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INDIAN CENTRAL COTTON COMMITTEE.

25TH MEETING—AUGUST 1ST AND 2ND, 1932.

(Held at Vulcan House, Ballard Estate, Fort, Bombay.)

ABSTRACT PROCEEDINGS.

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Present :

- Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E. (*President*), Vice-Chairman, Imperial Council of Agricultural Research.
- Dr. W. McRae, I.A.S., Officiating Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*).
- S. V. Ramamurty, Esq., I.C.S., Director of Agriculture, Representative of the Agricultural Department, Madras.
- T. F. Main, Esq., O.B.E., I.A.S., Director of Agriculture, Representative of the Agricultural Department, Bombay Presidency.
- P. B. Richards, Esq., I.A.S., Entomologist to Government, Representative of the Agricultural Department, United Provinces.
- D. Milne, Esq., C.I.E., I.A.S., Director of Agriculture, Representative of the Agricultural Department, Punjab.
- F. J. Plymen, Esq., C.I.E., I.A.S., Director of Agriculture, Representative of the Agricultural Department, Central Provinces.
- Dr. D. B. Meek, O.B.E., Director-General of Commercial Intelligence and Statistics (*ex-officio*).
- Sir Purshotamdas Thakurdas, Kt., C.I.E., M.B.E., Representative of the East India Cotton Association.
- S. D. Saklatvala, Esq., Representative of the Bombay Millowners' Association.
- Chunilal B. Mehta, Esq., Representative of the Indian Merchants' Chamber.
- Seth Naranlal Jiwanlal, Representative of the Ahmedabad Millowners' Association.
- J. Tinker, Esq., Representative of the Upper India Chamber of Commerce.
- Y. G. Deshpande, Esq., Commercial representative, Central Provinces.
- Rao Bahadur G. R. Kothare, Commercial representative, Central Provinces.
- Khan Bahadur Sirdar Habibullah, M.L.C., Commercial representative, Punjab.
- Nalini Ranjan Sirkar, Esq., Commercial representative, Bengal.
- Sardar Sampuran Singh, Co-operative Banking representative.
- M. R. Ry. V. C. Vellingiri Gounder, Avl., Representative of Cotton Growers, Madras.
- M. R. Ry. K. Sarabha Reddi Garu, M.L.C., Representative of Cotton Growers, Madras.
- Rao Bahadur Bhimbhai Ranchodji Naik, M.L.C., Representative of Cotton Growers, Bombay Presidency.
- Rao Saheb C. S. Shirahatti, Representative of Cotton Growers, Bombay Presidency.
- Mian Nurullah, M.L.C., Representative of Cotton Growers, Punjab.
- Rao Bahadur M. G. Deshpande, Representative of Cotton Growers, Central Provinces and Berar.
- M. P. Kolhe, Esq., M.L.C., Representative of Cotton Growers, Central Provinces and Berar.
- B. A. Collins, Esq., C.I.E., I.C.S., Director-General and Secretary to Government, Department of Commerce and Industries, Representative of the Hyderabad State.

C. V. Sane, Esq., Director of Agriculture, Representative of the Baroda State.
 H. H. Pandya, Esq., Agricultural Adviser, Representative of the Gwalior State.
 F. K. Jackson, Esq., Director, Institute of Plant Industry, Indore, Representative of Rajputana and Central India States.
 M. R. Ry. V. Ramanatha Ayyar, Avl., Cotton Specialist, Coimbatore.
 Rai Saheb Ram Prasad Singh, Assistant Economic Botanist to Government, United Provinces, Cawnpore.
 Mohammed Azhar Ali, Esq., M.L.A., Advocate, Lucknow.
 Gulam Mohammad Khan, Esq., Representative of Sind Cotton Growers.
 Lala Shri Ram, Representative of Cotton Millowners of Delhi.
 The Officiating Secretary (P. H. Rama Reddi, Esq., I.A.S.).
 The Director, Technological Laboratory (Dr. Nazir Ahmad).

By invitation.

The Publicity Officer.

Roger Thomas, Esqr. (Empire Cotton Growing Corporation).

Letters and telegrams were received from the following members regretting their inability to attend the meeting :—

F. D. Odell, Esq., I.A.S., Deputy Director of Agriculture, Representative of the Agricultural Department, Burma.

J. Vonesch, Esq., Representative of the Tuticorin Chamber of Commerce.

Robert Lee, Esq., Commercial representative, Madras.

Khan Bahadur Maulvi Muhammad Obaidur Rahman Khan, M.L.C., Representative of Cotton Growers, United Provinces.

Major D. Vanre, Representative of Cotton Growers, Punjab.

Dr. L. C. Coleman, C.I.E., Director of Agriculture, Representative of the Mysore State.

C. R. Palaiet, Esq., Member for Commerce and Industry, Holkar Durbar, Representative of the Holkar State.

Girdharlal B. Kotak, Esq., Representative of the Karachi Indian Merchants' Association.

President's Speech.

Gentlemen.

It is my pleasant privilege to welcome you to this, the 25th, meeting of the Indian Central Cotton Committee. We have a long and interesting agenda before us chiefly concerning subjects relating to research schemes, but before discussing the business in front of us, I must refer to some of the changes which have taken place in the constitution of the body which are more numerous and perhaps more important than usual.

I am sure you will join with me in expressing our gratification that one of our members has been selected by the Government of India to fill one of the highest offices in the land. I refer to Choudhri Zafrullah Khan who has been appointed a member of the Viceroy's Executive Council. We have also to offer our congratulations to Rai Saheb Ram Prasad Singh who has been honoured since we last met with the title of Rai Saheb.

I desire to offer a special word of welcome to Mr. Ghulam Mohammad Khan and to Lala Shri Ram who represent our latest constituencies, namely, the cotton growers of Sind and the cotton millowners of Delhi respectively.

As is usual at the monsoon session there are several changes in the personnel of the Committee and I desire to extend a cordial welcome to the following new members :—

Mr. Nalini Ranjan Sarkar,

Khan Bahadur Maulvi Muhammad Obaidur Rahman Khan,
 Mian Nurullah.

Rao Bahadur G. R. Kothare,

Mr. S. V. Ramamurty,

Mr. Robert Lee,

Khan Bahadur Sardar Habibullah.

Dr. McRae has temporarily taken the place of Mr. Burt. I must express our pleasure in seeing him once again in our midst.

Mr. J. H. Ritchie, our Secretary, has gone on six months' leave and Mr. P. H. Rama Reddi, Deputy Secretary, is officiating in his place. We have with us Mr. R. D. Mihra, who has been recently appointed as Publicity Officer on the Committee's staff. Mr. Mihra comes to us with high qualifications and we hope that through his work of publicity and propaganda the activities of the Indian Central Cotton Committee will soon be far more widely known than has been the case hitherto.

Our agenda, as I have already referred to, is a long one but it is of great interest. As for Research Schemes which form the most important part of our work, you will be called upon to consider the reports submitted by the Agricultural Research Sub-Committee and the Technological Research Sub-Committee whose preliminary deliberations have greatly simplified our work.

On the recommendation of this Committee the Madras Government undertook to introduce legislation prohibiting the growing of *Pulichai*

cotton in certain areas of the Madras Presidency. This Committee was consulted before the Madras Cotton Control Bill was placed before the Legislative Council and our suggestions have been accepted. The bill has since been passed and it now awaits the assent of the Governor General.

The Government of India have not acceded to the Committee's request "that the compilation and publication of the All-India Cotton Forecast may be entrusted to the Committee" for reasons explained in their letter which will be found among the papers before you. I am afraid that in this matter we and the Government of India are not able to see eye to eye but before I say anything further, I await your discussions in the meeting.

There is also on the agenda a report by the Standing Finance Sub-Committee on the accounts of the fumigation of American cotton for the year 1931-32, in which a recommendation has been made that a rebate of eleven annas per square bale and seven annas per round bale should be granted.

An important subject dealt with by the Cotton Ginning and Pressing Factories Sub-Committee was the question of licensing the ginning and pressing factories. The Sub-Committee, after a lengthy discussion, decided that the views of the trade associations represented on the Committee should be obtained. The views of the trade associations have since been received and the subject will be discussed further by the Local Sub-Committee whose report will be placed before the full Committee at its next meeting.

The Local Sub-Committee dealt with many important subjects since the last meeting of the full Committee and the results of their deliberations are before you.

On the subject of the importation of cotton seed from foreign countries, this Committee at its meeting held in July 1931 decided to request the Government of India to raise from 1 cwt. to 9 cwt. the maximum quantity that could be imported in one consignment but as you will see from the papers before you the Government of India have not accepted our recommendation.

One of the important subjects on our agenda is the investigation into the cost of growing cotton in India. It will be remembered that the Committee at its last meeting sanctioned a sum of Rs. 10,000 for the initial expenses of an investigation into the cost of production of cotton and its rotation crops during the current financial year, and also decided that the question of the appointment of a small Sub-Committee should be left to the Standing Finance Sub-Committee. This Sub-Committee, called the Joint Sub-Committee of the Imperial Council of Agricultural Research and the Indian Central Cotton Committee, has since been constituted. The Chief Economist in connection with this investigation has very recently been appointed and the first meeting of the Joint Sub-Committee will be held in the course of this month.

We shall be considering presently the proceedings of three of the Provincial Cotton Committees which show that the Provincial Committees are capable of doing excellent work. The Sind Cotton Committee has made a recommendation that the Committee should hold one of its half-yearly meetings in Sind in the near future and in view of our present policy of publicity and propaganda we would welcome the views of the members present on the subject.

Another important subject on the agenda is the Tariff Board Enquiry into the Cotton Textile Industry. The Special Sub-Committee which was appointed to prepare a draft reply to the letter received from the Tariff Board in connection with their enquiry into the Cotton Textile Industry has since drafted a reply but in view of the importance of the subject the Sub-Committee felt it necessary to send every one of you a copy of the draft reply for any comments that you might wish to make on its contents. The Tariff Board also has been supplied with a copy but it has been informed that the views expressed in the reply were only of nine members of the Committee and any fundamental differences of opinion received from other members would be communicated on receipt. Some of the members have sent in their opinions which will be found among the papers before you and I am sure that this subject will receive the careful consideration of the Committee.

At this meeting we shall have to decide the policy which the Committee wishes to be followed at the Institute of Plant Industry, Indore. The Director of the Institute has sent in his proposals which you will be called upon to discuss and I have no doubt that they will receive your special attention.

It will be remembered that this Committee at its last meeting appointed a Special Sub-Committee to negotiate with the United Provinces Government on the question of a grant to the Pink Boll-Worm Extension Scheme and to report to you the results of their negotiations at this meeting. The papers circulated to you contain the report of the Sub-Committee and further correspondence thereon. As you will see, the United Provinces Government does not consider the present moment opportune for carrying the scheme into execution.

Gentlemen, I shall no longer detain you from your labours.

SUBJECT 2.—*Confirmation of Minutes.*

The Minutes of the 24th meeting were taken as read, confirmed and signed by the President.

SUBJECT 3.—*Comments of the Government of India on the Annual Report of the Committee.*

The comments* of the Government of India on the Annual Report of the Committee were recorded.

*Appendix I (page 31).

SUBJECT 4.—Changes in the personnel of the Committee and Sub-Committees.

The Secretary's note* was recorded.

SUBJECT 5.—Cotton Ginning and Pressing Factories Act—Progress made in Indian States.

The Secretary's note† was recorded.

SUBJECT 6.—Summary of Proceedings of the Cotton Ginning and Pressing Factories Sub-Committee.

The Secretary's note‡ was recorded.

SUBJECT 7.—Cotton Marketing—Attempts§ made to organise regulated cotton markets under the Bombay Cotton Markets Act.

Sir Purshotamdas Thakurdas proposed the following resolution which was seconded by Mr. Main and passed unanimously :—

RESOLUTION 1. “The Indian Central Cotton Committee thanks the Bombay Government for acceding to its request by sending copies of the first report on the working of the Dhulia Cotton Market to all District Local Boards and Municipalities. The results already achieved are encouraging and the Committee trusts that the spread of the knowledge of the benefits of regulated markets will lead to the establishment of a larger number of such markets in the near future.”

SUBJECT 8.—Cotton Marketing—Revised Indore Cotton Market Rules||.

Rao Bahadur M. G. Deshpande proposed the following resolution which was seconded by Mr. M. P. Kolhe and passed unanimously :—

RESOLUTION 2. “The Indian Central Cotton Committee wishes to express its appreciation of the interest shown by the Indore Darbar in connection with the regulation of cotton markets in the State and trusts that its efforts in this direction will have the desired effect of securing better prices to the grower of cotton.”

SUBJECT 9.—Cotton Marketing—Universal Standards for Indian cottons.

Summary of discussion.

Sir Purshotamdas Thakurdas said that when the subject was considered at the July 1930 meeting, it was suggested that the Committee should seek the assistance and co-operation of the Imperial Council of Agricultural Research and if that suggestion had been accepted the next move should be to ascertain which of the Commercial bodies should have a hand in the matter of preparing the standards. He emphasized the necessity of one controlling neutral body to watch the interests of

* Appendix II (page 31).

† Appendix III (page 32).

‡ Appendix IV (page 32).

§ Appendix V (page 33).

|| Appendix VI (page 33).

all concerned and suggested that the subject might be brought up at the next meeting after the President had ascertained the views of the Government of India and the commercial bodies. Mr. Chunilal B. Mehta agreed with Sir Purshotamdas Thakurdas, but wanted to have a resolution passed accepting the need for universal standards so that the Government of India might know that this Committee was earnest about these standards. Mr. Y. G. Deshpande thought it necessary that the opinion of the growers also should be invited. The following resolution was passed unanimously :—

RESOLUTION 3. “That a copy of the previous discussion on this subject be circulated to all commercial and agricultural bodies interested in cotton and to the Government of India and that the matter should be brought up at the next meeting of the Committee for further discussion and final decision.”

SUBJECT 10.—Madras Cotton Control Bill*.

The following resolution, moved by Khan Bahadur Sirdar Habibullah and seconded by Mr. V. C. Vellingiri Gounder was passed unanimously :—

RESOLUTION 4. “The Indian Central Cotton Committee thanks the Madras Government for the opportunity afforded to it of expressing its views on the Madras Cotton Control Bill and for giving effect to its recommendations by incorporating the necessary amendments in the Bill.”

