

REPORT

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on the

Work of the Imperial Council of Agricultural Research in Applying Science to Crop Production in India

by

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(Reprint.)



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APPENDIX I

List of schemes visited and reported upon.

Nos.	Places of visit.	Names of Schemes.	Sanctioned cost.	Name of the person who is doing the work.	Person or Institution in whose name the grant is made.
1	Bombay	Visit to the Technological Laboratory of the I. C. C. C.	Ra. ..	....	....
2	Delhi	(1) Research on the Chemistry of sugar cane, I. A. R. I. (2) Sugar cane Insect Pests Scheme, I. A. R. I. (3) Investigations on Mosaic and other sugar cane diseases, I. A. R. I. (4) Statistical section at the Headquarters of the I. C. A. R. (5) Economic enquiry into the cost of production of crops in the principal sugar cane and cotton growing tracts in India.	23,000 96,000 1,04,980 86,380 5,25,800 The cost is met in equal shares by the I. C. C. C. and the I. C. A. R.	R. B. B. Viswanath Mr. P. V. Isaac Dr. B. L. Chona R. B. M. Vaidyanathan Mr. R. D. Kapur. Chief Economist and provincial workers.	Government of India. Do. Do. Council's Scheme. Do.

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			Rs.		
3	Karnal	(1) Botanical Substation I. A. R. I. . .	2,63,930	Mr. Kashi Ram and Mr. R. B. Ekbote.	Government of India.
		(2) Sugar cane Substation I. A. R. I.	1,32,000	R. V. Venkataraman and Mr. G. V. James.	Do.
4	Agra	Investigations on cereal rusts by Dr. K. C. Mehta.	1,34,760	Dr. K. C. Mehta	U. P. Government.
5	Muzaffarnagar ..	Sugar cane Research Scheme ..	1,01,260	Mr. R. L. Sethi and Mr. Imdad Ali Khan.	Do.
6	Nagina	Rice Research Scheme	1,39,660	Mr. R. L. Sethi and Mr. T. R. Mehta.	Do.
7	Shahjahanpur ..	(1) Sugar cane Research Scheme ..	1,01,260	} Mr. R. L. Sethi and Dr. R. N. Mathur. (Physiologist.)	Do.
		(2) Scheme for seedling trials ..	11,230		
8	North-West Frontier Province, Peshawar.	Sugar cane and Fruit Research ..	..	....	....
9	Quetta	Fruit Research .. ..	..	....	....
10	Sakrand	Crop Research for Sind .. ..	..	....	....
11	Karachi	Special Locust Research Staff ..	5,13,353	R. B. Y. Ramchandra Rao, Mr. R. N. Batra (Ambagh), Dr. M. L. Roonwal and Mr. S. M. Taqui Ahsan (Pasni).	Council's Scheme.

12	Poona ..	(1) Agricultural Meteorology Scheme	1,07,950	Dr. L. A. Ramdas and R. J. Kalamkar.	Government of India.
		(2) Cold Storage Research Scheme, Bombay.	90,154	Dr. G. S. Cheema .. ..	....
13	Padegaon ..	Sugar cane Research Scheme, Bombay	3,86,402	Rao Sahib B. P. Vagholkar and Drs. R. D. Rege and J. K. Basu.	Bombay Government.
14	Sholapur ..	Dry Farming Research Scheme, Bombay.	2,35,000	Mr. N. V. Kanitkar and Dr. J. A. Daji replaced by Mr. V. N. Gokhale.	Do.
15	Raichur ..	Dry Farming Research Scheme, Hyderabad.	59,380	Dr. P. G. Krishna ..	Hyderabad Government.
16	Madras ..	Visits to University and Research Laboratories.—			
		(1) Sunn hemp scheme ..	1,500	} Recently started ..	} Madras Government.
		(2) Groundnut scheme ..	57,100		
17	Bangalore ..	(1) Research scheme on the quality of rice.	5,400	Mr. A. Sreenivasan under Professor V. Subramaniam.	} Indian Institute Science.
		(2) Preparation of Cheap Synthetic Manure from town refuse and waste material.	4,950	Dr. C. N. Acharya under Professor V. Subramaniam.	
		(3) Insecticidal value of plant fish poisons and other forest products.	15,288	Messrs. Lakshmi Narayana Bhatta and M. Puttarudriah.	Mysore Government.
18	Mysore ..	Scheme for breeding thick canes ..	21,000	Dr. V. K. Badami and Dr. L. S. Doraiswami.	Do.
19	Coonoor ..	Visit to the Nutritional Research Laboratory.	..	(Dr. W. R. Akroyd)

