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Indian Central Cotton Committee technological laboratory.

COTTON RESEARCH IN INDIA

BEING

AN ACCOUNT OF THE WORK DONE AT THE INDIAN CENTRAL COTTON COMMITTEE TECHNOLOGICAL LABORATORY, 1924-1935

 $\mathbf{B}\mathbf{y}$

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WITH A FOREWORD

В¥

Diwan Bahadur Sir T. VIJAYARAGHAVACHARYA, K.B.E.

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With the Compliments of The Director Technological Laboratory Matunga Bombay

FOREWORD.

NDIA is the second largest cotton growing country in the world. Out of a total cultivated area of about 300 million acres, no less than 25 million acres, or some 8 per cent. are sown under cotton, yielding a crop of about 6 million bales. Approximately half of it is consumed in India's 365 mills which employ 4,15,000 hands, the remainder is exported to foreign countries. Thus, whether we look to the agricultural, the trade or the industrial side, a large number of people in India earn their livelihood by work on cotton and their welfare depends entirely upon the condition of the crop and the prosperity of the cotton trade and industry. Cotton is easily the foremost organised industry in India.

Cotton is one of those crops which needs continual attention. Left to itself it deteriorates in quality owing to the mixing of seeds in the fields and the ginneries which gives rise to undesirable hybrids. Moreover, it is not only highly susceptible to climate and environment but also falls an easy prey to a host of pests and diseases. The cotton breeders have to be, therefore, untiring in their efforts to evolve improved varieties, which, in a given area, could resist the onslaught of pests and diseases, give a higher yield and ginning out-turn or should mark an improvement in staple over the already established cotton. But the work of the cotton breeder is restricted to the fields; he has no means of assuring himself that the variety evolved by him will ultimately prove acceptable to the spinner. There is thus a very clear need for an institution where the fibre-properties and the spinning performance of cottons can be accurately determined. An institution of this type forms an indispensable link in the chain of cotton cultivation and consumption.

The Indian Central Cotton Committee was one of the first bodies to recognise the need of having a technological laboratory of its own where tests could be made on improved varieties and research could be undertaken on cotton. The Technological Laboratory has now worked in collaboration with the Provincial Agricultural Departments for over 10 years. It has, besides, carried out a number of investigations on problems which are of direct importance to the cotton breeder, the merchant or the millowner. These investigations cover a wide range of subjects as will be seen from a perusal of this brochure and in this respect alone the Laboratory will bear comparison with any other similar institution. The results obtained at the Laboratory have been described in numerous bulletins, leaflets and circulars, but it was felt by the Committee that if a compact and connected account of the activities of the Laboratory since its inception were written up, it would give the public, both the scientific workers and the laymen, an idea of the nature of work which is being done here and the type of problems which have been investigated in the past 10 years.

I take pride to myself that Dr. Nazir Ahmad was one of my "discoveries." Very soon after I became President of the Indian Central Cotton Committee under an amendment of the Indian Cotton Cess Act made in 1929, it was brought

to my notice that the newly created appointment of Assistant Director though advertised in the Indian Press could not be filled as no suitable applicants were forthcoming in India. I suggested that I should be allowed to write round a personal letter to the Indian Universities and as a result there was a useful letter from Dr. Meghnath Saha suggesting some names, Dr. Nazir Ahmad's being one of them. The Selection Committee appointed for the purpose chose him as the most suitable of the candidates who were interviewed. He took over his duties at Matunga in March 1930. Quite unexpectedly our first Director, Dr. Turner, had to leave us in December of the same year to take up an appointment in Manchester and the Committee appointed Dr. Nazir Ahmad to succeed him. In view of the shortness of time he had been in Matunga this was somewhat in the nature of an experiment, but the remarks of successive Technological Research Sub-Committees show what an unqualified success it has been.

