawal, M Sc.

Shri LN Desai, BSc

Shri BB Tipnis, B. Ag

Shrı O P. Sharma, M Sc.

Shri BG Apte, B Sc.

Technological Research Scheme

Shri K V N Nayar, Inter Science

Shri W R Sharma, B Sc

Physiological Section

Professor R H. Dastur, M Sc

Scheme for Physiological Research on Linseed

Shri J G Bhatt, M Sc.

Shri S A Kumar, B Sc.

Scheme for Determining Potash Requirement of Cotton

Shri Y S Kapse, M Sc

Shri DB Sashasrabudhe, MSc

Shri S A Anand, M So.

Co-ordinated Scheme on Pre-soaking seeds in Nutrient Salts

Shri L T Mone, B Sc.

Director

Economic Botanist

II Economic Batanist

Assistant Botanist

Assistant Statistician

Agronomist

Farm Superintendent

Botanical Assistant

Pathological Assistant

Botanical Assistant

Botanist

Statistical Assistant

Assistant Farm Superintendent

Farm Assistant

Mycological Assistant

Chemical Assistant

Senior Technological Assistant Junior Technological Assistant

Co-ordinating Officer

Assistant Physiologist

Research Assistant

Assistant Statistician Research Assistant

do

do.

JUTE TECHNOLOGICAL RESEARCH LABORATORIES Calcutta (West Bengal)

Carcasta (110	se bengari
Name	r 'signation
Dr PB Sarkar, DSc, FNI	Director
Dr (Mrs) A Mathew, M Sc, Ph D	Technical Assistant to the Director
Physics Department	
Dr K R. Sen, D Sc.	Senior Research Physicist
Dr AC Chakrabarti, MSc, D Phil	Senior Research Assistant
Shri R K Basu, M Sc.	Junior Research Assistant
Shri S K Bose, B Sc	Senior Physical Assistant
Shri H Ghosh, B. Sc	Junior Physical Assistant
X-Ray Department	
Dr R K Sen, D Sc	Assistant Physicist
Dr S K Chowdhury, M Sc, D Phil	Junior Research Assistant (Physicist)
Shri S K. Kar, M Sc.	do
Chemistry Department	
Dr H Chatterjee, MSc, D Phil, FRIC	Senior Research Chemist
Dr PC Das Gupta, M Sc D. Phil	Assistant Chemist
Dr DK Roy Chaudhury, MSc, D Phil	Junior Research Assistant (Chemist)
Shri A.K. Mazumdar, B.Sc (Hons), A.R.I.C	Senior Chemical Assistant
Shri N K Dutta, B Sc.	Junior Chemical Assistant
Chemical Technology Department	
Dr P K. Saha, M Sc Ph D (Manch)	Senior Chemical Technologist
Shri A.K. Guha, M.Sc. Shri S.K. Banerjee, M.Sc	Senior Research Assistant (Chemist) Junior Research Assistant
-	Juno Research resistant
Microbiology Department	
Shri R K Bose, M Sc.	Senior Research Assistant (Micro)
Shri A R Guha Roy, M Sc	Junior Research Assistant (Micro)
Testing Department	
Shri S B Bandyopadhyay, M Sc	Superintendent, Testing Department
Shri S R Guha, B Sc	Senior Tester
Shri U Chatterjee, B Sc	do "
Shri S K Mukhopadhyay, B Sc	do
Shri S K. Ghosh, M Sc.	do.
Shri R N Roy, B Sc	Statistical Clerk
Shri S R Das, B Sc	Junior Tester
Shri B K Bose, B Sc	Junior Tester
Shri S S Bhattacharjee, B Sc	do
Shri N K Sil, B Sc	do.
Shri B B Bhowmick, B Sc	do
Shri S Palit, B Sc Shri P K Das, B Sc	do.
·	do
Spinning and Weaving Department	
Shri K K Chatterjee, B Sc, A B T I; A T I (Manch)	Manager, Experimental Spinning and Weaving Mills
Shri P K. Deb, B Sc.	Manager's Assistant
Shri S P. Bhosh, B Sc.	Head Mechanic
Shri M C Mazumdar, B Sc Shri R N Bose	Weaving Assistant Electrician
	woold straits
Resin Impregnation Shri G C Bandyopadhyay, M Sc.	Junior Research Assistant (Chemist)
Paper Pulp Technology Scheme	-
Shri S C Jain, M Sc.	Senior Research Assistant (Chemist)
	•

JUTE AGRICULTURAL RESEARCH INSTITUTE

Barrackpore (West Bengal)

Name

Designation

Dr BC Kundu, MA, PhD (Leeds), FLS, FNI.