SUBJECT 11.—Cotton Statistics—Proposed compilation† and publication of cotton forecasts by the Committee—Reply from the Government of India.

Mr. Chunilal B. Mehta referred to paragraph 3 of the Government of India's letter on the subject and said that variation in stocks and the extra factory consumption which was generally taken at 750,000 bales per year had nothing to do with the forecast of the growing crop. The carry-over of cotton from one season to the next in the interior parts of India was an unknown factor and it was necessary to have this factor also correctly estimated but the most important thing was the improvement of crop forecast.

Dr. Meek endorsed the above and said that carry-over and extra factory consumption were only utilised for the verification of the forecast figures.

Mr. Roger Thomas drew attention to the inaccuracy of the Indian forecasts during the last few years and compared them unfavourably with the high standard of accuracy of the American forecasts. Owing to the great importance of these forecasts to the trade and growers alike, he suggested that a suitable man should be engaged to study the system of forecasting in all its details both in India and in America to enable the Committee to put forth suggestions before the present collecting agency with a view to effecting improvements in the existing system.

* Appendix VII (page 35).

† Appendix VIII (page 37).

Dr. Meek said that the methods followed in America were fully known to the Statistical Department in India and that the difficulties in India in securing figures for forecast purposes were known to several members of the Committee present and in some respects they were entirely different from the difficulties which arise in America. He did not consider that any useful purpose would be served by the Committee sending some one to America for training, but that, if the Committee had the necessary funds, he stated that there would be no great harm done in training a few more Statisticians for India.

Mr. Plymen pointed out that the high standard of accuracy obtained in America was due to the high cost of the specialised agencies employed in America for this purpose which was not feasible in India at present.

Mr. Azhar Ali thought that the Government's refusal to assign this task to the Committee was due to their resenting the objectionable form of the resolution passed by the Committee.

Mr. Main instanced the case in which the Secretary, Indian Central Cotton Committee, was assisting the Bombay Department of Agriculture in making the cotton statistics as complete as possible through approaching the various Indian States to send in their returns. It, therefore, seemed to him that the Secretary, Indian Central Cotton Committee, was in a good position to undertake statistical work, because of his contact with all the cotton growing provinces and States.

Mr. Chumilal B. Mehta drew attention to the unique position the Secretary, Indian Central Cotton Committee, held in knowing Indian cotton in all its aspects as compared with the Director-General of Commercial Intelligence and Statistics in that he had the entire resources of the Committee at his back. The Committee would be prepared to spend more money than the Government and if a resolution to this effect was passed it might commend itself to the Government.

Mr. Collins while supporting the views expressed by Mr. Mehta further stressed the advantages of Bombay as being the best centre for collection of statistics. The Directors of Agriculture who were responsible for the collection of statistics met twice a year in Bombay as members of the Committee and it was easy for them to discuss and analyse, in consultation with the representatives of traders and growers, all questions arising from statistics. The Secretary might not be a statistical expert but it was easy to have on his staff a man with statistical training. He therefore suggested the Director-General of Commercial Intelligence and Statistics might give the necessary training in statistical work to a member of the Secretary's staff and take steps to transfer the cotton statistics to the Committee. He thought the Committee was in the best position to see that use was made of information in the possession of the trade in compiling the forecasts.

Mr. Roger Thomas ascribed the accuracy of the American forecasts to the large number of checks exercised over the information obtained from various parts. He asked Dr. Meek what were the checks utilised by him in estimating cotton forecasts.

Mr. Plymen thought that under the existing arrangements in India the Director-General of Commercial Intelligence and Statistics had to depend largely upon the reports as submitted by the provincial Governments without any reliable check. The Committee might be able to improve on the Government forecasts by tackling the problem at the source, viz., the primary reporting agencies in the villages.

Mr. Richards instanced a case in which last year a primary reporting agent had put down the yield in a certain area to 7 maunds per acre whereas actually it was 14 maunds.

Sir Purshotamdas Thakurdas referring to the resolution moved by Mr. Mehta in the previous debate said that it only aimed at securing to the Indian Central Cotton Committee a little more say in compiling and publishing the All-India forecasts with a view to ensuring greater accuracy than hitherto. He thought that the Indian Central Cotton Committee would be as handicapped as the Commercial Intelligence and Statistics Department in regard to the defects in the primary report. All that was aimed at was to devise some means which could meet the point of view raised by Messrs. Main and Mehta in regard to getting more statistics from the Kathiawar States and obtaining separately for Kathiawar and Gujerat returns of rail-borne traffic so that figures for cotton pressed and the rail-borne traffic returns should be such as could be compared. He stressed the necessity of keeping the discussion well within its limits as no useful purpose could be served by enlarging the field beyond what it was when the question was originally raised.

Mr. Tinker asked what the forecast of the cotton crop meant. The cotton he said might be in the fields growing or in bales ready for export and what exactly the trade required was the anticipated crop of the country. The trade in Bombay got much more information than the Government and he therefore suggested the formation of a forecasting sub-committee the members of which could collect all information about the anticipated crop by telegram in the same way as private traders in Bombay did at present.

Mr. Saklatvala thought the suggestion might lead to confusion especially in the event of the Government and private reports being conflicting. It must be either the Government or this Committee and he thought the Committee was in a better position to gather reliable data by employing special officers in the districts who would be in a far better position than the existing machinery of the Government to gather accurate information.

Dr. Meek stated that he was rather under the impression that it had already been arranged to separate the Kathiawar States from the Gujerat trade block for the purpose of compiling raw cotton trade statistics. He said that he wished to bring out two principal points which had occurred to him as a result of the discussion. The first was that there seemed to be considerable confusion in thought between the two problems, (1) the work of preparing the forecasts of the cotton crop and (2) that of what

had been called "post-mortem" examinations of such forecasts. He pointed out the distinction between the two and indicated that, in his opinion, the Indian Central Cotton Committee could do some very useful work regarding the "post-mortem" examination of previous forecasts, and that, in time, this work would be very helpful to local officers in finding whether their forecasts had gone wrong, where the error had arisen and how it could be avoided in future forecasts. The second point he made was that in such a matter as a forecast for the cotton crop it would be difficult to entrust the work to the Committee as a whole, for reasons which were so obvious that they need not be specified. The proposal to transfer the cotton forecast work to the Indian Central Cotton Committee, therefore, reduced itself to the transfer of this work to the Secretary of the Indian Central Cotton Committee and his staff. *Dr. Meek* indicated that he could find no directions in which the Indian Central Cotton Committee's secretariat would be better placed than the Department of Statistics or have superior information. He showed that there would be definite objections to the use of trade figures to modify forecast figures supplied by local officers and, from his experience, he refused to accept the statement which had been made that the trade were in possession of figures superior to those available to local officers of the Government.

In discussing the proposal before the Committee it had been generally assumed that the transfer of the forecast work to the Committee would result in an improvement in cotton forecasts, but no definite suggestions had been put forward as to how this improvement was to be effected, apart from the proposal that traders in cotton could give better figures than the local officers. He indicated that he would welcome any suggestions from the Indian Central Cotton Committee as to methods whereby the forecasts could be improved and that such suggestions would receive the most careful consideration.

Mr. Chunilal B. Mehta pointed out the unwillingness of the Government of India to provide more money and to adopt whatever suggestions were put forward by the Indian Central Cotton Committee to effect improvement in the forecasts. During the last ten years the difference between the crop forecast and the actual crop had varied from a million to two million bales per year. This made it difficult for the Indian Central Cotton Committee to suggest any means for improving the accurate compilation of statistics and other relevant information. He agreed with *Mr. Collins* on the suitability of Bombay being the proper place for the compilation of forecasts. The Director-General of Commercial Intelligence and Statistics at present had to devote his attention to forecasts of all crops including statistics of cotton which was the most important commodity in India, and naturally he could not pay special attention to cotton. He therefore proposed that cotton statistics might be entrusted to the Committee and thought that the Committee's resolution of last year might be kept up and the Government of India explained the reason for their so doing.

Mr. Milne explained that forecast figures in the Punjab were fixed by the Director of Agriculture from independent estimates made by the

staff of the Agricultural and Revenue Departments. These forecasts were compared with the cotton ginning factory returns of bales pressed and the rail-borne trade statistics. He appreciated the Indian Central Cotton Committee's assistance in checking the pressing forecasts. The Director-General of Commercial Intelligence had a staff to deal with the compilation of statistics and he considered it unnecessary and wasteful to duplicate that staff in Bombay. His suggestion was to leave the compilation and publication of crop statistics in the hands of the Director-General of Commercial Intelligence, but to form a Special Sub-Committee of the Indian Central Cotton Committee for "post-mortem" examination of cotton forecasts which would include the Director-General of Commercial Intelligence, Directors of Agriculture and members of the trade. This he felt would bring all the knowledge of the Indian Central Cotton Committee on to the subject with no extra expense to Government.

The President asked if *Mr. Milne* wanted to propose a resolution on this subject or simply wanted a copy of this debate sent to the Government of India. He did not think the Government of India would change their mind.

Mr. Milne thought it would be sufficient to send a copy of the debate to the Government of India.

Mr. Tinker thought the Committee should insist on their previous resolution.

The President said that if they wanted to return to the charge the best way would be to appoint a small sub-committee or ask the Local Sub-Committee to draft a reasoned memorandum meeting all the points raised by *Dr. Meek*, and place it before the members at the next meeting before despatching it to the Government of India.

Mr. Plymen said that as the "post-mortem" system had been in vogue for a few years they could very well ask why the forecasts were inaccurate, and why the actual trade returns differed from the forecasts. The answer was that the forecasts were prepared from insufficient and unsatisfactory data. He enquired if the accuracy of the forecasts had improved to any extent since the "post-mortem" examination had been undertaken.

Dr. Meek thought that the figures taken by the trade for the total crop production were greatly influenced by the two items of unknown magnitude—the extra factory consumption and the stock carry-over. He suggested that one direction in which the Indian Central Cotton Committee could assist would be to investigate the question of extra factory consumption and to obtain perhaps a more accurate estimate of this quantity. He also pointed out that many of the trade estimates of total production did not take into account the question of carry-over in up-country stocks. By obtaining the figures of up-country stocks at the end of the year, the Indian Central Cotton Committee could give valuable assistance. He stated that he had already made the suggestion to the Secretary, *Mr. Ritchie*, that a Sub-Committee of the Indian Central

Cotton Committee might be set up to tackle what had been termed the "post-mortem" examination of the cotton forecasts and that he would be very willing to join such a Sub-Committee and assist as far as possible.

Mr. Roger Thomas emphasized that every up-country factory owner made a fairly shrewd estimate of the crop which was harvested in their districts. He did not see why their information could not be used as a check by the Government of India. He felt that the majority of them would be only too willing to give any information in their possession.

The President repeated his previous views as to the putting forth of a reasoned memorandum by the Local Sub-Committee and asked if this would meet the wishes of the members.

Sir Purshotamdas Thakurdas suggested the desirability of eliciting the views of members for the consideration of the Local Sub-Committee which should avail themselves of Dr. Meek's offer of assistance in the "post-mortem" examination of figures.

The President agreed with Sir Purshotamdas Thakurdas' suggestion and asked the members to send their views before the end of September to the Secretary who would place the whole matter before the Local Sub-Committee at its next meeting.

Mr. Richards suggested that the Secretary might send a summary of the debate to members for their information.

The President proposed the following resolution which was seconded by Mr. Richards and carried unanimously :—

RESOLUTION 5.—"That before this memorandum was compiled, the Local Sub-Committee should invite all the members to send an expression of their views with their reasons therefor and the Secretary, who would then finally collect all the information, should put them before the Local Sub-Committee."

SUBJECT 12.—*Cotton Statistics—Raw Cotton Trade Statistics.*

The Secretary's note* was considered. The following resolution proposed by the President and seconded by Mr. S. D. Saklatvala was passed unanimously :—

RESOLUTION 6.—"That the Government of India be requested to arrange for separate trade statistics for loose cotton for such trade blocks as, in the opinion of the provincial authorities responsible for the compilation of cotton forecasts, are of importance for their purposes."

SUBJECT 13.—*Report† of the Standing Finance Sub-Committee on the fumigation of American cotton—Accounts for 1931-32.*

The President moved the following resolution which was seconded by Mr. D. Milne and passed unanimously :—

RESOLUTION 18.—"That the Report of the Standing Finance Sub-Committee on the fumigation accounts for the year 1931-32 be adopted."

* Appendix IX (page 38).

† Appendix X (page 39).

SUBJECT 14.—*Summary of Proceedings of the Local Sub-Committee.*

The Secretary's note* was recorded.

SUBJECT 15.—*Technological Research—Progress Report† of the Director, Technological Laboratory.*

SUBJECT 16.—*Technological Research—Report‡ of the Technological Research Sub-Committee.*

Summary of discussion.

Mr. Milne expressed satisfaction at the results of the various tests carried out at the Technological Laboratory during the seven months covered by the report and congratulated the Director, Technological Laboratory, on the recognition which the Laboratory had won outside India. Mr. Ramanatha Ayyar suggested that in the case of combing experiments it was desirable that the Provinces concerned should be kept informed so that tests might be given up on the strains which had been discarded and the new strains which had taken their place might be experimented upon. Dr. Nazir Ahmad agreed to the proposal.

The following resolutions were unanimously carried :—

RESOLUTION 20.—"That the Progress Report of the Director, Technological Laboratory, be approved."

RESOLUTION 21.—"That the Report of the Technological Research Sub-Committee be adopted."

SUBJECT 17.—*Report§ of the Standing Finance Sub-Committee.*

(a) Balance Sheet as at 31st March 1932.

(b) Final Accounts, 1931-32.

(c) Revised Estimates, 1932-33.

(d) Budget for 1933-34 (Government Servants).

Sir Purshotamdas Thakurdas moved and Rao Bahadur Bhimbhai Ranchodji Naik seconded the following resolution which was carried unanimously :—

RESOLUTION 7.—"That the Report of the Standing Finance Sub-Committee be adopted.

That the Revised Estimates for 1932-33, as now amended, be adopted.

That the Budget for the pay of Government officers for 1933-34 be approved."

SUBJECT 18.—*Agricultural Research—General Progress Report.*

The General Progress Report|| was adopted.

* Appendix XI (page 39).

† Appendix XII (page 41).

‡ Appendix XIII (page 48).

§ Appendix XIV (page 49).

|| Appendix XV (page 76).