There is no finality in scientific research and any "live" institution is bound to grow and expand. Under Dr. Nazir Ahmad, as under Dr. Turner, the Technological Laboratory at Matunga has progressed in new directions and is being called upon to deal with a variety of new problems.

I trust that this brochure will interest the public in the work carried on so unobtrusively in Matunga.

T. VIJAYARAGHAVACHARYA.

SIMLA, 28th September 1935.

PREFACE.

HE cultivation of cotton and its use for the manufacture of textiles goes back to pre-historic times in India. This fact has been established beyond doubt by the recent excavations at Mohenjo-Daro, when certain household articles were unearthed, which had remained buried underground for the last 5,000 years. These were wrapped in tiny fragments a material which, on careful examination under the microscope, was found to be made from cotton. From those ancient times the cotton industry in India developed slowly but steadily, until in the middle ages the fame of her fabrics, which were then unrivalled in fineness of texture or beauty of design, spread far and wide. These halcyon days were followed by a period of decay, when the hand spinning and hand loom industries declined owing to the rapid development of power machinery in the West and the quality of cotton suffered deterioration owing to the lack of scientific control.

With the organisation of the agricultural departments, however, a new leaf was turned, and steps were taken to improve the quality of the cotton crop. During the past fifteen years these efforts have been co-ordinated under the aegis of the Indian Central Cotton Committee, which has financed numerous schemes for this purpose. In this work the Technological Laboratory of the Indian Central Cotton Committee has played an integral and important part by making the requisite tests on the new strains and improved varieties evolved by the cotton breeders and undertaking investigations on the fibreproperties and the spinning qualities of Indian cottons. It is now nearly twelve years since the Laboratory began to function, and it was felt that the time was ripe for taking a stock of the work done in the past. Most of the investigations carried out at the Laboratory have already been described in Technological Bulletins, but it was thought that a connected account in one volume would enable those sections of the public, who are interested in the production, marketing or consumption of cotton, to form a correct perspective of the ground that has already been covered, and to elicit valuable suggestions for lines of development in the future. It need hardly be said that such suggestions would receive the most careful consideration of the Indian Central Cotton Committee.

The success of an institution depends to a very great extent upon those who are at the helm of its affairs and upon those who are selected to conduct its work. The Technological Laboratory has been fortunate in both respects. The principal office-bearers of the Committee have been distinguished men with wide knowledge of administrative and public affairs and their direction of the Laboratory's work has been to its great and lasting advantage. Space does not permit me to recount the names of all, but special mention must be made of Diwan Bahadur Sir T. Vijayaraghavacharya, K.B.E., and Sir Purshotamdas Thakurdas, Kt., who were respectively President and Vice-President of the Committee when this brochure was under preparation, and who by their sympathetic interest made it possible for the Laboratory to expand in a

steady manner. Mr. B. C. Burt, c.r.E., who has now taken over from Sir T. Vijayaraghavacharya, has been associated with the Laboratory from its inception and the Laboratory owes him a deep debt of gratitude for his valuable help and fruitful suggestions. As regards the staff, the Laboratory was fortunate in having as its first Director, Dr. A. J. Turner who not only laid the foundations of its work truly and well, but established its reputation among the cotton research centres of the world. All the work described in Technological Bulletins upto No. 17 (Series A), No. 13 (Series B) and Technological Circulars upto No. 36 was done under his guidance. As the work of the Laboratory grew, the contribution of the Spinning Section became increasingly important, and I must take this opportunity to acknowledge the untiring zeal and the valuable assistance of the present Spinning Master, Mr. R. P. Richardson. The duties of the other sections of the Laboratory have also steadily increased in a corresponding measure and I have pleasure in appreciating the work of Mr. Hari Rao Navkal, who has all along been in charge of the Fibre Testing Section, and Mr. V. Venkataraman who was until recently in charge of the Yarn Testing Section. On the research side Messrs. D. L. Sen, R. S. Koshal, A. N. Gulati and C. Nanjundayya have made valuable contributions. Limitations of space do not permit me to mention by name the testing and clerical staff of the Laboratory, who have performed their arduous duties in a spirit of loyal co-operation. Apart from its own staff, the Laboratory has been favoured with assistance and useful suggestions from public bodies like the East India Cotton Association, Bombay, the Millowners' Associations of Bombay and Ahmedabad, etc. In this connection I must offer my special thanks to Major W. Ellis Jones who for many years very kindly undertook to value the samples of cotton sent to the Laboratory for tests.