Shri K L Ghosh, B Sc, B Ag

Botany Section

Shri B Dasgupta, M Sc. Shri B Roy, M Sc, (Cal), M Sc (Lond) Shri Samir Kumar Bose, B Sc, Ag Shri S C Rakshit, M Sc

Physiology Section

Dr BK Kar, MSc, Ph D (Lepzig) Shri BK De refer Sarkar, BSc. Shri J R. Saha, B Sc

Agronomy Section

Shri B K Das, B Sc, (Ag) Shri S Pal Chowdhury, B Sc, B Ag Shri B D Dua, B Sc (Ag) Shri Samarendra Nath Mitra, B Sc (Ag)

Agricultural Chemistry Section

Dr MK Mukherjee, MSc, PhD, FNA Sc, VIC Shri Ajit Kumar Banerjee, M Sc. Shri S Chakraborty, M Sc Shri A K Kundu, M Sc Shri G Halder, B Sc Shrı Swastı Kumar Basu, M Sc Shri S Ghosh, B Sc Shra AB Roy, BSc

Mycology and Pathology Section

Shrı T. Ghosh, M Sc Shri N. Mukheriee, M Sc. Shri M Basak, B Sc Shri H P Bhattacharjee, B Sc

Entomology Section

Dr N Dutt, M Sc, D Phil Shri D Dutta, M Sc. Shri Basudev Bhattacharjee, M Sc. Shri S P Bhattacharjee, B Sc

Substitute Fibre Section

Dr S S Bhattacharjee, M Sc, Ph D, (Koln) Shri Paritosh Sanyal, M Sc, Assoc I A R I. Shrı A N. Dutta, B Ag.

Statistics Section

Shri S N Sen, M Sc.

Development Section

Shri K L Gurnani, B Ag, MS (Texas) Post-graduate (I A R I) Shri S K. Mazumdar, B Sc (Ag)

Staff Under Jute Research-cum-Developmental Substation, Uttar Pradesh Shri M N Sanidilya, B Sc. (Ag)

Staff Under Jute Seed Multiplication Farm, Panagarh

Shri P K. Das, B Sc, B Ag.

Director

Technical Assistant to the Director

Botanist Assistant Botanist **Botanical Assistant** Herbarium Assistant

Physiologist Physiological Assistant. Junior Physiological Assistant

Assistant Agronomist Senior Agronomical Assistant Agronomical Assistant do

Chemist Assistant Microbiologist Senior Chemical Assistant Soil Microbiological Assistant Biochemical Assistant Chemical Assistant Junior Chemical Assistant do

Assistant Mycologist Senior Mycological Assistant Mycological Assistant Junior Mycological Assistant

Assistant Entomologist Senior Entomological Assistant Entomology Assistant Junior Entomological Assistant