The President said that in view of the pressure of work due to the increase in the number of research schemes during the past few years and also to the importance of the research schemes over which lakhs of rupees had been spent it would be advisable to split the Agricultural Research Sub-Committee into three or four small sub-committees each of which would carefully scrutinise a group of subjects before they came up before the full Agricultural Research Sub-Committee for final consideration.

This proposal was approved.

SUBJECT 19.—*Progress Report on Surat Physiological Research Scheme.*

The Progress Report* was approved.

SUBJECT 20.—*Progress Report on Surat Boll-worm-Propaganda-Scheme.*

The Progress Report* was approved.

SUBJECT 21.—*Final Report on Dharwar Cotton Wilt Research Scheme.*

The Final Report* was approved.

SUBJECT 22.—*Final Report on Khandesh Cotton Breeding Scheme.*

The Final Report* was approved.

SUBJECT 23.—*Final Report on Sind Physiological Research Scheme.*

The Final Report* was approved.

SUBJECT 24.—*Progress Report on Madras Herbaceum Research Scheme.*

The Progress Report* was approved.

SUBJECT 25.—*Progress Report on Madras Pempheris and Physiological Research Scheme.*

The Progress Report* was approved.

SUBJECT 26.—*Progress Report on Madras Fodder Cholam Scheme.*

The Progress Report* was approved.

SUBJECT 27.—*Progress Report on the Punjab Botanical Research Scheme.*

The Progress Report* was approved.

SUBJECT 28.—*Progress Report on the Punjab Entomological Research Scheme.*

The Progress Report* was approved.

SUBJECT 29.—*Progress Report on the Punjab Cotton White Fly Scheme.*

The Progress Report* was approved.

* Not printed.

SUBJECT 30.—*Progress Report on the Central Provinces Botanical Research Scheme.*

The Progress Report* was approved.

SUBJECT 31.—*Annual Report of the Institute of Plant Industry, Indore.*

The Annual Report* was approved.

SUBJECT 32.—*Progress Report on Burma Cotton Improvement Scheme.*

Sir Purshotamdas Thakurdas commented whether in view of the fact that the Director of Agriculture, Burma, had never attended the meetings of the Committee to exchange views, time had not arrived when his attention may be drawn to this. His absence meant the ignorance of the Committee of what was being done in Burma with the money which had been voted as none else here knew anything about cotton developments in Burma.

The President said he would communicate to the Director of Agriculture, Burma, the desire of the Committee that he should attend the meetings of the Committee.

The Progress Report* was approved.

SUBJECT 33.—*Progress Report on Hyderabad Botanical Research Scheme.*

The Progress Report* was approved.

SUBJECT 34.—*Progress Report on Hyderabad Cotton Survey Scheme.*

The Progress Report* was approved.

SUBJECT 35.—*Progress Report on Bikaner Gang Canal Scheme.*

The Progress Report* was approved.

SUBJECT 36.—*Progress Report on Baroda Root Rot Scheme.*

The Progress Report* was approved.

SUBJECT 37.—*Seed Distribution and Extension Schemes—Progress Report on Hubli Scheme.*

The President said that the Agricultural Research Sub-Committee felt that in view of the increasing number of applications for seed distribution that were received a definite policy should be laid down and that a small Sub-Committee should be entrusted with this work.

The President's proposal was agreed to.

The Progress Report* on the Hubli Seed Distribution and Extension Scheme was approved.

* Not printed.

SUBJECT 38.—*Seed Distribution and Extension Schemes—Progress Report on Gadag (Extension) and Gadag (Supplementary) Schemes.*

The Progress Report* was approved.

SUBJECT 39.—*Seed Distribution and Extension Schemes—Progress Report on Khandesh (Banilla) Scheme.*

The Progress Report* was approved.

SUBJECT 40.—*Seed Distribution and Extension Schemes—Progress Report on Surat Scheme.*

The Progress Report* was approved.

SUBJECT 41.—*Seed Distribution and Extension Schemes—Progress Report on Sind Scheme.*

The Progress Report* was approved.

SUBJECT 42.—*Seed Distribution and Extension Schemes—Progress Report on Madras Scheme.*

The Progress Report* was approved.

SUBJECT 43.—*Seed Distribution and Extension Schemes—Progress Report on Hyderabad Scheme.*

The Progress Report* was approved.

SUBJECT 44.—*Seed Distribution and Extension Schemes—Progress Report on Central Provinces Scheme.*

The Progress Report* was approved.

SUBJECT 45.—*Seed Distribution and Extension Schemes—Report on the Scheme for the erection of ginnery at Lyallpur.*

The Report* was approved.

SUBJECT 46.—*Report† of the Agricultural Research Sub-Committee.*

A. *Report of the Agricultural Research Sub-Committee on Progress Reports and General Items.*

Summary of discussion.

There was some discussion on the subject of prize schemes for clean-picking and improved varieties of cotton—item No. 26 of the Report. Several members were doubtful of the utility of these schemes as in their opinion the benefit of clean-picked cotton would go to the middlemen and not to the grower and the latter required no inducement to accept new varieties. Some were of opinion that clean picking was not an economic proposition and the rest were inclined to give a trial to the scheme.

* Not printed.

† Appendix XVI (page 77).

The scheme was finally rejected.

The President proposed and Rao Bahadur Bhimbhai R. Naik seconded the following resolution which was carried unanimously :—

RESOLUTION 8.—“That the Report of the Agricultural Research Sub-Committee on items 31 and 26 to 30 and 33 and 34 and on progress reports be approved.”

The President proposed and Mr. Chunilal B. Mehta seconded the following resolution which was passed unanimously :—

RESOLUTION 9.—“That the Selection Sub-Committee for the appointment of Cotton Botanists for Bombay and the Punjab consist of :—

The President,

Sir Purshotamdas Thakurdas,

Dr. W. McRae,

Mr. T. F. Main, and

Mr. S. D. Saklatvala ;

and that the Standing Finance Sub-Committee be authorised to consider the report of the Selection Sub-Committee and make the appointments.”

B. *Report of the Agricultural Research Sub-Committee on new schemes and additional grants for schemes sanctioned.*

Summary of discussion.

Mr. Plymen's explanation on the necessity of continuing the Seed Extension Scheme in the Central Provinces was accepted and the scheme as submitted by him was extended for a period of one year at a total cost of Rs. 26,316-8-0.

The President proposed the following resolution which was seconded by Mr. Y. G. Deshpande and passed unanimously :—

RESOLUTION 10.—“That the Report of the Agricultural Research Sub-Committee on new schemes be adopted subject to the amendment on item 7 (iii) as already passed.”

C. *Report of the Agricultural Research Sub-Committee on Research Students.*

The President proposed and Mr. T. F. Main seconded the following resolution which was passed unanimously :—

RESOLUTION 11.—“That the Report of the Agricultural Research Sub-Committee on Research Students be adopted.”

SUBJECT 47.—*Importation of foreign cotton seed—Letter from the Government of India.*

The subject was discussed at some length. It was finally decided by a majority that the Committee should not approach the Government of

India to raise the present limit of the importation of foreign cotton seed, viz. 1 cwt.

SUBJECT 48.—Investigation into the cost of growing cotton in India.

A complaint was raised by one of the members that sufficient number of growers was not appointed on the Joint Sub-Committee though the scheme concerned them more than any others.

The President proposed the following resolution which was seconded by Mr. M. P. Kolhe and carried unanimously :—

RESOLUTION 12.—“That the Secretary's note* be recorded subject to the Standing Finance Sub-Committee being empowered to co-opt members.”

SUBJECT 49.—Institute of Plant Industry, Indore—Report† of policy to be followed.

The speakers on this subject stressed the need for carrying out a programme in proportion to the amounts contributed by the States and the Indian Central Cotton Committee and undertaking the investigation of fundamental problems. Mr. Collins suggested that in paragraph (d) of the General Programme an addition, viz., “by rotation” should be made after the words “can be improved” in the last line but one of the first sub-paragraph, as it was necessary to make it quite clear while laying down the programme.

The President proposed and Mr. S. D. Saklatvala seconded the following resolution which was passed unanimously :—

RESOLUTION 13.—“That the Indian Central Cotton Committee approves of the future policy and programme of research work of the Institute of Plant Industry, Indore, as laid down in the Report submitted by the Director, subject to the amendment proposed by Mr. Collins.”

SUBJECT 50.—Representation‡ of the Indian Central Cotton Committee on the Advisory Board of the Imperial Council of Agricultural Research.

The President moved the following resolution which was seconded by Sir Purshotamdas Thakurdas and carried unanimously :—

RESOLUTION 14.—“That the Indian Central Cotton Committee approves the action of the Standing Finance Sub-Committee in appointing Rao Bahadur Bhimbhai Ranchodji Naik on the Advisory Board of the Imperial Council of Agricultural Research vice Mr. S. D. Saklatvala resigned.”

* Appendix XVII (page 82).

† Appendix XVIII (page 82).

‡ Appendix XIX (page 88).

SUBJECT 51.—Provincial Cotton Committees—Abolition of United Provinces Provincial Cotton Committee—Letter from the United Provinces Government.

The Secretary's note* was recorded.

SUBJECT 52.—Provincial Cotton Committees—Abolition of Burma Provincial Cotton Committee.

The Secretary's note† was recorded.

SUBJECT 53.—Provincial Cotton Committees—Proceedings‡ of the Central Provinces Provincial Cotton Committee.

SUBJECT 54.—Provincial Cotton Committees—Proceedings§ of the Sind Cotton Committee.

SUBJECT 55.—Provincial Cotton Committees—Proceedings|| of the Punjab Provincial Cotton Committee.

The President proposed and Mr. T. F. Main seconded the following resolution which was passed unanimously :—

RESOLUTION 15.—“The Indian Central Cotton Committee has read with great interest the proceedings of the Central Provinces, Sind and Punjab Cotton Committees and trusts that the good work that is being done by these bodies will be of permanent value to the cotton industry of the provinces concerned.”

The Director of Agriculture, Punjab, was asked to put up definite proposals for financial help to the Co-operative Sale Societies in the Punjab.

SUBJECT 56.—Provincial Cotton Committees—Co-operation¶ between the Indian Central Cotton Committee and Provincial Cotton Committees.

One of the members drew attention to the advisability of members of the Central Cotton Committee being members of their Provincial Cotton Committees also. The suggestion was approved and it was agreed to recommend the proposal to the Provincial Governments.

SUBJECT 57.—Meeting of the Committee at Indore—Proposed postponement of—**

The President proposed the following resolution which was seconded by Mr. Chunilal B. Mehta and passed unanimously :—

RESOLUTION 17.—“That the question of holding a meeting of the Indian Central Cotton Committee at Indore be postponed for consideration at the next meeting of the Committee.”

* Appendix XX (page 89).

† Appendix XXI (page 89).

‡ Appendix XXII (page 90).

§ Appendix XXIII (page 93).

|| Appendix XXIV (page 96).

¶ Appendix XXV (page 105).

** Appendix XXVI (page 107).

SUBJECT 58.—*Proposal* to hold a meeting of the Committee in Sind.*

The following resolution was passed by a large majority :—

RESOLUTION 16.—“That the next cold weather meeting of the Committee be held in Sind.”

SUBJECT 59.—*United Provinces Pink Boll-worm Extension Scheme—Report of deputation to Cawnpore and Lucknow.*

The Secretary's note† was recorded.

SUBJECT 60.—*Tariff ‡ Board Enquiry into the Cotton Textile Industry.*

The reply submitted by the Special Sub-Committee to the Tariff Board was approved.

SUBJECT 61.—*Gadag and Hubli Co-operative Cotton Sale Societies Audit of accounts for the year 1931.*

Shao Sahab C. S. Shirahatti having offered no objection, it was decided that the accounts of the two Societies pertaining to the Seed Extension Schemes should be audited by the Committee's auditors.

SUBJECT 62 (a).—*Cotton Contracts Bill§—Reference from Bombay Government.*

Summary of discussion.

A long discussion took place on the subject of Cotton Contracts Bill. Several members took strong objection to clause 9 of the bill as in their opinion it gave excessive powers to the Government to appoint a Board of Control in lieu of the Board of Directors.

Sir Purshotamdas Thakurdas on being requested gave in a lengthy speech a detailed account of the events which led to the formation of the East India Cotton Association, the appointment of the Wiles Committee and the introduction of the bill based on the report of the Wiles Committee into the Legislative Council which was lost by a small majority in the previous year. He then dwelt on the political situation in the country which had brought the present bill into being but exonerated the East India Cotton Association from all blame. He regretted that the cotton trade should have been made the battlefield of the contending forces of the Congress and the Government and thought that this bill which was intended to bring pressure to bear on the trade was likely to defeat its own object.

A number of speakers including Mr. S. D. Saklatvala agreed with the main points of Sir Purshotamdas Thakurdas' objections against the bill

* Appendix XXVII (page 107).

† Appendix XXIX (page 108).

‡ Appendix XXVIII (page 107).

§ Appendix XXX (page 114).

and were strongly in favour of the trade being left alone to find its own solution of the present difficulties. The representatives of the growers, while being in favour of one association only if it were to be of a democratic nature, were, however, anxious for a wider representation of their interest on the Board of Directors.

The President then put clauses 4 (1) and 4 (2) of the bill to vote and asked the Committee to pronounce their opinion whether any bill of the kind under discussion was necessary and if so whether the Government should be given option to recognise more than one association. The majority voted in favour of the bill being required. They also were in favour of one association only. On the question of whether Government should have the option of recognising more than one association under abnormal conditions the majority voted in favour of the Government having the option. The clauses 9 and 10 relating to the supersession of the Board of Directors by a Board of Control were next considered and after several speakers, including the growers' representatives, had expressed their views, voting was taken which resulted in the rejection of the two clauses.

SUBJECT 62 (b).—*Appointment of Cotton Growers' representatives on the Board of Directors of the East India Cotton Association.*

The President proposed and Seth Naranlal Jiwanlal seconded the following resolution which was carried unanimously :—

RESOLUTION 19.—“That Rao Bahadur Bhimbhai Ranchodji Naik and Mr. M. P. Kolhe be appointed to represent the growers' interests on the Board of the East India Cotton Association.”

SUBJECT 63.—*Employment of ex-servants of the Committee working in provincial schemes—Representation of Mr. S. V. Godbole, B.A., M.Sc., late Senior Assistant in the Surat Physiological Scheme.*

It was decided that the consideration of Mr. Godbole's representation should be put off till the general policy of employment of ex-servants of the Committee was settled.