December, 1935.

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. 55	Spinning Test Report (No. 229) on samples of Dholleras, Westerns, Farm Westerns and Kumpta Cottons, 1930-31.		0	4	0
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59	Spinning Test Report (No. 245) on samples of Kadi- Virangam and Tinnevelly Cotton, 1930-31.	Sept. 1931	0	4	0
60	Spinning Test Report (No. 258) on sample of Dhulia (Khandesh) Cotton, 1931-32.	Dec. 1931	0	4	0
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63	Spinning Test Report (No. 259) on samples of Ujjain Cottons, 1931-32.	Feb. 1932	0	4	0
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· 69	Spinning Test Report (No. 272) on samples of Broach (Salar), Bailhongal and Hubli-Kumpta Cottons, 1931-32.		0	4	0
70	Spining Test Report (No. 273) on samples of Jagadia and Kadi Cottons, 1931-32.	May 1932	0	4	0
71	Spinning Test Report (No. 275) on samples of Hubli- Kumpta and Hubli Upland Cottons, 1931-32.		0	4	0
72.	Spinning Test Report (No. 276) on samples of C. P. No. 1, Muttia and Berar Cottons, 1931-32.		0	4	0
73	Spinning Test Report (No. 277) on samples of Latur and Nanded Cottons, 1931-32.	_	0	4	
74	Spinning Test Report (No. 279) on samples of Surat and Broach Cottons, 1931-32.	,		4	0
75	Spinning Test Report (No. 280) on samples of Punjab- American, Jagadia Farm, and Navsari Cottons, 1931-32.	June 1932	0	4	0
76	Spinning Test Report (No. 281) on samples of Dhollera, Westerns and Kumpta Cottons, 1931-32.	July 1932	0	4	0
77	Spinning Test Report (No. 288) on samples of Bijapur and Tinnevelly Cottons, 1931-32.	July 1932	0	4	0
78	Spinning Test Report (No. 289) on samples of Upland Cambodia and Karunganni Cottons, 1931-32.	July 1932	0	4	0
79	Spinning Test Report (No. 302) on samples of Kadi Viramgam and Khandesh Cottons, 1931-32.	August 1934.	0	4	0
80	Spinning Test Report (No. 303) on samples of Kalagin and Bagalkote Cottons, 1931-32.	-	0	4	0
81	Spinning Test Report (No. 319) on samples of A. R. Kampala, A. R. Busoga and A. R. Jinja Cottons, 1931-32.		0	4	0
82	Technological Report on Punjab-American, 1932-33	Dec. 1932	0		0
83	Technological Report on Verum 262 (Akola)		0	4	0
84	Spinning Test Report (No. 338) on samples of Bengals and Ujjain Cottons, 1932-33.	-	0	4	0
85	Spinning Test Report (No. 339) on samples of Khandesh and Moglai Cottons, 1931-32.	i	0	4	0
86		Jan. 1933	0	4	0
87		Jan. 1933	0	4	0
88	Spinning Test Report (No. 348) on samples of Ujjain Cotton, 1932-33.	ı	0	4	0
89	Technological Report on Punjab-American 4F, 1932-33.		0	4	0
90	Spinning Test Report (No. 352) on samples of Broach Cotton, 1932-33.	· ·	0	4	0
91	Spinning Test Report (No. 353) on samples of Khandesh Cotton, 1932-33.	April 1933	0	4	0

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TECHNOLOGICAL CIRCULARS—contd.