Assistant Botanist **Botanical Assistant** Agronomical Assistant

Statistician

Development Agronomist Agronomical Assistant

Agronomical Assistant

Farm Superintendent

CENTRAL COCONUT RESEARCH STATIONS CENTRAL COCONUT RESEARCH STATION, RAYANGULAM

Name	De ignation
Dr KPV Menon, BSc, Ph D (Lond), DIC Dr KK Nirula, MSc (Hons) Punjab, Assoc IA.RI, Ph D	Director
(Punish)	Entomologist
Shri E J Verghese, B A (Madras, M Sc (Madras)	Soil Chemist
Shri TA Davis, BA, Post graduate training at ARI Coimbatore	Plant Physiologist
Dr Chandy Kurian, B Sc (Madras), M Sc (Agra), Ph. D (Agra), F R E S.	Research Assistant (Selection Grace
Shri H Sankara-Subramoney, B Sc (Travancore), M Sc (Travancore)	do.
Shri U K Nair, B A (Madras), B Ag (Bombay)	do
Dr (Mrs) K Radha, B Sc (Madras), Ph D (Madras)	Research Assistant (Ist Grade)
Shri A P Anandan, B A. (Madras)	do.
Shri J Antony, B Sc	do.
Shri M P Sankara Narayanan, B Sc	do.
Shri K N Sahasranaman, B Sc (Ag)	Farm Assistant
Shri N G Pillai, B Sc	Research Assistant (IInd Grade)
Kumarı S G Lilly, B Sc.	do
Shri K J Thomman, B Sc.	do.
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CENTRAL COCONUT RESEARCH STATION, KASARGOD

Dr K M Pandalaı M Sc, Ph D.	Joint Director		
Shri S R. Gangoly, M Sc	Cyto-Anatomist		
Shri M M Krishna Marar B Sc (Ag)	Agronomist		
Shri PK Thomas BSc (Ag) Assoc IARI	Research Assistant (Ist Grade)		
Shri M Chathukutty Nambliar B Sc (Ag)	do.		
Shri Rama Verma, B Sc (Ag)	do.		
Shri K Satyabalan, B A B Sc (Ag)	do.		
Shri E V Neliatt, B Sc (Ag)	Farm Assistant		
Shri P L Ramanandapai, B Sc	Research Assistant (IInd Grade)		
Shri S Vaitheeswaran, M Sc.	do.		
Shri M K Muliyar, B Sc	do.		
Shri R Vasadwan Pillai, B Sc.	do		

CENTRAL ARECANUT RESEARCH STATION, VITTAL

Name

Dr. GI Patel, B Sc (Agrı) Hons, MS (Horticulture)

Shri K Shama Bhat, B Sc (Ag) Shri K V. Ahamed Bavappa, B Sc (Ag)

Shri K N Murthy, B Sc (Ag)

Designation

Arecanut Specialist, Central Arecanut Research

Station, Vittal

Research Assistant

· Agronomy Assistant

Botany Assistant

CENTRAL TOBACCO RESEARCH INSTITUTE

Rajahmundry

Name Designation

Dr NR Bhat, Ph D (Cantab) Director

Agronomy

Shri H T Khemchandani B Sc (Ag) Hons, M S (N Carolina) Agronomist

Shri R Anantharaman, B Sc (Ag)
Agronomical Assistant

Plant Physiology

Dr NL Pal, M Sc, D Sc, F N A Sc, F B S,

Shri N C Gopalachari, M Sc (Ag)

Physiological Assistant

Shri M Bangarayya, M Sc (Ag) do

Plant Breeding

Shri B Radhakrishanamurty Plant Breeding Assistant

Cytology

Dr K V Krishnamurty, B Sc (Hons) Ph D Assistant Cytogeneticist

Plant Pathology

Shri D I Mathrani, M Sc (Ag) M-S (N Carolina) Plant Pathologist

Entomology

Dr (Miss) Annamma Philip, M Sc, Ph D Entomologist

Shri B G Joshi, M Sc, Entomological Assistant

Shri D P Parkhe, M Sc do

Agricultural Chemistry

Shri BV Ramakrishnayya, M Sc

Shri KV Venkataraman, B Sc

Shri T Venkatapathi, M Sc

Chemical Assistant
Chemical Assistant
Chemical Assistant

Shri T Gangadharasastry, B Sc Junior Scientific Assistant

CIGARETTE TOBACCO RESEARCH SUBSTATION, GUNTUR

Plant Breeding

Shri S Viswanadham, M Sc (Ag) Plant Breeder
Shri A Bhima Sastry, B Sc (Ag) Botanical Assistant

CIGAR AND CHEROOT TOBACCO RESEARCH STATION, VEDASANDUR

Agronomy

Shri T Krishnamoorthi B Sc (Ag) Agronomist
Shri A S Krishnan, B Sc (Ag) Agri, Assistant