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			Ra.		
20	Coimbatore ..	(1) Research on the genetics of sugar cane.	37,400	Miss E. K. Janaki Ammal ..	Government of India.
		(2) Chemistry of Malting cholam ..	11,680	Mr. Surya Narayanan	Madras Government.
		* (3) Sugar cane Scheme, Madras ..	1,50,100	Mr. Kanti Raj, Mr. S. S. Patrudu Garu. .	Do.
		* (4) Dry Farming Scheme, Madras ..	1,39,510	Dr. Subba Rao, Mr. C. Vijayara-ghacharya.	Do.
		* (5) Fruit Research Scheme, Madras	66,064	Mr. K. C. Naik	Do.
		* (6) Potato breeding Scheme, Madras	19,995	Mr. D. G. Munro and V. Subrama-nia Mudaliar.	Do.
21	Trivandrum ..	(1) Root disease of coconuts (Travan-core scheme).	25,500	Mr. M. K. Varghese. (The scheme was recently started.) (Mycologist.)	Travancore Government.
22	Hyderabad ..	Improvement of castor crop ..	61,050	A. B. H. Khurshid—Economic Botanist.	Hyderabad Government.

23	Nagpur	..	Visit to the Research Institute of the Agricultural College—				
			(1) Gangai pest of rice ..	5,924	}	R. S., D. V. Bal ..	}
			(2) Sunn Hemp Scheme ..	10,660			
			(3) Oilseeds scheme.. ..	52,280			
24	Raipur	..	Rice Research Scheme, C. P. ..	91,927	}	Mr. B. B. Dave (Botanist) ..	}
25	Allahabad	..	Professor Dhar's Scheme on Nitrogen fixation.	9,360	Professor Dhar and Assistants ..	United Provinces Gov- ernment.	
26	Calcutta	..	(1) Professor J. N. Mukherjee's scheme on the properties of colloid soil constituents.	32,910	Mr. Ram Prasad Mitra ..	Bengal Government.	
			(2) Fruit Research Scheme ..	57,030	Mr. U. N. Vadharikar ..	Do.	
			(3) Colonel Chopra's Scheme on medicinal plants.	62,860	Colonel Chopra and Mr. R. L. Budhawar.	Do.	
			(4) Professor Mahalanobis scheme of statistical research.	52,625	Professor Mahalanobis and Assistants	Do.	
			(5) Bengal linseed scheme ..	20,880	....	....
27	Bankura and Chinsura.	..	Rice Research Scheme, Bengal ..	1,56,322	Dr. S. Hadayat-Ullah ..	Bengal Government.	
					Mr. S. C. Chakravarty (Chinsura).		
					Mr. N. C. Banerji (Bankura).		

*These schemes were discussed with the workers at Coimbatore.

Nos.	Places of visit.	Names of Schemes.	Sanctioned cost.	Name of the person who is doing the work.	Person or Institution in whose name the grant is made.
28	Rohtak ..	Dry Farming Research Scheme, Punjab.	1,31,430	E. S. Jai Chand Luthra (Physiology). Dr. P. E. Lander (Chemistry). L. Tehl Ram (Agricultural work).	Punjab Government.
29	Lahore ..	Dr. Bhatnagar's Schemes— (1) On the effect of ions on plant growth, and (2) Physico-chemical properties of soils. (3) Standardisation of physico-chemical single value measurements most suitable for Indian Soils by Dr. A. N. Puri. (4) Investigation of electric method of hygrometry.	Ra. 6,523 9,160 5,250 3,600	Completed Schemes	Punjab Government. Do.

30	Lyalpur	(1) Sugar cane Research Scheme ..	1,33,000	Mr. Harbans Singh and Sardar Labh Singh.	Punjab Government.
		(2) Milling and baking tests of Indian Wheats.	22,300	Grant for equipment	Do.
		(3) Oilseeds scheme	36,070	Khan Sahib Ali Mohd.	Do.
		(4) Fruit Research Scheme ..	11,070	Dr. Girdhari Lal	Do.
		(5) Punjab Locust Research Scheme	37,817	Khan Bahadur Afzal Hussain and Messrs. C. B. Mathur and Abdul Haq.	Do.
		(6) Malting and brewing qualities of barleys, Punjab.	6,000	.....	Do.
31	Cawnpore	(1) Imperial Institute of Sugar Technology.	..	This is financed from general revenues	
		(2) Improved Juice boiling bel under the direction of the Sugar Technologist.	3,440	Mr. R. C. Srivastava	Council's Scheme.
		(3) Bureau of Sugar Standards ..	32,610	Mr. R. C. Srivastava and Mr. N. C. Varma.	Do.
		(4) Scheme for research and testing station for the indigenous system of sugar and gur manufacture.	1,67,380	Mr. R. C. Srivastava	Do.
		(5) Preparation of cattle feed from molasses.	10,000	Do.	Do.
		(6) Oil Section of the Harcourt Butler Technological Institute.	90,000	Mr. D. Y. Atthawale	United Provinces Government.
		(7) Cotton Seed Crushing and Supply of decorticated cake.	10,000	.....	Do.
		(8) Malting and brewing qualities of barley United Provinces.	4,650	Rai Sahib Rama Prasada Singh ..	Do.