Circular No.	Title.	Date of Publication.	Pi	rice	. '
			Rs.	۵.	<u>р</u> .
92	Spinning Test Report (No. 356) on samples of C. P. No. 1	April 1933	0	4	0-
93	and Berar Cottons, 1932-33. Spinning Test Report (No. 357) on samples of Latur and	April 1933	0	4	0
94	Nanded Cottons, 1932-33.	L:1 1000	_		_
	Technological Report on Surat 1027 A.L.F., 1932-33.	April 1933		•	0
95	Spinning Test Report (No. 360) on samples of Hubli-	April 1933	0	•	17
96	Kumpta and Hubli Upland Cottons, 1932-33. Spinning Test Report (No. 361) on samples of Surat, Tiruppur Cambodia and African Busoga Cottons, 1932-33.			4	0
97	Spinning Test Report (No. 366) on samples of Bailhongal and Farm Westerns Cottons, 1932-33.	May 1933	0	4	0
98	Spinning Test Report (No. 368) on samples of Jagadia Cotton, 1932-33.	Мау 1933	0	4	0
99	Spinning Test Report (No. 369) on a sample of Navsari Cotton, 1932-33.	May 1933	0	4	0
100	Spinning Test Report (No. 370) on samples of Broach and Surat Cottons, 1932-33.	June 1933	0	4	0
101	Spinning Test Report (No. 371) on samples of Navsari,	June 1933	0	4	0
102	Jagadia and Rajpipla Cottons, 1932-33. Spinning Test Report (No. 389) on samples of Dholleras	August 1933.	0	4	0
103	and Kadi-Viramgam Cottons, 1932-33. Spinning Test Report (No. 390) on samples of Muttia	August 1933.	0	4	0
104	and Kalagin Cottons, 1932-33. Spinning Test Report (No. 392) on samples of Tinnevelly and Karunganni Cottons, 1932-33.	Sept. 1933	0	4	0
105	Spinning Test Report (No. 393) on samples of Westerns and Farm Westerns Cottons, 1932-33.	Sept. 1933	0	4	0
106	Spinning Test Report (No. 394) on samples of Kumpta and Upland Cottons, 1932-33.	Sept. 1933	0	4	0
107	Spinning Test Report (No. 395) on samples of Punjab- American and Cambodia Cottons, 1932-33.	Sept. 1933	0	4	0
108	Spinning Test Report (No. 396) on samples of Bijapur and Bagalkote Cottons, 1932-33.	Sept. 1933	0	4	0
109	Spinning Test Report (No. 397) on samples of A. R. Kampala, A. R. Busoga and A. R. Jinja Cottons, 1932-33.			4	0
110	Technological Report on Umri Bani, 1933-34	Dec. 1933	0	4	0
111		Jan. 1934	0	4	0
112	Spinning Test Report (No. 438) on samples of Khandesh and Bengals Cottons, 1933-34.	Feb. 1934	0	4	0
113	Spinning Test Report (No. 440) on samples of Ujjain Cotton, 1933-34.	Feb. 1934	0	4	0
114	Technological Report on Punjab-American 289F, 1933-34.	Feb. 1934	0	4	0
115		Feb. 1934	0	14	0
116	Spinning Test Report (No. 443) on samples of C.P. No. 1 and Berar Cottons, 1933-34.	Feb. 1934	Ö	4	0

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TECHNOLOGICAL CIRCULARS.—contd.