Botany

Dr D M Gopinath, M Sc, Ph D Botanist

Shri N J Hrishi, M Sc Botanical Assistant

Chemistry

Shri A S Sastry, M Sc Chemist

Shri C K Ramakrishna Kurup, M Sc Chemical Assistant

HOOKAH AND CHEWING TOBACCO RESEARCH STATION, PUSA

Agronomy

Shri B T Sajnani, B Ag Agronomist

Shri K C Dhyani M Sc (Ag)

Agronomical Assistant

WRAPPER AND HOOKAH TOBACCO RESEARCH STATION, DINHATA

Agronomy

Shri G C Patel, B Sc (Ag), M S (N Carolina) Agronomist

Shri Maharaj Singh, M Sc (Ag)

Agronomical Assistant

TOBACCO RESEARCH STATION, HUNSUR

Shri N A Elias, M Sc (Ag)

Plant Pathologist

INDIAN LAC RESEARCH INSTITUTE Ranchi (Bihar)

	(Dilliar)	
.Narqe	Designation	
Dr S V. Puntambekar, Ph D (Ill)	Director	
Division of Entomology		
Dr S Krishnaswami, B Sc, (Ag), Assoc I A R I, Ph D (Madras)	Entomologist	
Shri S N Gupta, M Sc	Biologist	
Dr A Bhattacharya, M Sc, D I C, Ph D. (Lond)	Research Assistant	
Shri B P Mehra, M Sc	do.	
Shri C P Malhotra, M Sc.	do.	
Shri N S Chauhan, M Sc (Ag)	do.	
Shri PSBR James, MSc	do.	
Shri B K Purakayastha, B Sc.	Arboricultural Assistant	
Shri J N. Singh	Junior Research Assistant	
Shri K C Chatterji	do.	
Shri M K Choudhury	do	
Shri N Majumdar B Sc.	do₊	
Shri P Sen, B Sc	do.	
Shri B P. Misra, B Sc	do	
Shri J Das Gupta, B Sc	do.	
Shri B N Sah, B Sc.	do	
Division of Chemistry		
Shri Y Sankaranarayanan, M Sc	Shellac Utilisation Officer	
Shri T P Bhowmik, M Sc	Scientific Officer	
Shri PR Bhattacharya, MSc	do.	
Shri S C Sen Gupta, M Sc.	Research Assistant	
Shri P K Ghosh, B Sc	dэ	
Shri B B Khanna, M Sc	do	
Shri V S Rao, B Sc, B Sc (Tech)	do.	
Shri P C Ghosh, B Sc (Hons)	Analytical Chemist	
Shri A K. Ghosh, B Sc	Junior Research Assistant	
Shri K M Tripathi, B Sc	do.	
Shri B K. Ganguli, B Sc	Analyst	
Shri P K Sanyal, B Sc	do.	
Shri K Chatterji, B Sc,	Junior Research Assistant	
Shrı A Banerji, B Sc	Exhibition Assistant	
Shri B. Mukhopadhyay, M Sc	Technical Assistant	

SUGAR RESEARCH INSTITUTES

SUGARCANE BREEDING INSTITUTE, COIMBATORE

Name Designation

Shri N L Dutt, M Sc, F A Sc Director
Shri R.R Panje, M A, M Sc Botanist
Shri K V. Gopala Aiyar, B A, Dip T I Chemist

Shri M Vijaysaradhy, M Sc, Ph D (Lond) D I C
Shri K V Srinivasa, B Sc (Ag), Assoc I.A R I
Shri R.A Agarwal, B Sc (Ag), Assoc I A R I.
Entomologist

Shri R. Narasimhan, B Sc. (Ag), M Sc Assistant Sugarcane Expert

Sugarcane Substation, Karnal

Shri K S Subba Rao, B A, Assoc I A.R I Assistant Botanist

INDIAN INSTITUTE OF SUGARCANE RESEARCH, LUCKNOW

Dr B K, Mukerji, Ph D, D Sc Director

Entomology Section

Shri B D Gupta, M Sc, A.I A R I

Shri P N Avasthy, M Sc

Shri J P Kulshrestha, M Sc

Research Assistant

Mycology Section

Shri S A. Rafay, M Sc Mycologist
Shri V B Singh, M Sc. Research Assistant
Dr R K Agarwal, M Sc, D Phil. do.