SUBJECT 64.—*Publicity and Propaganda—Scheme* prepared by Publicity Officer.*

The Committee agreed to carry on publicity and propaganda by the following methods recommended by the Publicity Officer in his memorandum :—

The Press—Both English and Vernacular papers to be sedulously nursed. A constant flow of material to the Press to be kept up and Editors cultivated so that the columns of newspapers will be open for its reception.

* Appendix XXXI (page 117).

Illustrated pamphlets for the dissemination of knowledge of cotton and bulletins describing summary schemes of the Committee to be issued periodically.

Leaflets, posters and exhibits also to be utilised to the utmost extent for propagating the Committee's schemes and the qualities of Indian cotton.

Exhibits to be displayed at agricultural shows, melas, railway stations and other suitable places wherever opportunity offers.

Cotton Tournaments in the districts with improved variety to be organised in co-operation with Provincial Agricultural Departments.

The budget amounting to Rs. 19,000 for the pay of the Publicity Officer and his staff, travelling allowance and contingencies was sanctioned by the Committee.

The President thanked the members for their extreme courtesy, forbearance and patience and was glad that the proceedings had been brought to a close within the allotted time.

Mr. Chunilal B. Mehta proposed a hearty vote of thanks to the Chair for guiding the deliberations of the Committee in a very able and tactful manner. He also thanked the Secretary for the prompt and successful way in which he had assisted in the proceedings of the meeting.

P. H. RAMA REDDI.

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Attempts made to organise regulated cotton markets under the Bombay Cotton Markets Act.

- 1 "The Indian Central Cotton Committee thanks the Bombay Government for acceding to its request by sending copies of the first report on the working of the Dhulia Cotton Market to all District Local Boards and Municipalities. The results already achieved are encouraging and the Committee trusts that the spread of the knowledge of the benefits of regulated markets will lead to the establishment of a larger number of such markets in the near future" 10

Revised Indore Cotton Market Rules.

- 2 "The Indian Central Cotton Committee wishes to express its appreciation of the interest shown by the Indore Darbar in connection with the regulation of cotton markets in the State and trusts that its efforts in this direction will have the desired effect of securing better prices to the grower of cotton" 10

Universal Standards for Indian Cottons.

- 3 "That a copy of the previous discussion on this subject be circulated to all commercial and agricultural bodies interested in cotton and to the Government of India and that the matter should be brought up at the next meeting of the Committee for further discussion and final decision" 11

Madras Cotton Control Bill.

- 4 "The Indian Central Cotton Committee thanks the Madras Government for the opportunity afforded to it of expressing its views on the Madras Cotton Control Bill and for giving effect to its recommendations by incorporating the necessary amendments in the Bill" 11

Proposed Compilation and Publication of Cotton Forecasts by the Committee.

- 5 "That before this memorandum was compiled the Local Sub-Committee should invite all the members to send an expression of their views with their reasons therefor and the Secretary, who would then finally collect all the information, should put them before the Local Sub-Committee" 16

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	<i>Report of the Standing Finance Sub-Committee.</i>	
7	"That the Report of the Standing Finance Sub-Committee be adopted.	
	<i>Revised Estimates for 1932-33.</i>	
	"That the Revised Estimates for 1932-33, as now amended, be adopted.	
	<i>Budget for the Pay of Government Officers for 1933-34.</i>	
	"That the Budget for the pay of Government officers for 1933-34 be approved" ..	17
	<i>Report of the Agricultural Research Sub-Committee on Progress Reports and General Items.</i>	
8	"That the Report of the Agricultural Research Sub-Committee on items 31 and 26 to 30 and 33 and 34 and on progress reports be approved" ..	21
	<i>Appointment of Selection Sub-Committee for Cotton Botanists in Bombay and the Punjab.</i>	
9	"That the Selection Sub-Committee for the appointment of Cotton Botanists for Bombay and the Punjab consist of :— The President, Sir Purshotamdas Thakurdas, Dr. W. McRae, Mr. T. F. Main, and Mr. S. D. Saklatvala ; and that the Standing Finance Sub-Committee be authorised to consider the report of the Selection Sub-Committee and make the appointments" ..	21
	<i>Report of the Agricultural Research Sub-Committee on New Schemes.</i>	
10	"That the Report of the Agricultural Research Sub-Committee on new schemes be adopted subject to the amendment on item 7 (iii) as already passed" ..	21

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11	"That the Report of the Agricultural Research Sub-Committee on Research Students be adopted" ..	21
	<i>Investigation into the Cost of Production of Cotton.</i>	
12	"That the Secretary's note be recorded subject to the Standing Finance Sub-Committee being empowered to co-opt members" ..	22
	<i>Institute of Plant Industry, Indore—Report of Policy to be followed.</i>	
13	"That the Indian Central Cotton Committee approves of the future policy and programme of research work of the Institute of Plant Industry, Indore, as laid down in the Report submitted by the Director, subject to the amendment proposed by Mr. Collins" ..	22
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14	"That the Indian Central Cotton Committee approves the action of the Standing Finance Sub-Committee in appointing Rao Bahadur Bhimhai Ranchodji Naik on the Advisory Board of the Imperial Council of Agricultural Research vice Mr. S. D. Saklatvala resigned" ..	22
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16	"That the next cold weather meeting of the Committee be held in Sind" ..	24
	<i>Meeting of the Committee at Indore—Proposed postponement of.</i>	
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	<i>Appointment of Cotton Growers' Representatives on the Board of Directors of the East India Cotton Association.</i>	
19	"That Rao Bahadur Bhimbhai Ranchodji Naik and Mr. M. P. Kolhe be appointed to represent the growers' interests on the Board of the East India Cotton Association"	25
	<i>Progress Report of the Director, Technological Laboratory.</i>	
20	"That the Progress Report of the Director, Technological Laboratory, be approved"	17
	<i>Report of the Technological Research Sub-Committee.</i>	
21	"That the Report of the Technological Research Sub-Committee be adopted"	17

APPENDIX I.

SUBJECT 3.—Comments of the Government of India on the Annual Report of the Committee.

Copy of letter No. 570-Agri., dated the 30th April 1932, from the Officiating Secretary to the Government of India, Department of Education, Health and Lands, to the President, Indian Central Cotton Committee.

ANNUAL REPORT OF THE INDIAN CENTRAL COTTON COMMITTEE, 1931.

I am directed to acknowledge, with thanks, the receipt of copies of the above-mentioned report forwarded with Mr. Ritchie's letter No. P. 45, dated the 22nd February 1932. The annual report of the Indian Central Cotton Committee has, since the inception of the Committee, been a record of successful effort in promoting the interests of all branches of the cotton industry but especially those of the grower, whose welfare the Committee points out is its chief concern. The present report is no exception to that rule and the Government of India are glad to observe the progress which has been made in various directions, the most striking feature of which has been the development of the Committee's research work. I am to convey the appreciation of the valuable services rendered by the members and the Secretary of the Committee throughout the year to which the report relates.

APPENDIX II.

SUBJECT 4.—Changes in the Personnel of the Committee and Sub-Committees.

Secretary's Note.

The following changes in the personnel of the Committee and Sub-Committees have taken place due to either the annual retirement of one-third of the members, or to resignations and additions:—

- (1) Mr. Nalini Ranjan Sarkar replaces Mr. Girija Prasanna Chakravarty as the representative of Bengal.
2. Khan Bahadur Maulvi Muhammad Obaidur Rahman Khan takes the place of Rai Bahadur M. Amba Prasad as one of the United Provinces cotton growers' representatives.
3. Mian Nurullah replaces Sardar Ujjal Singh as one of the Punjab cotton growers' representatives.
4. Rao Bahadur G. R. Kothare takes the place of the late Rao Bahadur K. J. Deshmukh as one of the representatives of the cotton ginning or cotton manufacturing industry in the Central Provinces and Berar.
5. Mr. S. V. Ramamurty represents the Madras Agricultural Department in place of Mr. D. G. Munro.
6. Mr. Robert Lee takes the place of Mr. H. B. Moore as the representative of the cotton manufacturing or cotton ginning industry of the Madras Presidency.
7. Mr. Ghulam Muhammad Khan has been appointed as an additional member by the Governor-General-in-Council to represent the cotton growers of Sind.
8. Lala Shri Ram has been appointed as an additional member by the Governor-General-in-Council as a representative of the Cotton Millowners of Delhi.
9. Khan Bahadur Sardar Habibullah takes the place of Ch. Zafrulla Khan as the representative of the cotton manufacturing or ginning industry in the Punjab.

(2) *Standing Finance Sub-Committee.*—Sir Joseph Kay has gone on short leave and his place on the Sub-Committee remains unfilled. Mr. J. Vonesch has also gone on short leave and in his vacancy Seth Naranlal Jivanlal has been temporarily appointed till the end of August 1932.

(3) On the *Local Sub-Committee*, the two vacancies caused by the absence of Sir Joseph Kay and Mr. J. Vonesch on short leave remain unfilled.

(4) On the *Cotton Ginning and Pressing Factories Sub-Committee*, there are three temporary vacancies owing to the absence on leave of Sir Joseph Kay, Mr. W. Roberts and Mr. J. Vonesch and one permanent vacancy owing to the resignation of his membership by Mr. H. B. Moore. This Sub-Committee has not met during the current financial year and the question of filling the vacancies will be considered when the Sub-Committee next meets.

(5) *Agricultural Research Sub-Committee*—

Rai Sahab K. Sawhney has been co-opted a member of this Sub-Committee for the meeting of July 30.

Messrs. S. V. Ramamurty and Roger Thomas and Dr. W. McRae have also been invited to serve on the Sub-Committee for this meeting.

The vacancy caused by the resignation of membership by Mr. D. G. Munro remains unfilled.

The following six members of the Sub-Committee are temporarily out of India :—

Sir Joseph A. Kay (Vice-President),
Mr. W. Roberts,
Mr. B. C. Burt,
Dr. W. Burns,
Mr. D. N. Mahta and
Mr. W. J. Jenkins.

Mr. Trought's successor has not yet been appointed.

(6) On the *Technological Research Sub-Committee*, Seth Kasturbhai Lalbhai takes the place of Sir Chinubhai Madhowlal as one of the co-opted members of the Ahmedabad Millowners' Association.

The places of Sir Joseph Kay and Mr. B. C. Burt who are out of India at present remain unfilled.

Dr. W. McRae has been invited to serve on the Sub-Committee in the absence of Mr. Burt.

Sir Purshotamdas Thakurdas has been co-opted as a member of this Sub-Committee.

APPENDIX III.

SUBJECT 5.—*Cotton Ginning and Pressing Factories Act—Progress made in Indian States.**Secretary's Note.*

Since the last meeting of the Committee the following further information has been received regarding the progress made in Indian States in the introduction of legislation on the lines of the Indian Cotton Ginning and Pressing Factories Act :—

Bikaner State.—Bikaner State Cotton Ginning and Pressing Factories Act of 1932 has been enacted. List of cotton pressing factories has not been received as yet, but cotton press returns are being received.

Dewas State, Junior Branch.—Legislation on the lines of the British India Cotton Ginning and Pressing Factories Act and Rules has been enacted by the Dewas Durbar, Junior Branch. It comes into force from 1st June 1932.

Dhar State.—Dhar State Cotton Ginning and Pressing Factories Act and Rules are expected to come into force from September 1932.

Gwalior State.—The Council Committee has accepted the draft of Cotton Ginning and Pressing Factories Act and Rules and it is before the full Council.

Malerkotla State.—The British India Cotton Ginning and Pressing Factories Act and Rules thereunder have been adopted by the State from 1st March 1931. List of pressing factories has been received.

The present position is that 62 States have now enacted legislation on the lines of the British India Act and 56 States supply weekly cotton press returns.

APPENDIX IV.

SUBJECT 6.—*Summary of Proceedings of the Cotton Ginning and Pressing Factories Sub-Committee.**Secretary's Note.*

Only one meeting of the Sub-Committee was held on the 8th February 1932 since March 1930 and the principal subject discussed was the licensing of ginning and pressing factories. The Sub-Committee decided, after a lengthy discussion, that the views of the trade associations represented on the Indian Central Cotton Committee should be obtained before the subject was further discussed, and their views have since been received. The subject will come for further consideration at the next meeting of the Local Sub-Committee which will report to the full Committee in December next.

The Sub-Committee also dealt with the subject of the re-use of old hoops, and it was decided to draw the attention of all presses to the prevalence of duplicate marks on hoops and to point out to them that stencilling on the hessian was allowed. The attached letter was accordingly sent out to all Local Governments.

Copy of circular letter No. 3120-3130, dated the 26th February 1932, from the Secretary, Indian Central Cotton Committee, to all Local Governments.

MARKING OF BALES—RE-USE OF OLD HOOPS.

I have the honour to inform you that frequent complaints are being received by my Committee that bales of cotton are being issued from pressing factories with duplicate marks punched on the hoops, thus defeating the intentions underlying the Cotton Ginning and Pressing Factories Act of 1925. My Committee is aware that there has always been a considerable trade in second hand hoops, but this has recently become more pronounced by reason of trade depression and financial stringency. My Committee does not wish to interfere in any way with this trade, but it is concerned with the proper working of the Cotton Ginning and Pressing Factories Act. These second hand hoops are bought by press-owners and used again without any care being taken to see that previous press marks have first been deleted. I have the honour, therefore, to request you to draw the attention of press-owners who use second hand hoops to the necessity for deleting from the hoops any marks other than their own before the bales are allowed to leave the Factory.

My Committee is of opinion however that the difficulty would largely solve itself if press-owners were made aware that under the amended Rule 7 of the Rules under the Cotton Ginning and Pressing Factories Act stencilling on the hessian is permitted. When the Act first came into force punching on the hoops was the only method allowed. For various reasons, which it is not necessary to enumerate here, the Government of India, at the request of this Committee, amended in 1929 Rule 7 under the Act to permit of any form of marking provided the letters and figures used were in English characters and decipherable. Stencilling is easier and more expeditious and my Committee feels that if it was brought to the notice of all press-owners that stencilling on the hessian was permissible, marking on the hoops would become obsolete.

I have the honour, therefore, to request you, if you see no objection, to bring the amended Rule to the notice of press-owners.

APPENDIX V.