Circular No.	Title.	Date of Publication.	Pr	ice.	
			Rs.	a.	p.
117	Spinning Test Report (No. 444) on samples of Khandesh Cotton, 1933-34.	Feb. 1934	0	4	0
118	Spinning Test Report (No. 446) on samples of Ujjain (Mandsaur) Cotton, 1933-34.	Feb. 1934	0	4	0
119	Spinning Test Report (No. 447) on samples of Moglai Cotton, 1933-34.	Feb. 1934	0	4	0
120	Technological Report on Punjab-American 4F, 1933-34.	Матсh 1934	0	4	0
121	Spinning Test Report (No. 457) on samples of Muttia	Матсһ 1934	0	4	0
122	Cotton, 1933-34. Spinning Test Report (No. 458) on samples of Lattur	March 1934	0	4	0
123	and Nanded Cottons, 1933-34. Spinning Test Report (No. 462) on samples of Hubli	April 1934	0	4	0
124	Kumpta and Hubli Upland Cottons, 1933-34. Spinning Test Report (No. 463) on samples of Broach	April 1934	0	4	0
125	and Surat Cottons, 1933-34. Spinning Test Report (No. 464) on samples of Punjab-	April 1934	0	4	0
126	American Cotton, 1933-34. Spinning Test Report (No. 467) on samples of Westerns	May 1934	0	4	0
127	and Miraj Cottons, 1933-34. Technological Report on Surat 1027 A. L. F., 1933-34			4	-
128 129	Technological Report on Hagari 1, 1933-34				_
129	Technological Report on Cambodia Co. 2 (Cambodia 440), 1933-34.	May 1934	0	4	U
130	Technological Report on Gadag 1, (Dharwar-American), 1933-34.	May 1934	0	4	0
131	Spinning Test Report (No. 469) on samples of Surat and Tiruppur Cambodia Cottons, 1933-34.	May 1934	0	4	0
132	Spinning Test Report (No. 470) on samples of Farm Westerns Cotton, 1933-34.	May 1934	0	4	0
133	Spinning Test Report (No. 471) on samples of Kumpta Cotton, 1933-34.	May 1934	0	4	0
134	Spinning Test Report (No. 472) on samples of Jagadia	May 1934	0	4	0
135	Cotton, 1933-34. Technological Report on Jayawant (Kumpta), 1933-34	Tune 1934	0	4	0
136	Spinning Test Report (No. 481) on samples of Dholleras Cotton, 1933-34,	July 1934	0	4	0
137	Spinning Test Report (No. 482) on samples of Kalagin Cotton, 1933-34.	July 1934	. 0	4	0
138	Spinning Test Report (No. 483) on samples of Westerns	July 1934	0	4	0
139	Cotton, 1933-34. Spinning Test Report (No. 487) on samples of Bailhon-	July 1934	. 0	4	0
140	gal Cotton, 1933-34. Spinning Test Report (No. 488) on samples of Farm		. 0	4	0
141	Westerns and Tirupur Cambodia Cottons, 1933-34 Spinning Test Report (No. 489) on samples of Broach	July 1934	. 0	4	0
142	Cotton, 1933-34. Spinning Test Report (No. 490) on samples of Jagadia Cotton, 1933-34.	ì	1	4	0

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TECHNOLOGICAL CIRCULARS—contd.