Nos.	Places of visit.	Names of Schemes.	Sanctioned cost.	Name of the person who is doing the work.	Person or Institution in whose name the grant is made.
			Rs.		
32	Benares ..	Plant Physiology Scheme at the Benares Hindu University.	67,920	Dr. B. N. Singh and Assistants ..	U. P. Government.
33	Muzaffarpur ..	Sugar cane Research Scheme, Bihar	2,25,850	Mr. K. L. Khanna	Bihar Government.
34	Pusa ..	(1) Potato Breeding Scheme ..	40,550	Dr. B. P. Pal	Government of India.
		(2) Botanical Sub-Station ..	2,63,930	Mr. Bose	Do.
35	Patna ..	Possibilities of manufacturing sugar by single pan method.	6,000	Mr. D. R. Sethi	Bihar Government.
36	Sabour ..	(1) Rice Research Scheme, Bihar ..	2,02,140	Mr. Mahbub Alam and Mr. A. R. Akhtar.	Do.
		(2) Sunn Hemp Scheme ..	1,440	Dr. T. C. N. Singh	Do.
		(3) Fruit Research Scheme—United Provinces and Bihar.	89,990	Mr. Zarbakht Khan and Miss Rajul Shah.	Do.
		(4) Malting and brewing qualities of barleys, Bihar.	6,000	Mr. T. C. N. Singh	Do.
37	Mungpoo ..	Cinchona investigations .. . .	..	....	....
38	Jorhat ..	Extension of sugar cane work at Jorhat Experimental Station.	63,000	Dr. S. K. Mitra and Mr. H. N. Pal (Chemical Assistant).	Assam Government.
39	Shillong ..	Deep Water Paddy Scheme for Assam, at Habiganj.	1,17,882	Mr. S. Majid	Do.

40	Dacca ..	(1) Sugar cane Seedling Testing Station, Dacca.	24,850	Babu Gosto Behari Paul ..	..	Bengal Government.
		(2) Extraction of flax fibre ..	5,000	Rai Sahib N. C. Basu ..	..	Do.
		(3) Research on the Mechanical Analysis of lateritic soils under Prof. Ghosh (Dacca University).	71,479	Mr. A. T. Sen ..	..	Do.
		(4) Research on the organic constituents of Indian soils under Prof. Ghosh (Dacca University).	11,200	Dr. S. S. G. Sarkar and Dr. A. C. Bose		Do.
		(5) Soil Problems in Bengal ..	22,570	Mr. M. N. Chakladar under the Agricultural Chemist, Bengal.		Do.
41	Cuttack ..	Rice Research Scheme, Berhampur..	1,15,660	Mr. Dixit ..	..	Madras Government.
42	Simla ..	(1) Scheme for breeding rust resistance wheats.	..	Dr. B. P. Pal and Mr. Aziz	..	(This scheme forms part of Dr. Mehta's Scheme.)
		(2) Potato breeding Scheme ..	40,550	Mr. Pushkar Nath ..	..	Government of India.

APPENDIX II.

ITINERARY.

November, 1936 to March, 1937.

On many of the days one or more villages were visited.

At most of the Colleges and Institutes lectures or addresses were given.

NOVEMBER 1936.

4th	..	..	Arrive Bombay.
			Visited Cotton Research Station, Matunga.
5th	..	..	At Bombay.
			Visited Wilson College and Department of Chemical Technology, Bombay.
6th to 15th	..	..	At New Delhi.
			Interviews with His Excellency the Viceroy, The Honourable Member for Education, Health and Lands Department, Colonel Russell, the Marketing Officer and the Staff of the Imperial Agricultural Research Council.
			Experimental Farm, Karnal.
16th	..	..	Agra.
			Rust Research Laboratory.
17th	..	..	Dayal Bagh.
			Upper Air Meteorological Station.
18th	..	..	Bichpuri.
			Experimental Farm.
19th	..	..	Inspection of Tube Well area, Muzaffarnagar Experimental Farm.
20th	..	..	Meerut.
			Tube Well Area.
			Daurala Farm and other centres.
21st	..	..	Dharampur.
22nd	..	..	Nagim.
			Rice Research Farm.
23rd and 24th	..	..	Shahjahanpur.
			Sugar Cane Experimental Station.
25th	..	..	To Sukkur.
26th	..	..	Rohri Canal Region.
27th and 28th	..	..	Sakrand.
			Experimental Farm.
29th	..	..	Quetta.
			Various Fruit Farms.