SUBJECT 7.—*Cotton Marketing—Attempts made to organise regulated cotton markets under the Bombay Cotton Markets Act.**Secretary's Note.*

The first annual report on the working of the Dhulia Cotton Market was considered by the Committee at its meeting held in December 1931, when the following resolution was unanimously passed :—

"The Central Cotton Committee has read with considerable pleasure the first report on the working of the Dhulia Cotton Market and suggests to the Bombay Government that a copy should be sent to every District Local Board and Municipality in the Presidency interested in cotton with a view to acquainting them with the successful establishment of a market run in the interests of the grower."

A copy of the above resolution was forwarded to the Bombay Government.

APPENDIX VI.

SUBJECT 8.—*Cotton Marketing—Revised Indore Cotton Market Rules.**Secretary's Note.*

The Rules for the regulation of cotton marketing in Indore were considered by the Indian Central Cotton Committee at its meeting held in July 1930. These rules came into force from the 1st November 1929 and were for a period of two years to begin with. The Darbar has since issued revised rules which were published in the "State Gazette" of March 7, 1932. The most important changes between the old and new rules relate to the appointment of the Market Committee. The old rule dealing with this question is

reproduced below. A copy of the new rules is attached. They seem to require no comment.

Extract from the old Indore Cotton Market Rules published in the "Holkar Sirkar Gazette" of November 11th, 1929.

"(1) That a Managing Committee, called the 'Indore Cotton Market Committee' may be appointed for the management of the Market in the following manner:—

(a) The Committee shall consist of five Members and one President to be appointed by the Prime Minister on the recommendation of the Commerce and Industry Member. The President will be an Officer of the State. Of the five members one shall represent Mills, one Brokers, one merchants, one growers and the fifth member will be the Amin or Naib Amin of Indore.

* * * * *

THE HOLKAR GOVERNMENT GAZETTE, MARCH 7, 1932.

COMMERCE AND INDUSTRY DEPARTMENT.

Notification.

Notification No. 3, dated the 19th February 1932.

In supersession of this Office Notification No. 4331, dated the 29th October 1929, published in "Holkar Sirkar Gazette", No. 8, dated the 25th November 1929, it is hereby notified for general information that His Highness the Maharaja, under Huzur Shree Shankar Order No. 55, dated the 8th February 1932, has been pleased to sanction the following rules for the conduct of business at the Indore Cotton Market. A translation of the Rules will be published in due course.

S. SUDAGOPAN,

Secretary,
Commerce and Industry Department.

C. R. PALAIRET,

Member for Industries and Commerce, Indore.

Rules for the Indore Cotton Market.

1. That a Managing Committee called the "Indore Cotton Market Committee" be appointed for the management of the Market in the following manner:—

(a) The Committee shall consist of 11 members including the President and of the 11 members, 3 shall be the representatives of the Mill Companies, 3 of the Cotton Merchants' Association including the exporters, 2 from the brokers and 3 from the Growers.

(b) The representatives of the Mills on the Committee will be the agents of the Managing Agents of the Mills. The representatives of the Mills would be elected by the Managing Agents of the Mill Companies or their nominees, every Mill Company having one vote. The representatives of the Mills should retire at the end of a year and the Mills will elect 3 new representatives from amongst the nominees of the remaining Mills in rotation. The Mills, whose representatives have retired, will have no right to send their representatives on the next Committee except when the Agents or the Managing Agents of all the Mills or their nominees unanimously come to the decision that a representative or representatives of the Mills who have already retired may be re-elected. The representatives of the Cotton Merchants and the brokers will be nominated by the Cotton Association which may be formed provided that the Cotton Association also includes under its rules brokers as members. In case this is not so, the brokers' representatives will be elected by the brokers themselves. With regard to the growers their representative on the Legislative Committee will be an Ex-officio Member and the other two members will be the head of the Rural Development Department, and a representative of the Co-operative Department.

2. The Prime Minister shall have power to remove any member at any time from the Committee if he thinks that his presence is either undesirable or useless.

3. The term of office of the Committee shall be one year at the end of which fresh nomination shall take place.

4. The President will be elected by the Committee from one of its members.

5. The names of the persons appointed will be notified in the *Holkar Government Gazette* and they shall be deemed to hold office from 1st of October each year. Similarly any changes in the personnel of the Committee will be notified in the *Gazette*.

6. The Committee may frame bye-laws consistent with these rules for the conduct of the business of the Committee and for the levy of fees and charges within the Cotton Market. The latter will require previous sanction of the Government.

7. The Committee may also appoint one or more of its members to be a sub-committee or to be a joint committee for the conduct of any work or works or to report on any matter or matters and may delegate to any one or more of its members such of its own powers as may be necessary.

8. The President shall have a casting vote in addition to the ordinary vote.

9. A Minute Book shall be kept of all the proceedings over the signature of the President.

10. The Committee shall be under the supervision of the Commerce and Industry Department. The bye-laws framed by the Committee may be revised by Government on the recommendation of the Commerce and Industry Member.

11. Until further orders, in addition to the fees levied by the Market Committee, the usual framing fees levied by the municipal authorities for framing the carts at the Market for more than 12 hours shall be collected at one anna per cart per day. Similarly the municipal tax for the use of godowns within the premises of the Market will be recovered as usual by the Municipality who will be responsible for the upkeep of the roads etc. in the Market.

12. In case of evasion or attempt to evade payment of the fees a fine may be leviable by the Committee to the extent of Rs. 25.

13. No person shall expose cotton for sale at any public place (except for household use) within the limits of the Indore City Municipality other than the Market, unless otherwise authorised and every person bringing cotton for sale into the Market shall on entering the Market pay all fees and taxes in force at the time.

14. The Committee shall have absolute control of the Market Yard so far as their actions are consistent with the rules that may be in force. The gates shall be closed and opened at such hours as the Committee may from time to time direct. The carts shall stand in such places and for such time as may be prescribed, and ingress and egress may be permitted to such persons and at such times, as the Committee may consider proper.

This rule will not apply to Government or municipal servants.

15. In the Market proper the Committee shall exercise all such rights which may be necessary for efficient control of the Market yard and for the convenience and comfort of the persons using the Market for the collection of the fees. The Committee may, in the Market area, exercise such control over carts, cartsmen and other persons who may appear in the Market as may be necessary to prevent traffic to and from the Market being impeded subject to the proviso that any Police cognizable cases will not be interfered with by the Committee but reported on to the Police. The Committee may also prevent any cart laden with ginned or unginned cotton, especially if fees have not been paid, from standing in any portion of the area or entering the area without express permission of the Committee.

16. Any person entering or attempting to enter into Market yard when directed in writing stating reasons not to do so or disobeying the direction of the Committee in regard to places where carts laden with cotton may stand or in regard to the roads by which, and in regard to the times, at which they may proceed, shall be liable to be punished as trespasser.

17. All weights will be in accord with the standard proclaimed by the Government and unauthorised weights and scales shall be liable to be confiscated under the rules of the Government in force.

18. The use of incorrect or unauthorised weights and scales shall be punishable in accordance with sections 264 and 265 of the Indore Penal Code.

APPENDIX VII.

SUBJECT 10.—*Madras Cotton Control Bill.*

Secretary's Note.

The Local Sub-Committee considered the original draft of the Madras Cotton Control Bill at its meeting of the 28th September 1931 and passed the following resolution:—

"That this Sub-Committee considers Clause 5 (1) (ii) rather drastic and the penalties contemplated in Clauses 4 and 6 (2) very severe considering the fact that the bill is the

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first of its kind in India and recommends to the Madras Government that the bill might be passed with necessary modifications to make it less severe. Drastic legislation could be introduced later on, if necessary."

The Central Cotton Committee at its last meeting confirmed by resolution the action of the Sub-Committee and further recommended "that the scope of the Bill should be restricted to the growing of *Pulichai* cotton in the Tinnevely area".

The clauses of the draft bill affected are reproduced below:—

"**Clause 4.**—Whoever, in contravention of any notification under Section 3 * * * shall be liable to a fine which may extend to fifty rupees and in default to simple imprisonment which may extend to one month and upon any subsequent conviction to a fine which may extend to five hundred rupees and in default to simple imprisonment which may extend to six months."

Penalties. * * * **Power of entry and seizure.** " **Clause 5.**—(1) Any officer authorised in this behalf by the Local Government may—
(ii) in case of resistance to entry under clause (i), break open any door and remove any other obstacle to such entry; "

Duty of owner and occupier to give facilities for inspection by authorised officer. " **Clause 6.**—(2) Whoever commits a breach of the provisions of sub-section (1) shall be punishable with fine which may extend to Rupees fifty."

The recommendations of the Committee have been accepted by the Madras Government. The bill with the necessary modifications has been passed by the Legislative Council and awaits the assent of the Governor and Governor-General. A copy of the bill is attached. With reference to the Committee's recommendation to restrict the scope of the bill to *Pulichai* cotton in the Tinnevely area, clause 3 of the bill as passed by the Council would appear to meet the object of the Committee.

Copy of Bill No. 3 of 1932.

A Bill to provide for the prohibition of the cultivation of *pulichai* cotton and the mixing of such cotton with other cotton and for the prohibition or restriction of the possession or use of, or the trade in, *pulichai* cotton or cotton mixed with *pulichai* cotton.

WHEREAS it is expedient in the best interests of the growers of cotton in certain areas in the Presidency of Madras, the cotton trade and the economic prosperity of the said Presidency, to maintain the quality and reputation of the cotton grown in those areas and for that purpose to prohibit the cultivation of *pulichai* cotton and the mixing of such cotton with other cotton and to prohibit or restrict the possession or use of, or the trade in, *pulichai* cotton or cotton mixed with *pulichai* cotton.

AND WHEREAS the previous sanction of the Governor-General has been obtained to the passing of this Act:

It is hereby enacted as follows:—

Short title and extent. 1. (1) This Act may be called the Madras Cotton Control Act, 1932.

(2) It extends to the whole of the Presidency of Madras.

Definitions. 2. In this Act, unless there is anything repugnant in the subject or context:—

(a) "cotton" means cotton plant, ginned and unginned cotton, cotton waste and cotton seed;

(b) "notified area" means an area specified in a notification under section 3; and

(c) "*pulichai* cotton" means the kind of cotton known as *G. neglectum* var. *roseum*.

Power of Local Government to issue notification prohibiting the cultivation, etc., of *pulichai* cotton. 3. The Local Government may, by notification in the *Fort St. George Gazette*, in such local area and for such period as may be specified in the notification:—

(a) prohibit the cultivation of *pulichai* cotton; or

(b) prohibit the mixing of *pulichai* cotton with any other kind of cotton; or

(c) prohibit or restrict the possession or use of, or the trade in, *pulichai* cotton or cotton mixed with *pulichai* cotton.

Penalties. 4. Whoever, in contravention of any notification under section 3:—

(a) cultivates *pulichai* cotton, or

(b) mixes *pulichai* cotton with any other kind of cotton, or

(c) possesses, uses or trades in *pulichai* cotton or any cotton mixed with *pulichai* cotton shall be punishable with fine which may extend to twenty rupees and upon any subsequent conviction with fine which may extend to fifty rupees.

Power of entry and seizure. 5. (1) Any Officer authorized in this behalf by the Local Government may between the hours of 6 a.m. and 6 p.m.:—

(a) enter upon any land in a notified area in which he knows or suspects that *pulichai* cotton is being cultivated in contravention of a notification under section 3 uproot or cause to be uprooted such cotton, and seize the cotton so uprooted; and

(b) enter upon or into any land, building, vessel or place in a notified area in which he knows or suspects that *pulichai* cotton or any cotton mixed with *pulichai* cotton is kept in contravention of a notification under section 3, and seize such cotton.

(2) Every officer seizing any cotton under this section shall forthwith:—

(a) make a report of such seizure to the Magistrate having jurisdiction to try the offence committed in respect of such cotton, together with particulars of such cotton and furnish a copy of such particulars to the occupier of the land, building, vessel or place on or in which such seizure was made, and

(b) subject to such rules as the Local Government may prescribe, forward such cotton to the nearest officer authorized by the Local Government to receive it, for examination and report to the Director of Agriculture, Madras.

(3) The opinion of the authorized officer referred to in clause (b) of sub-section (2), contained in any document signed by such officer regarding the cotton sent to him for examination under that clause, may be used as evidence as to the nature of such cotton, in any inquiry, trial or proceeding under this Act.

Duty of owner and occupier to give facilities for inspection by authorized officer. 6. (1) Every owner or occupier of any land, building, vessel or place shall give all reasonable facilities to any officer authorized under sub-section (1) of section 5 to inspect such land, building, vessel or place.

(2) Whoever commits a breach of the provisions of sub-section (1) shall be punishable with fine which may extend to twenty rupees.

Previous sanction and limitation for prosecution. 7. No prosecution for an offence made punishable by this Act or any rule made thereunder shall be instituted:—

(i) without the previous sanction of the Director of Agriculture, Madras, or

(ii) after six months from the date of the commission of the offence.

Trial of offences. 8. No offence made punishable by this Act or any rule made thereunder shall be inquired into or tried by any Court inferior to that of a Presidency Magistrate or a Magistrate of the second class.

Indemnity. 9. No suit, prosecution or other legal proceeding whatever shall be entertained in any Court against any person for anything in good faith done or intended to be done in pursuance or execution of this Act.

Power of Local Government to make rules. 10. (1) The Local Government may, by notification in the *Fort St. George Gazette*, make rules consistent with this Act to carry into effect the purposes thereof.

(2) In making any rule, the Local Government may provide that a breach thereof shall be punishable with fine which may extend to twenty rupees.

APPENDIX VIII.

SUBJECT 11.—*Cotton Statistics—Proposed compilation and publication of cotton forecasts by the Committee—Reply from the Government of India.*

Secretary's Note.

At its 23rd meeting the Indian Central Cotton Committee passed the following resolution:—

"The Central Cotton Committee desires to draw the attention of the Government of India to paragraph 261 of the Report of the Indian Cotton Committee (1919) in

which the suggestion is made that the Central Cotton Committee might compile and publish the All-India Cotton Forecasts. The Committee requests the Government of India to implement that suggestion as it considers it is the proper body to undertake such work."

This resolution was duly forwarded to the Government of India, but they did not approve of it.

APPENDIX IX.

SUBJECT 12.—Cotton Statistics—Raw Cotton Trade Statistics.