Circular No.	Title,	Date of Publication.	P	rice).
:			Rs.	a .	p .
, 143	Spinning Test Report (No. 491) on samples of Bawla and Kadi Cottons, 1933-34.	July 1934	0	,4	0
144	Spinning Test Report (No. 498) on samples of Karunganni Cotton 1933-34.	August 1934.	0	4	0
145	Spinning Test Report (No. 503) on samples of Navsari Cotton, 1933-34.	August 1934.	0	4	0
146	Spinning Test Report (No. 504) on samples of Cambodia Cotton, 1933-34.	August 1934.	0	4	0
147	Spinning Test Report (No. 509) on samples of Kadi- Viramgam Cotton, 1933-34.	August 1934.	0	4	0
148	Spinning Test Report (No. 510) on samples of Tinnevelly Cotton, 1933-34.	August 1934.	0	4	0
149	Spinning Test Report (No. 511) on samples of Bagal- kote Cotton, 1933-34.	August 1934.	0	4	0
150	Spinning Test Report (No. 514) on samples of A. R. Kampala, A. R. Busoga, and A. R. Jinja Cottons, 1933-34.	Sept. 1934	0	4	0
151	Spinning Test Report (No. 515) on samples of Bijapur Cotton, 1933-34.	Sept. 1934	0	4	0
152	Spinning Test Report (No. 516) on samples of Upland Cotton, 1933-34.	Sept. 1934	0	4	0
153	Spinning Test Report (No. 517) on samples of Karunganni Cotton, 1933-34.	Sept. 1934	0	4	0
154	Technological Report on Verum 262 (Nagpur), 1934-35	Dec. 1934	0	4	0
155	Technological Report on Verum 262 (Akola), 1934-35	Dec. 1934	0	4	0
156	Technological Report on Umri Bani, 1934-35	lan. 1935	0	4	
- 1	Technological Report on Punjab-American 289F, 1934-35.		0	4	0
ſ	Spinning Test Report (No. 559) on samples of C. P. No. 1 Cotton, 1934-35.		0	4	0
1	Spinning Test Report (No. 560) on samples of Berar Cotton, 1934-35.		0	4	0
i	Spinning Test Report (No. 561) on samples of Khan- desh Cotton, 1934-35.		0	4	0
.	Spinning Test Report (No. 566) on samples of Khan-ldesh Cotton, 1934-35.		0	4	0
- 1	Spinning Test Report (No. 567) on samples of Moglail Cotton, 1934-35.	1	0	4	0
- 1	Spinning Test Report (No. 568) on samples of Bengals Cotton, 1934-35.		0	4	0
	Spinning Test Report (No. 570) on samples of Ujjain (Ujjain) Cotton, 1934-35.		0	4	0
1	Spinning Test Report (No. 571) on samples of Ujjain (Mandsaur) Cotton, 1934-35.		0	4	0
i	Spinning Test Report (No. 577) on Samples of Hubli Kumpta Cotton, 1934-35.	1	0	4	0
167	Technological Report on Gadag 1 (Dharwar-American), 1934-35.	April 1935	0	4	0

TECHNOLOGICAL CIRCULARS.—contd.

Circular No.	Title, .	Date of Publication.	Price.		
			Rs.	a.	<u>р</u> .
168	Spinning Test Report (No. 582) on samples of Latur Cotton, 1934-35.	April 1935	0	4	0
169	Spinning Test Report (No. 583) on samples of Nanded Cotton, 1934-35.	April 1935	0	4	0
170	Spinning Test Report (No. 584) on samples of Muttia	April 1935	0	4	0
171	Cotton, 1934-35. Spinning Test Report (No. 591) on samples of Broach Cotton, 1934-35.	June 1935	0	4	0
172	Spinning Test Report (No. 592) on samples of Jagadia	June 1935	0	4	0
173	Cotton, 1934-35. Spinning Test Report (No. 593) on samples of Punjab- American Cotton, 1934-35.	June 1935	0	4	0
174	Spinning Test Report (No. 595) on samples of Bail- hongal Cotton, 1934-35.	June 1935	0	:4	0
175	Spinning Test Report (No. 596) on samples of Broach Cotton, 1934-35.	June 1935	0	4	0
176	Spinning Test Report (No. 597) on samples of Karunganni Cotton, 1934-35.	June 1935	0	4	o
177	Spinning Test Report (No. 598) on samples of Tiruppur Cambodia Cotton, 1934-35.	June 1935	0	4	0
178	Spinning Test Report (No. 599) on samples of Northern Cambodia Cotton, 1934-35.	June 1935	0	4	0
179	Spinning Test Report (No. 600) on samples of Farm Westerns Cotton, 1934-35.	June 1935	0	4	0
180	Spinning Test Report (No. 601) on samples of Westerns Cotton, 1934-35.	June 1935	0	4	0
181	Spinning Test Report (No. 602) on samples of Miraj Cotton, 1934-35,	June 1935	0	4	0
182	Spinning Test Report (No. 603) on samples of Nandyal Cotton, 1934-35.	June 1935	0	4	0
183	Spinning Test Report (No. 604) on samples of Surat Cotton, 1934-35.	July 1935	0	4	0
184	Spinning Test Report (No. 606) on samples of Tiruppur Cambodia Cotton, 1934-35.	July 1935	0	4	0
185	Spinning Test Report (No. 607) on samples of African Busoga Cotton, 1934-35.	July 1935	0	4	0
186	Spinning Test Report (No. 608) on samples of Kampala	July 1935	0	4	0
187	Gotton, 1934-35. Spinning Test Report (No. 609) on samples of Hubli Upland Cotton, 1934-35.	July 1935	0	4	0
188	Technological Report on Punjab-American 4F, 1934-35. Technological Report on Surat 1027 A.L.F., 1934-35.	July 1935	0	4	0
189 190	Spinning Test Report (No. 612) on samples of Kalagin	July 1935	ŏ	4	ŏ
191	Cotton, 1934-35. Spinning Test Report (No. 613) on samples of Farm	July 1935	0	4	0
192 193	Westerns Cotton, 1934-35. Technological Report on Jayawant (Kumpta), 1934-35. Technological Report on Cambodia Co. 2 (Cambodia 440) 1934-35.	Aug. 1935 Aug. 1935	0	4 4	0