Agronomy Section

Dr J Thuljaram Rao, MA, MSc., PhD

Agronomist
Shri PS Gill, MSc., (Ag)
Assistant Agronomist
Shri Masood Alam, BSc, AIARI.
Shri N Mukerji, BSc, AIRAI.
Shri Suba Singh
Farm Superintendent
Shri Rajendra Singh, MSc (Agri)
Agronomist
Research Assistant
do
Farm Superintendent

Agricultural Chemistry and Soil Science Section

Dr Ambika Singh, M Sc (Ag), Ph D.

Soil Chemist
Shri S N. Pandit, B Sc.
Senior Chemical Assistant
Shri A P Gupta, M Sc
Senior Soil Assistant
Shri S S Iyer, M Sc.
Senior Microbiological Assistant

Agricultural Engineering Section

Shri R G Menon, B A, B Sc., (Engg.) (B H U.)

Shri A Subramanyam, B Sc., B E (Mech. Eng.)

Shri K N Lahiri, Dip M and E E

Agricultural Engineer
Research Assistant

Gur and Khandsari Research Scheme

Shri K S. Saxena, B Sc, A.H B T I. Chemist In-Charge

SUGAR RESEARCH INSTITUTES—(Contd)

NATIONAL SUGAR INSTITUTE, KANPUR

Name	Designation		
Shri S N Gundu Rao, B Sc, A H B T I, (Sugar Tech), F A Sc, F R I C.	Director		
Shri GR Athavale, B Sc, (Bom), B Sc. (Lond), A M I E	Professor of Sugar Engineering		
Shri S L. Phansalkar, B Sc, M S (La, U S.A), A R T C. (Glas),	Professor of Sugar Technology		
AEIC. (Lond)			
Shri S L. Saxena, B Sc. (Eng) A.I I S E	Assistant Professor of Sugar Engineering		
Shri S Mukherji, M Sc., Ph D (Cantab), ARIC, AIISc.	do Chemistry (Organic)		
Dr S C. Sen, D Sc., F R I C., F I C.	do	Chemistry	
Shri PK Ray, B Sc., A H B T I	do	Technology	
Dr N.A Ramaiah, M Sc., Ph D, ARIC.	Physical Chemist		
Shri J P Shukla, M Sc, F.H B T I.	Bio Chemist		
Shri N C. Verma, B Sc, Dip. Tech	Chief Technical Officer		
Shri V Seetharamaiya, B Sc, LL B	Administrative Officer		
Shri R C Sharma, B Sc. (Eng.)	Technical Officer (Instrument)		
Shrı S N Gupta, M A	Statistician		
Shri B D. Kapoor, M Sc	Jurior Technical Officer		
Shri H C. Bhattacharya, B Sc , A H B T I	do		
Sardar Jagjit Singh, B Sc (Eng)	Chief Engineer, Fuel Economy Scheme		
Shri B S Negi, B Sc , A H B T I	Technical Assistant		
Shri J K P. Agarwal, B Sc., A I I S T, F I I S T.	do		
Shri N. Rajgopalan, B Sc., A I I S T.	do		
Shri N C. Jain, B Sc, A I I S T	do		
Shri K H Rao, M.A, B Sc, A I I S T	Research Assistant		
Shri J C. Bhargava, B Sc., A I I S T.	do.		
Shri A K Chatterjee, M Sc.	do.		
Shri Vishnu, M Sc.	do.		
Shri S K D Agarwal, M Sc	do.		
Shri J P. Bansal, B Sc, A I I S T	do		
Shri K.A. Prabhu, M Sc.	do.		
Shri Sarvarinath, B Sc., A I I S T.	do.		
Shri C D Rajpal, Diploma in Engineering	də.	•	