Secretary's Note

At the 24th meeting of the Indian Central Cotton Committee, the Director of Agriculture, Bombay Presidency, submitted a note comparing the forecast crop of 1930-31 with the cotton pressed. In this note he requested the Indian Central Cotton Committee to ask the Director-General of Commercial Intelligence and Statistics to publish separate trade statistics for loose cotton. A formal resolution on this subject was not then passed, as the Committee agreed to the suggestion that the Director-General of Commercial Intelligence and Statistics' views on this subject should first be obtained. The note since supplied by the Director-General of Commercial Intelligence and Statistics and his subsequent letter showing the estimated total extra cost involved in the proposal are attached.

No difficulty is anticipated in the collection and publication of separate figures for pressed and loose cotton, and the total extra cost involved is not considerable. As the volume of rail borne trade in loose cotton is however comparatively small, and such trade is mostly of a local nature in particular areas, there is no need to collect or to publish figures for all the trade blocks in India. It would be enough if the Government of India authorises the Director-General of Commercial Intelligence and Statistics to comply with the requests of the Provincial authorities responsible for the compilation of cotton forecasts for information with reference to the blocks with which they are concerned. This will satisfy the requirements of the Director of Agriculture, Bombay Presidency, as well as of any other Director of Agriculture in future, and at the same time reduce the expenditure on this account considerably.

Note by the Director-General of Commercial Intelligence and Statistics.

Under the existing arrangements all railways in India supply this Department with a monthly return showing the figures of raw cotton imported into each trade block, situated on each railway from every other block situated on its own or a foreign railway. The returns are compiled by the railways from the invoices. Bookings from one station to another in the same trade block are not registered. A deduction of 3 per cent. is made from the gross weight of cotton for packing. Blank forms for the registration of these statistics are supplied to the railways with the names of the different internal trade blocks in India.

Similar arrangements have also been made with the inland steamship companies for the supply of the following statistics of raw cotton:—

- (1) Trade in raw cotton between the different trade blocks of Bengal and the trade blocks of Assam.
- (2) Between the internal trade blocks of Assam with one another.
- (3) Between the different internal trade blocks of Bengal with one another.
- (4) Between Calcutta and Bihar and Orissa.
- (5) Between Calcutta and the United Provinces.
- (6) Between Assam and Bihar and Orissa.

No road borne traffic is registered and included in these statistics.

The figures in all these returns are assembled in this Department and published every month.

The present proposal regarding the separation of figures of loose cotton from those for pressed or baled cotton involves some increase of work both in the railway and steamer offices as also in this Department. It is probable that the railways will ask for increased subsidies if the traffic in pressed and loose cotton have to be shown separately. The exact amount of increase cannot be ascertained unless the proposal is put before the railways. The total amount of subsidy at present payable to the railways and

steamship companies for the registration of statistics of raw cotton alone is about Rs. 9,500 per annum. It is not likely that the Government of India will sanction any increase in expenditure on this account unless very strong reasons in support of the proposal are put before them.

Copy of letter No. 7269-Q, dated the 8th June 1932, from the Director-General of Commercial Intelligence and Statistics, to the Secretary, Indian Central Cotton Committee.

RAW COTTON TRADE STATISTICS.

With reference to the correspondence ending with your letter No. 2741, dated the 10th February 1932, on the above subject, I have the honour to say that the railway and steamship companies concerned in the registration of raw cotton statistics do not anticipate any difficulty in supplying separate monthly figures for pressed cotton and loose cotton but some of them have asked for extra subsidies for this additional information. The total extra cost involved in the proposal is Rs. 166-12-0 a month or Rs. 2,001 a year.

APPENDIX X.

SUBJECT 13.—Report of the Standing Finance Sub-Committee on the fumigation of American cotton—Accounts for 1931-32.

At its 23rd meeting the Indian Central Cotton Committee recommended a rebate of eight annas a bale on all American cotton fumigated during the financial year 1930-31. This rebate has since been sanctioned by Government and disbursed to importers.

A note* on the fumigation accounts for the year ending 31st March 1932 is attached. We recommend that the Government of India should be requested to allow a rebate of eleven annas per square bale and seven annas per round bale on the bales and packages fumigated during this period.

We also agree to the proposal made in the note that the period of the existing contract with Messrs. J. K. and Cooper Landing Company should be extended by three or four months to allow the change-over from one contractor to another during the slack season. Also the necessity to obtain competitive rates for transportation of American cotton by relaxing the conditions of tender should be impressed upon the Government of India and the Bombay Port Trust.

We do not consider it necessary to make at present any alteration in the existing arrangements regarding the staff.

APPENDIX XI.

SUBJECT 14.—Summary of Proceedings of the Local Sub-Committee.

Since the last meeting of the Indian Central Cotton Committee in December the Local Sub-Committee held four meetings including the special meeting which was held on the 15th December. Sir Joseph Kay and Mr. J. Vonesch, members of the Sub-Committee, have gone on leave out of India and their places remain unfilled. Mr. D. McCallum resigned his membership on the Committee and the question of filling his vacancy on the Sub-Committee will be taken up when his successor is appointed.

2. The Local Sub-Committee was called upon to decide the difference of opinion between Mr. B. A. Collins, the Director-General and Secretary to Government, Department of Commerce and Industry, His Exalted Highness the Nizam's Government, Hyderabad-Deccan, and the Director of Agriculture, Bombay, in regard to the issue of licenses for import of cotton from Raichur district, Nizam's Dominions, to the Gadag Market. Mr. Collins held that unless the Director of Agriculture stopped issuing licenses it would be very difficult for him to organise any cotton market and spread pure cotton in the Raichur-Gulbarga tract which had been declared a protected area and for which the Committee had sanctioned a Seed Distribution Scheme. The Sub-Committee concluded after hearing both sides that it could not interfere with the discretion of the Director of Agriculture as no breach of the rules of the Cotton Transport Act was proved.

3. The Sub-Committee considered a letter from the Director of Agriculture, Bombay, requesting for directions as to what procedure he should adopt in granting general

* Not printed.

licenses under the Cotton Transport Act for the import of cotton by sea from Bombay to Broach. The Sub-Committee resolved that the Government of India be addressed on the necessity of lowering the railway rates to avoid losses to the railway companies from the competition of sea transport since transport of cotton by sea from Bombay to Surat and from there by train to places of consumption was at present cheaper than sending direct by train. It was also decided that the Government of Bombay be approached to amend rule 3 of the Bombay Rules under the Cotton Transport Act and also Forms B and C to permit the transport of cotton by rail, road, river or sea for mill consumption.

4. The Director of Agriculture, Bombay, made a reference to the Sub-Committee as to whether it was possible that he could issue, as a special case, to well known firms general licenses for import of full pressed bales of cotton from certain stations outside the protected area into Broach and Surat for transport to Bombay by sea. The Sub-Committee decided that no such exception should be made as any concession of this sort was likely to result in slackening of rules.

5. Mr. M. P. Kolhe, one of the members of the Committee, brought to the notice of the Committee that the cultivators in Central Provinces were subjected to the payment of income-tax on their ginned cotton and that the Committee should protest against the levy of this tax. The Sub-Committee decided that the Government of India should be approached to exempt the cultivator from income-tax when he ginned his own cotton.

6. The Sub-Committee considered the suggestion made by Mr. M. P. Kolhe that the Committee should make a specific recommendation to the Central Provinces Government to combat the evils of the ginning and pressing pools, as in his opinion the Government were not likely to take any definite action on the non-committal resolution which has already been passed by the Committee. The Sub-Committee decided that it should take no further action.

7. The Sub-Committee appointed a representative Sub-Committee consisting of nine members to draft a reply to the specific questions received from the Tariff Board with regard to its enquiry into the Cotton Textile Industry. A copy of the draft reply has since been sent to the Tariff Board on the distinct understanding that it represents the views of only nine members and that any fundamental differences which the other members may have would be forwarded after the meeting of the full Committee.

8. The Sub-Committee considered the letter received from the East India Cotton Association that the Indian Central Cotton Committee should request the Central Provinces Government and the Hyderabad State to afford the Association an opportunity of expressing its opinion on the question of the incidence of the market license fees before these authorities fixed their rates. The Sub-Committee decided that it should suffice if in future the Central Provinces Government and the Hyderabad State afforded to the Indian Central Cotton Committee an opportunity to express its opinion before the rules to increase the license fees were passed.

9. The Sub-Committee considered the amended notification issued by the Indore Darbar under their Cotton Transport Act by which the necessity of obtaining licenses was limited to importers of "Deshi Mewadi" cotton only instead of to importers of all cotton as originally notified. This amendment was given effect to in view of the representation of the local mills that they could not easily get their supplies of cotton as according to the practice in vogue there, farmers from outside the State bring their cotton to the markets and the mills purchase their supplies at these markets. Owing to the necessity of having to obtain licenses farmers are seriously handicapped and take their *kapas* elsewhere. The Sub-Committee decided to consult Mr. Palikret to find out means to overcome the difficulties of the farmers and, if necessary, to hold a Conference with the Indore traders and millowners.

10. The question of communicating to non-official members of the Committee confidential information received in the Secretary's office from Government or Government Officers also engaged the attention of the Sub-Committee and it was decided that such information should be supplied, if asked for, to members of the Local Sub-Committee only.

11. On the information supplied by Messrs. Narandas Rajaram & Co. that Goghari seed had been sown this year in the Navsari tracts in British India and Baroda State, enquiry elicited the fact that in certain villages in Baroda State mixture in a pronounced manner had taken place and that in British territory too some villages had mixed their cotton. The Sub-Committee decided that strong representations should be made to the Governments concerned.

APPENDIX XII.

SUBJECT 15.—*Technological Research.*SUMMARY OF PROGRESS REPORT (No. 18) OF THE DIRECTOR,
TECHNOLOGICAL LABORATORY, MATUNGA.

INTRODUCTION.

The present report describes the work done at the Technological Laboratory during the seven months from 1st November 1931 to 31st May 1932. Owing to the fact that the 1931-32 cotton crop of India was late in several provinces, notably Central Provinces, Borar, and the Punjab, the arrival of samples for the spinning tests was delayed this year by four to five weeks. Nevertheless it will be seen from the figures given below that as compared with the corresponding period of last year there has been a further increase in the number of samples received for tests at the Laboratory resulting in the setting up of a new record. This increase is most marked in the case of agricultural samples of which 187 were received during the period under review as compared with 148 during the corresponding period of last year. The work done will be described in the following five sections of the report, a perusal of which will show that good progress has been made in all departments of the Laboratory :—

- I. Spinning Laboratory.
- II. Research Laboratory.
- III. Moisture Testing Section.
- IV. Publications.
- V. General.

I. SPINNING LABORATORY.

The following table gives the distribution of samples received for tests up to 31st May 1932, together with the figures for the corresponding period of last year for purposes of comparison :—

Table I.

	1st November 1931 to 31st May 1932.	1st November 1930 to 31st May 1931.
Agricultural Departments	187	148
Standard cottons	18	21
Trade samples	23	52
Fibre Test samples	20	17
Yarn Test samples	24	55
Special Test samples	20	
Total ..	301	293

It will be seen from the above table that during the period under review 301 samples were received as against 293 in the corresponding period of last year. The decrease in the number of trade samples is due to the lateness of the 1931-32 cotton crop to which a reference has been made above.

The number and distribution of samples, lots and counts actually spun during the period under review together with the corresponding figures of last year are given in Table II.

Agricultural samples.—Most of the tests on the agricultural samples were of the routine type, but three series of tests being of special importance are mentioned below.

Banilla Cottons.—It will be remembered that last year 22 samples of Banilla cotton grown in the districts were received and tested at the Technological Laboratory. The object of these tests was to ascertain whether this cotton, when grown on a large scale in the fields, has undergone any deterioration in the last few years during which its cultivation has been extended. It was proposed to publish the results of those tests in a Technological Bulletin, but owing to the important nature of this investigation it was decided that tests on Banilla cotton should be repeated in the following season, and the results for both seasons should be published together. Accordingly samples of Banilla cotton of the 1931-32 crop have been received and are being tested. When their results are available it is proposed to publish the results of tests on two seasons' samples in a Technological Bulletin.

4F Cotton.—As is well-known this cotton forms an important constituent of the Punjab-American crop. This year six samples of 4F cotton were received from the Cotton Research Botanist, Lyallpur, who had grown them under conditions which were similar in all respects except that the watering treatment was different in each case. These samples were subjected to a very thorough examination with the object of finding out whether, and to what extent frequency and intensity of irrigation affects the fibre-properties and the spinning performance of 4F in general and maturity of its fibres in particular. A technological report on these samples has been forwarded to the Cotton Research Botanist, Lyallpur, which contains several interesting conclusions. It is found, for instance, that reduced rate of watering affects the fibre-length and the maturity of the 4F hairs in an adverse manner, but that these defects can be remedied if the cotton is given, even late in the season, a few additional waterings. It is hoped that further work on these lines may throw some light on the vexed problem of periodic failure of the Punjab-American crop, if this phenomenon is in any way connected with intensity of irrigation.

Green stained cotton from Sind.—In the beginning of the current season the Chief Agricultural Officer in Sind informed the writer that the Sind-American cotton grown on the Jamrao canal areas has developed a new and unsatisfactory feature, viz., green stain, which has greatly contributed to a depreciation in its price. It was accordingly arranged that the Chief Agricultural Officer should supply to the Technological Laboratory samples of *kapas* and lint of the green stained cotton together with a control sample for the purposes of tests, the object of which would be to find out in the first place, whether the green stain persists in the yarn after a normal treatment and secondly, the factors which are responsible for the appearance of the stain. Accordingly samples of lint and *kapas* of green stained Sind-American cotton were received and subjected to a thorough examination. The results of these tests showed that when yarns manufactured from the stained cotton are bleached, according to the ordinary bleaching operations adopted by the mills, the green tint disappears so completely that these yarns are indistinguishable from those prepared from the control sample. The fibre-tests showed that there was no appreciable difference between the mean fibre-length, the mean fibre-weight per inch or the maturity index of the stained and the unstained samples, while the yarn tests showed that both samples gave equally strong yarns. The ginning experiments showed that more stain came off in the lint if the *kapas* was damped before ginning than when it was ginned dry. It is to be concluded, therefore, that the presence of the green stain has not so far affected either the fibre-properties or the spinning performance of this cotton, and that after a normal bleaching treatment, not a trace of the green stain remains in its yarns. Consequently, a depreciation in its price is more due to an imaginary fear than to any serious defect in the cotton itself.