30th	..	..	Quetta. Fruit Experimental Station.
DECEMBER.			
2nd	..	..	Karachi. Locust investigations. Ambagh and Karachi.
3rd	..	..	Malir. Experimental Farm.
6th to 10th	..	..	Poona. Agricultural College. Meteorological Office. Ganesh Khind Fruit Station. Padegaon Sugar Cane Research Station.
10th and 11th	..	..	Sholapur. Dry Farming Research Station.
12th	..	..	Raichur. Dry Farming Research.
13th and 14th	..	..	Madras. Meeting of Animal Husbandry Wing. University Laboratories and Library. Presidency College. Medical College.
15th and 16th	..	..	Bangalore. Indian Institute of Science. Departmental Laboratories. Hebbal Experimental Farm.
17th	..	..	Mysore. Irwin Canal Farm. Irrigation Works.
18th	..	..	Coonoor. Dr. Aykrod's Investigations.
19th to 22nd	..	..	Coimbatore. The Imperial Sugar Cane Breeding Station. Agricultural College. Mysore Government Department Activities.
22nd to 30th	..	..	In Travancore. Martandam. Dr. Hatch's Rural Reconstruction work. Paddy Farm. Fruit Experimental Farm. Back Water reclamations. Coconut Experimental Station, Kayamkulam.

JANUARY 1937.

- 4th Hyderabad.
Himayatesagar Farm.
- 5th Hyderabad.
Science Congress.
- 7th Nagur.
Agricultural College.
- 9th Raipur.
Rice Research Farm.
- 12th Indore.
Institute of Plant industry.
- 13th and 14th .. Bhopal, Sanchi.
- 15th and 16th .. Allahabad.
The University.
National Academy of Sciences.
Allahabad Agricultural Institute (American Presbyterian Mission.)
- 17th to 22nd .. Calcutta.
Chemical, Botanical and Zoological and Statistical Laboratories, the University.
University College of Science.
School of Tropical Medicine.
Botanical Gardens.
Rice Research Station, Chinsurah.
Sir J. C. Bose's Institute.
- 24th to Feb. 1st .. Delhi.
Meeting of the Advisory Board, Imperial Council of Agricultural Research, and various interviews.
Airplane journey over the Tube Well area, Meerut.

FEBRUARY.

- 1st Rohtak.
Dry Farming Research Station.
- 2nd to 4th .. Peshawar.
Ternab Fruit Farm.
Islamia College.
Kheyber Pass and surrounding country.
- 5th Lahore.
Irrigation Research Institute.
The University.
- 6th Irrigation Scheme.

6th to 9th	..	Lyallpur. The College and Experimental Farm. Risalewala Sugar Cane Research Station.
10th to 13th	..	Cawnpore, Agricultural Collge and Farm. Harcourt Butler Technological Institute. Institute of Sugar Technology.
13th to 15th	..	Benares. Hindu University.
15th to 17th	..	Lucknow. The University. Exhibition.
18th and 19th	..	Muzaffarnagar. Musheri Research Station. Pusa.
20th	..	Patna.
21st	..	Sabour. Paddy Research Station. Fruit Research Section and others.
23rd to 26th	..	Darjeeling. Mungpoo Cinchona Station.
27th to March 1st		Teoklai. Tea Research Station. Indian Tea Planters' Association. Jorhat Experimental Farm.
MARCH.		
2nd to 4th	..	Shillong. Experimental Farm. Fruit growing.
5th to 7th	..	Dacca. The University. Experimental Farm of the Department of Agriculture.
8th	..	Santiniketen. Visvabharati activities.
10th	..	Cuttack. The Ravenshaw College. The Experimental Farm.
11th and 12th	..	Puri. Coconut Plantation.

- 13th Calcutta.
 Several University Departments.
- 15th and 16th .. Dehra Dun.
 Forestry Institute.
- 17th and 18th .. Simla.
 The Wheat Rust Laboratory.
 Potato Breeding Experiments.
- 19th and 20th .. New Delhi.
 Various interviews.
- 21st to 24th .. *En route to Bombay via Manmad, Ellora, Dauletabad, Ajanta.*
- 24th and 25th .. At Bombay.
- 25th Leave Bombay.

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