100 TECHNOLOGICAL CIRCULARS.—concld.

Circular No.	Title.	Date of Publication.			Price.		
				<u>'</u>	Rs.	a.	- р.
194	Spinning Test Report (No. 620) on samples of Navsari Cotton, 1934-35.	Aug.	1935	••	0	4	0
195	Spinning Test Report (No. 621) on samples of Upland Cotton, 1934-35.	"			0	4	0
196	Spinning Test Report (No. 624) on samples of Dholleras Cotton, 1934-35.					4	0
197	Spinning Test Report (No. 626) on samples of Westerns Cotton, 1934-35.	Sept.	1935	••	0	4	0
198	Spinning Test Report (No. 627) on samples of Surat Cotton, 1934-35.	Sept	1935	••	0	4	0
199	Spinning Test Report (No. 628) on samples of Tinnevelly Cotton, 1934-35.	Sept.	1935	•••	0	4	0
200	Spinning Test Report (No. 630) on samples of Cambodia Cotton, 1934-35.	Sept	. 1935	• •	0	4	0
201	Spinning Test Report (No. 631) on samples of Karunganni Cotton, 1934-35.	Sept	. 1935	••	0	4	0
202	Spinning Test Report (No. 633) on samples of Bijapur Cotton, 1934-35.	Sept	. 1935	••	0	4	0
203	Spinning Test Report (No. 634) on samples of Bagalkote Cotton, 1934-35.	Sept	. 1935	٠.	0	4	0
204	Spinning Test Report (No. 635) on samples of A. R. Jinja Cotton, 1934-35.	Sept	. 1935	••	0	4	0
205	Spinning Test Report (No. 637) on samples of A. R. Busoga Cotton, 1934-35.	Sept	. 1935	••	0	4	0
206	Spinning Test Report (No. 638) on samples of A. R. Kampala Cotton, 1934-35.	Sept	. 1935	••	0	4	0
207	Spinning Test Report (No. 640) on samples of Kumpta Cotton, 1934-35.	Sept	. 1935	••	0	4	0

Leaflet No.	Title.	Date of Publication.
1	Note on the harmful effects of adulterating good quality Indian cottons	October 1932.
2	Note on Green-stained Sind-American cotton	October 1932.
. 3	Blow-Room Treatment in relation to Leafiness in cotton	March 1933.
4	Blow-Room Treatment for a Long-staple cotton	April 1933.