Trade Tests.—In accordance with the arrangements made with the East India Cotton Association, the Bombay Millowners' Association and the Ahmedabad Millowners' Association, the Technological Laboratory continued to receive samples of commercial cottons for spinning tests. The number of such samples received up to 31st May 1932 is 18. The results of tests on these samples have been published as in the past in the form of 2 page circulars which are circulated freely among the trade. Every effort is made to place these results in the hands of the trade in the minimum possible time, so that they may be of the greatest possible service. The following statement gives an account of the trade samples received up to 31st May 1932, together with their source and particulars of the Technological Circulars in which their spinning test results were reported upon.

A. Samples supplied by the East India Cotton Association.

Cotton.	Technological Circular No.	Date of issue.
Central Provinces No. 1	72	18th May 1932.
Muttia (Botad)		
Berar (Murtizapur)		
Lattur		
Nanded	73	21st May 1932.

B. Samples supplied by the Millowners' Associations of Bombay and Ahmedabad.

Cotton.	Technological Circular No.	Date of issue.
Dhulia (Khandesh)	60	23rd December 1931.
Ujjain (2 samples)	63	6th February 1932.
Khandesh (3 samples)	64	6th February 1932.
Broach (Salar)	69	5th May 1932.
Bailhongal		
Hubli-Kumpta		
Jagadia		
Kadi	70	6th May 1932.
Hubli-Kumpta	71	14th May 1932.
Hubli-Upland		

In addition to these trade samples one sample each were received from two mills which necessitated special investigation. One sample, though of fairly good quality, suffered very badly from stringiness, which was most probably due to defective ginning. On being subjected to a thorough test in the Spinning Laboratory it was found that by a suitable change in the settings of some of the processing machines its waste losses could be reduced and a slight gain in yarn strength achieved. The second sample was of Punjab-American cotton and suffered seriously from neppiness. This was also tested thoroughly and it was found that in this particular case neppiness was inherent in the cotton itself and that such changes in settings as are ordinarily recommended for dealing with neppy cottons were ineffectual. These two tests are of special importance as they show that the confidence of the industry in the advice and judgment of the Laboratory is steadily growing. The Laboratory has a qualified staff both for the scientific examination of the cotton fibre and the exact estimation of its spinning value, and, compatible with their other duties, they are always willing to help the industry in any manner they can. It is therefore a matter of gratification to see that the industry has begun to refer their difficulties to the Laboratory. It may not be always possible for the writer to solve these difficulties but even the attempt at their solution is a matter of scientific importance and whenever some tangible results can be obtained, they should be of the utmost value to the industry.

African Cottons.—It was mentioned in my last Progress Report that the East India Cotton Association approached the Technological Laboratory with the request that fibre

tests may be carried out on samples of fair average quality of A. R. Kampala, A. R. Busoga and A. R. Jinja in order to help the Association in fixing suitable standards for these cottons. Up to 31st May 1932, 27 samples of these cottons were received, tested and reported upon.

A summary of the results for the 1930-31 samples was placed before a meeting of the Special Appeal Committee of the East India Cotton Association appointed to deal with this question, which recorded its sense of appreciation for the assistance given by the Laboratory.

It was decided at the meeting referred to above that in view of the necessity of having correct standards for these cottons which are imported into India in large quantities, it is desirable to continue these tests for another season. Accordingly samples of fair average quality of A. R. Kampala, A. R. Busoga and A. R. Jinja of the current season are being received and tested at the Laboratory.

High Draft Spinning.—The second series of tests relating to the application of high draft spinning to mixings of Indian cottons using the ordinary system and three high draft systems were completed some time ago. The results of these tests have now been published in the form of a Technological Bulletin, Series A, No. 19.

Adulteration of long staple cottons.—It was reported at the last meeting of the Technological Research Sub-Committee that tests have been made from time to time on mixings of long staple and short staple Indian cottons in order to ascertain the decline in the spinning performance of the former as a result of their adulteration with the latter. For the purposes of these tests mixings made from 4F + Mollisoni, 289F + Mollisoni, 289F + 4F and Karunganni + Pulichai were used. The Technological Research Sub-Committee decided that the results of these tests should be published in the form of a Technological Bulletin for the benefit of the trade. This has been done in Technological Bulletin, Series A, No. 20, which contains the results of these tests.

Combing of good quality Indian cottons.—My last Progress Report No. 17 contained the details of the proposed work on the combing of good quality Indian cottons which was approved by the Committee at its meeting held on the 13th and 14th July 1931. This work has now been completed on 3 Indian cottons, viz., Punjab-American 289F, Cambodia Co. 1 and 1027 A.L.F., which were combed to the extent of 20 per cent. and 30 per cent. (excepting 1027 A.L.F. for which these percentages were 20 and 26). Yarns were spun both from the carded and the combed slivers on the ordinary system as well on a four roller high draft system. The results of these tests show that using the ordinary system it is possible to obtain very good 60's yarn from 289F, good 50's from Co. 1 and good 44's from 1027 A.L.F. when these cottons are combed to the extent of 20 per cent. and good 70's from 289F, fairly good 60's from Co. 1 and fairly good 50's from 1027 A.L.F. yarns when they are combed to the extent of 30 per cent. (26 per cent. in the case of 1027 A.L.F.). When the high draft system of spinning is used yarns of better quality are obtained, as may be expected. It was further found that the comber waste, when mixed with a suitable cotton, could be utilised for spinning 14/16's warp of fair quality. A number of fibre tests on carded and combed slivers and comber waste have also been made in connection with these tests and the results will be published in the form of a Technological Bulletin.

Tests on mode of ginning in relation to yarn neppiness.—It was mentioned in my last Progress Report that in order to supplement the important work on the relationship between the maturity of cotton hairs and neppiness of yarns spun from a cotton, it was proposed to make spinning tests on roller-ginned and saw-ginned cottons. With the sanction of the Committee one roller gin and saw gin were acquired for the purposes of these tests. These have now been erected and are in good working order. The cottons selected for these tests are as follows:—

List of kapas received for special tests:

- | | |
|--------------------|------------------------|
| 1. Gadag I. | 5. P. A. 289F. |
| 2. Jayawant. | 6. Sind-American 285F. |
| 3. Banilla. | 7. Surat 1027 A.L.F. |
| 4. Verum (Nagpur). | 8. Cambodia Co. 2. |

Sufficient quantities of kapas of these cottons of 1931-32 season have been obtained from the Government Agricultural farms and the tests on the relationship between the mode of ginning and yarn neppiness will now be taken in hand as soon as possible.

Standard cottons.—Owing to the lateness of the cotton crop the Standard cottons of this season were received somewhat later than usual. Up to the 31st May, however, all the Standard Cottons except one had been received and are being subjected to the usual tests. The results of these tests will be published as in the past in "Technological Reports on Standard Indian Cottons, 1932" as soon as they are available. It should be mentioned in this connection that, owing to the fact that Dharwar 1 and Cambodia Co. 1 have now been displaced by the improved varieties Jayawant and Cambodia Co. 2 respectively, these cottons have been deleted from the list of all standard cottons and tests on them will not be made in this and the ensuing seasons.

Work on Carding Problems.—It was mentioned by me in my last Progress Report No. 17 that in accordance with the programme of research sanctioned by the Committee, an exhaustive investigation of the carding problems was taken in hand last year. Details of the lines on which this investigation is to be carried out have already been given in the report referred to above. This work has already yielded some very interesting results, but it is felt that the most suitable time for considering them will be when all the results are available, so that the inter-action of the various factors can be discussed simultaneously. The work is in progress.

II. Research Laboratory.

Fibre Testing Section.—Members of the staff deputed to this section have been kept fully occupied in the determination of fibre-properties of the agricultural and other samples received for tests at the Laboratory. In addition to these, numerous tests have been made on card slivers, flat strips, and fly in connection with the work on carding problems and on combed sliver and comb waste in connection with the work on combing of good quality Indian cottons.

Mr. Hari Rao has continued to supervise this section and has in addition been engaged in his research on the effect of twist on the strength and extension of single cotton-hairs. This work is in progress. Mr. Hari Rao has also, in collaboration with Mr. C. Nanjundayya, carried out an investigation on the changes in the weight of loose cotton fibres under different conditions of humidity.

This was made possible by the small new humidifier which was installed in the Laboratory last year and by means of which it was feasible to attain any desired degree of humidity in the experimental room. Accordingly eight standard cottons representing different types were selected for this investigation and the variation in the weight of their fibres was studied at different humidities from 30 per cent. R.H. to 85 per cent. R.H. The results of this investigation are now being analysed and will be published in the form of a Technological Bulletin, when ready.

Physics Section.—In collaboration with Mr. R. P. Richardson, Mr. D. F. Kapadia is carrying on the investigation on the effect on the quality of yarn of different settings of the carding engine to which a reference has been made above.

Mr. R. S. Koshal completed his investigation on the variation of fibre-length, fibre weight and fibre-strength of cotton hairs growing on different regions of the seed. The results of this investigation have been written up in the Technological Bulletin, Series B, No. 14, which has been sent to the Journal of the Textile Institute for publication.

Mr. Srinagabhushan has also completed his investigation on the variation in fibre-rigidity, number of convolutions and ribbon-width of cotton hairs growing on different parts of the seed. Owing to the fact that Mr. Srinagabhushan had to leave the Technological Laboratory to take up his new appointment as Technological Assistant at Surat, he has not yet been able to write up an account of his work. As soon as this account is written up it will also be published in the form of a Technological Bulletin.

Chemistry Section.—The work in connection with the determination of moisture content of samples drawn from fully pressed bales of cotton had claimed part of the time of Mr. D. L. Sen, the Chemist. A report on this work is given below under the heading "Moisture Testing Section". In addition to this Mr. Sen has carried out the chemical analysis of the two halves of the seed, which was made with the object of throwing light on the results of Mr. Sen's previous experiments in which he found that the wax content of the apical fibres was higher than that of the basal fibres, while their ash content was less. It was thought that this may be due to the apical part of the seed containing more wax and less mineral matter than the basal part. The results of the chemical

analysis of the seeds, however, have made the interpretation of the previous results more difficult as it is found that the apical half of the seed contains less wax and oil and more mineral matter than the basal half. More work in this connection with this problem is necessary before the results of the two series of experiments can be properly understood and mutually reconciled.

It was mentioned in my Progress Report, No. 17, that the work on the spontaneous combustion of cotton would be renewed under a modified scheme. For this new series of experiments a number of small model bales of approximately the same density as the commercial bales were prepared, in some of which the lint was impregnated with water and unsaturated vegetable oils. The presence of water would cause the fermentation of cotton resulting in the liberation of inflammable gases, as had been definitely proved by the previous experiments. The unsaturated oil, on oxidation, would evolve heat and the consequent rise in temperature may be sufficiently high to ignite these gases. It would, therefore, be seen that extremely favourable conditions for spontaneous combustion of cotton were artificially provided in these sample bales. These bales were placed under the direct action of sunlight during the day and a daily record of the maximum temperature was maintained. These bales have now been kept in the open for nearly five months but have so far yielded negative results in as much as none of them has shown any sign of spontaneous ignition.

Mr. C. Nanjundayya.—As mentioned above, Mr. Nanjundayya in collaboration with Mr. Hari Rao, devoted part of the interval under review to a study of the variation in the fibre-weight of loose cotton fibre under different conditions of humidity. He has also tested 3 more cottons in connection with his investigation of the variation in fibre-strength with length grade of the cotton fibre, but further work on this problem has been suspended for the time being in favour of another which is at present engaging the attention of Mr. Nanjundayya and the writer. This refers to a new apparatus which has been designed with the object of determining fibre-length and fibre-weight, and is at present under trial. This investigation is as yet in its initial stages, but it has given very encouraging results. The work is in progress.

Microscopy Section.—Mr. Gulati has completed the redetermination, by the improved method, of the percentage of mature hairs in 31 cottons selected in connection with the problem of relationship of fibre-maturity with yarn neppiness. This problem has given rise to another, viz., the exact determination of the number of neps in a yarn. The present method of counting the number of neps in a yarn by visual inspection is subject to personal error. As the object of the investigation is to ascertain how far the two quantities are correlated it is necessary that yarn-neppiness should be known with at least as much accuracy as the results of the maturity tests. In order to reduce the personal error to a minimum an apparatus has been designed for the objective measurement of the number of neps in a yarn. While this apparatus is in the course of construction Mr. Gulati is engaged in writing up an account of his work on the maturity of cotton hairs. Mr. Gulati has also carried out a large number of maturity tests on such cottons as Sind-American, Punjab-American, 4-F, etc., which were examined in great detail and which have been referred to above.

III. Moisture Testing Section.

The work done in this section during the period under review resolved itself in the determination of the moisture content of samples drawn from commercial bales as they are ordinarily received for trade purposes in Bombay. The necessity for this work arose owing to the consideration that the previous determinations of moisture content were made on samples drawn from bales which were specially prepared for these tests. While these experiments were absolutely necessary in order to obtain an exact idea of the minimum quantity of water present at different times of the season in bales of different descriptions, it was important to strengthen and supplement them by making tests on ordinary commercial bales. Hitherto 95 samples have been tested in connection with the second series of experiments and their results will be communicated in due course to the East India Cotton Association.

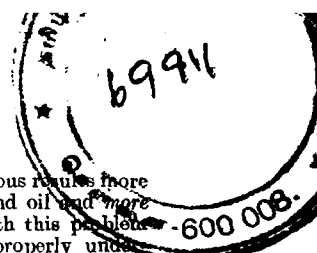
IV. PUBLICATIONS.

The following is the list of the Technological Bulletins and Circulars issued during the period under review :—

- (1) Technological Series A, No. 19—"Application of Different Systems of High Draft Spinning to Mixings of Indian Cottons."
- (2) Technological Series A, No. 20—"Spinning Tests on Mixings of Long Staple and Short Staple Indian Cottons."

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(3) Technological Series B, No. 14—"Variation in the Properties of Cotton Fibre in relation to its position on the surface of the seed" (Sent up for publication).

Technological Circulars.

Cotton.	Technological Circular.	Date of issue.
Dhulia (Khandesh)	60	December 1931
Umri Bani	61	January 1932
Verum 262 (Akola)	62	January 1932
Ujjain Cottons	63	February 1932
Khandesh Cottons	64	February 1932
Verum 262 (Nagpur)	65	February 1932
Punjab-American 289F	66	February 1932
Punjab-American 4F	67	February 1932
Jayawant (Kumpta)	68	April 1932
Broach (Salar), Bailhongal and Hubli-Kumpta	69	May 1932
Jagadia and Kadi	70	May 1932
Hubli-Kumpta and Hubli-Upland	71	May 1932
C.P. No. 1, Muttia and Berar	72	May 1932
Latur and Nanded	73	May 1932

V. General.

Mr. R. P. Richardson, Spinning Master, proceeded on short leave, sanctioned by the Standing Finance Sub-Committee, from 4th March 1932 to 29th April 1932. During his absence on leave Mr. D. F. Kapadia officiated as Spinning Master.

On account of the transfer of Mr. Srinagabhushana to his new post at Surat, and the absence of Mr. R. S. Koshal on study leave out of India, Mr. Ram Narayan Mathur, M.Sc., was appointed, with effect from 29th March 1932, a temporary Junior Research Assistant for a period of one year in the first instance. The post had been sanctioned by the Committee at its meeting held on 15th December 1931.

Acknowledgments.

My thanks are due to the members of the staff of the Technological Laboratory for their co-operation and help which made possible the work described in this report.

Director,
Technological Laboratory.

Dated, 15th June 1932.

APPENDIX XIII.

SUBJECT 16.—*Technological Research—Report of the Technological Research Sub-Committee.*

The Progress Report of the Director, Technological Laboratory, for seven months from 1st November 1931 to 31st May 1932 was considered and approved by the Sub-Committee. During the period under review the total number of samples received went up to 301 against 293 received during the corresponding period last year and 189 of them were from the Agricultural Departments. There was, however, a small decrease in the number of samples and the counts actually spun though the number of lots spun was greater than the number in the corresponding period of last year. The tests on Banilla cotton grown on cultivators' fields are being continued for finding out if there is any change in the spinning quality of this cotton. The Sub-Committee considers that the tests on samples of 4-F cotton grown under similar conditions but with different intervals of irrigations are promising and that they should be extended to other cottons. The Sub-Committee is also pleased that in regard to the complaints received from Sind

about the green stains on cotton, the tests at the Technological Laboratory have shown that there is no reduction in the spinning value of the cotton on this account.

The combing experiments on 289-F, Co. 1 and 1027 A. L. F. have been completed and the results show that when 289-F and Co. 1 were combed to the extent of 30 per cent. they could spin up to 70s and 60s respectively on the ordinary system and even higher on a high draft system. Similarly 1027 A. L. F. when combed 26 per cent. could spin up to 50s on ordinary system. The combing wastes when mixed with suitable cottons were good enough for 14/16s warp of fair quality.

2. The Sub-Committee considered the note prepared by the Director, Technological Laboratory, on deterioration of stored cotton and decided that the Director, Technological Laboratory, should be requested to make arrangements to start the work at an early date at Karachi.

3. The Sub-Committee decided that the defective ginning of Sind-American cotton should be brought to the notice of the Sind Cotton Committee.

4. The Sub-Committee confirmed its previous decision that tests on samples submitted by the trade should be limited to such as were of general interest to the cotton trade and the mill industry, and should be done free of cost. Other trade samples might be accepted for tests only if such tests could be done without detriment to the normal activities of the Laboratory, subject to the levy of the following scales of fees:—

	Rs.
For a full test per sample	50
For a fibre and blow-room test per sample	25
For a fibre or yarn test per sample	15

5. The Sub-Committee recommends that an honorarium of Rs. 200 be paid to Mr. Kapadia for discharging the duties of Spinning Master during the absence of Mr. Richardson on leave.

6. The Sub-Committee considered the scheme put up by the Director for giving training to outsiders in Cotton Technology and decided that it should be given a trial with only two students to begin with, preference in selection being on the basis of merit and usefulness to industry. A fee of Rs. 50 was to be charged for the whole course which will normally take six months. It was not necessary to have any additional staff for this purpose.

7. The letter received from the Bombay Millowners' Association to the effect that the proposal to establish a Testing House for Textiles in Bombay has been given up for the present was recorded.

8. The Sub-Committee considered the report on the second series of tests for moisture content on the samples drawn from 82 bales of Indian cotton of different varieties as well as from 9 bales of American cotton and 4 bales of African cotton, as ordinarily received and stored in Bombay. The tests indicate that the average moisture content for most Indian cottons is about 7 per cent. and for American and African cottons slightly higher. It was decided that the report should be sent to the East India Cotton Association and that the experiments might, if found necessary, be continued to supplement the information already collected.

9. The Sub-Committee agreed to the creation of a post of Personal Assistant to the Director for a period of six months, in the first instance, and to its being offered to a member of the staff on the distinct understanding that this temporary appointment does not imply that the post of Assistant Director has been abolished. The post of Personal Assistant would carry a duty allowance of Rs. 50 per mensem only.

10. The Sub-Committee also decided that information not ordinarily published for general information might, at the discretion of the Director, be supplied, marked "confidential", to those who specially asked for it.

APPENDIX XIV.

SUBJECT 17.—*Report of the Standing Finance Sub-Committee.*

- Balance Sheet as at March 31st, 1932.
- Final Accounts—1931-32.
- Revised Estimates—1932-33.
- Budget for 1933-34 (Government Servants).

Five meetings of the Sub-Committee were held since the last meeting of the Indian Central Cotton Committee. Sir Joseph Kay and Mr. Vonesch went on leave during the

period under report. The Sub-Committee decided not to fill the vacancy caused by the temporary absence of Sir Joseph Kay but appointed Seth Naranlal Jivanlal during the absence of Mr. Vonesch. Mr. D. McCallum resigned his membership on the Committee and the question of filling his vacancy will be taken up when his successor is appointed. At three of the meetings of the Sub-Committee Dewan Bahadur Sir T. Vijayaraghavacharya was elected Chairman as required by Rule 5 of the Rules under section 16 of the Indian Cotton Cess Act.

2. The Sub-Committee considered the orders of the Government of India that in view of the Committee's grants being treated as receipts of the Provincial Governments and budgeted for as ordinary expenditure of the Departments of Agriculture, the Committee's servants working under the Provincial Governments would not be eligible for admission to the Committee's Provident Fund. The Sub-Committee found no justification for the exclusion of some of its servants from the benefits of the Provident Fund just because they happened to be placed under the administrative control of the Provincial Governments and therefore decided that the Government of India might be requested to alter the Act and the Rules of the Provident Fund to admit them to the Fund.

3. The Committee's servants were hitherto admitted to the Provident Fund only when they were appointed at the commencement of a scheme which was sanctioned for not less than five years, but they were excluded from it if at the time of appointment it was thought that they were not likely to remain in the Committee's service for a minimum period of five years though they might actually continue to serve for a much longer period without a break. To redress this disability the Sub-Committee decided to admit to the Provident Fund every one of the Committee's servants who might wish to join it on the condition that he would be entitled to the Committee's contribution only if he completed five years' service.

4. As per powers delegated by the Committee at its last meeting the Sub-Committee appointed the following members on the Joint Sub-Committee of the Indian Central Cotton Committee and the Imperial Council of Agricultural Research to work out details of investigation into the costs of cultivation of cotton, sugarcane and their rotation crops :—

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Rao Bahadur Bhimbhai R. Naik,
Mr. Vonesch,

A representative of the East India Cotton Association (Mr. Haridas Madhawdas since elected by the East India Cotton Association), and

The Secretary.

Owing to the temporary absence on leave of Sir Joseph Kay and Mr. Vonesch their places were filled by Mr. Chunilal B. Mehta and Mr. F. K. Jackson respectively.

5. The full Committee at its meeting in December 1931 accepted the recommendation of this Sub-Committee that the scale of pay of the Cotton Research Botanist, Punjab, should be fixed at Rs. 1,100—50—1,300 with an overseas allowance of £30. The Government of India felt that the scale of pay recommended was too high and suggested that it might be fixed at Rs. 800—40—1,000 with an overseas allowance of £25—30. The Sub-Committee considered that the pay suggested by the Government of India was too low to attract a first rate Botanist and decided to request the Government to agree to the scale recommended by the Committee. The Government of India have since sanctioned the appointment and fixed the scale on Rs. 1,000—50—1,200 with overseas allowance of £30. The post has already been advertised both in England and in India along with the post of the Botanist for the Co-ordination of Cotton Research in the Bombay Presidency.

6. The Sub-Committee decided that, in consideration of the expected fall of about Rs. 1,00,000 in cess returns due to poor crop of cotton and also to the low market value of the securities, the limit of the Committee's overdraft should be raised from Rs. 50,000 to Rs. 1,00,000. This necessitated an amendment of the Indian Cotton Cess Rules which the Government of India sanctioned.

7. It will be remembered that the subject of Publicity and Propaganda was considered at great length by the full Committee at its last meeting when it was decided that a Publicity Officer should be appointed to give wide publicity to the Committee's work. The Sub-Committee accordingly appointed a Selection Sub-Committee consisting of the President, the Vice-President, and Mr. Saklatvala to go into the applications and select a suitable candidate. The Selection Sub-Committee with Mr. Vonesch as an additional member selected Mr. R. D. Mihra for the appointment. Mr. Mihra joined duty on 1st June 1932.

8. The full Committee at its last meeting accepted in principle the scheme submitted by the Director of Agriculture, Baroda, for carrying on comparative tests between 1027 A. L. F. and I-A cottons at Baroda and as the amount of money asked for was considered inadequate the Director of Agriculture was requested to submit a revised scheme to this Sub-Committee which was authorised to examine the scheme and sanction the amount required. The Sub-Committee accordingly examined the scheme at two of its meetings and sanctioned it for one year at a total cost of Rs. 4,280.

9. The Sub-Committee decided to extend the probation of Mr. P. H. Rama Reddi, Deputy Secretary, by further six months. The Sub-Committee also decided that he should be given the entire responsibility of the work of the meeting of the Agricultural Research Sub-Committee held on the 30th July 1932.

10. The Sub-Committee had under consideration at two of its meetings a complaint that one of the Committee's servants in one province had been replaced by a Government officer who would have been retrenched under the scheme of retrenchment. The information called for from the Director of Agriculture concerned confirmed the allegation and the Sub-Committee decided that the letter to the Director of Agriculture, without mentioning the name of the province, should be circulated to the heads of all Agricultural Departments so that they might avoid similar injustice to the Committee's servants.

11. The Sub-Committee accepted the resignation of Mr. Saklatvala on the Advisory Board of the Imperial Council of Agricultural Research and appointed in his place Rao Bahadur Bhimbhai Ranchodji Naik.

12. At the request of the Indian Lac Cess Committee the Sub-Committee decided to allow Dr. Nazir Ahmad to serve for a period of one year on the Advisory Board of the Lac Cess Committee provided his work at the Laboratory would not suffer and his travelling allowance was paid by the Lac Cess Committee.

13. The subject of the Committee's Provident Fund Rules was discussed by the Sub-Committee in two of its meetings. No provision has been made in the present rules for reserve fund to cover any depreciation that might occur in the value of securities and the people who are likely to suffer the most from depreciation of securities are those who are in the Committee's service at the time of winding up the Provident Fund though it is possible that they might also gain in case of appreciation of the securities. The Sub-Committee after consultation with the Committee's Solicitors decided to revise the Provident Fund Rules so as to incorporate in them provision for establishing reserve fund out of forfeitures and also for annual valuation of the Provident Fund securities for the purpose of making payments to contributors leaving the Committee's service.

14. Under the existing Provident Fund Rules it is obligatory on the part of all the Committee's servants who have been appointed for not less than five years and who draw more than Rs. 30 per month to contribute to the Provident Fund, but no provision was made in favour of menials. The Sub-Committee decided that the menials drawing less than Rs. 30 a month should be given the option to join the Provident Fund.

15. The Special Sub-Committee which was appointed at the last December meeting of the Committee to go into details with the United Provinces Government regarding the extension of the scheme to deal with Pink Boll-worm in the Aligarh District, submitted a report which, together with a letter from the United Provinces Government, was considered by the Sub-Committee. The Sub-Committee was, however, not satisfied with the United Provinces Government's reply and authorised the President to ascertain the definite views of the Government. These have now been received and the whole subject appears as a separate item on the agenda of the Committee.

16. The Sub-Committee considered a letter received from the Chief Agricultural Officer, Sind, stating that the Accountant General, Bombay, had informed him that, since the Committee's servants working under the Bombay Agricultural Department were to be treated from the 1st April 1932 as "new entrants" into the Government service under paragraph 3 of Government Resolution No. 5804, dated 1st December 1931, they were subjected to a reduction of 2 annas in a rupee in their pay in addition to the 10 per cent. emergency cut and that they should cease contributing to the Committee's Provident Fund. The Sub-Committee decided that a strong representation should be made to the Bombay Government to exempt the Committee's servants from the reduction of 2 annas in a rupee. The question of amending the Provident Fund Rules so as to permit temporary Government servants to join the Fund is already under consideration of the Government of India.

17. The Sub-Committee sanctioned leave for six months to Mr. J. H. Ritchie, Secretary, and appointed Mr. P. H. Rama Reddi, Deputy Secretary, to officiate in his place.

18. A Balance Sheet of the Committee's accounts as at March 31st, 1932, is submitted. This shows the income and expenditure under the budget heads from the beginning of the cotton cess, i.e., for nine years, and has been prepared from the audited accounts. A Balance Sheet of the Provident Fund is also submitted.

19. A statement of accounts for the year 1931-32 as audited by the Committee's auditors is submitted. A detailed statement of the Final Accounts is also attached. It will be seen that cotton cess receipts amounted to Rs. 5,65,792-13-1 against a revised estimate of Rs. 6,00,000. Interest on investment came to Rs. 1,64,802-9-6 against Rs. 1,63,000 estimated. The increase of nearly Rs. 5,000 in other receipts is due to the sale of miscellaneous articles and cotton bags received from the United Provinces and to forfeitures of the Provident Fund. Expenditure amounted to Rs. 7,90,873-7-0 against the revised estimate of Rs. 11,00,650-12-0. There were savings under almost every head and they are available for future use if required except under Administration, Technological Laboratory—Working and Research Studentships. The excess expenditure of Rs. 2,336 under "Printing and Propaganda" is due to heavy printing charges incurred as a result of the Committee's scheme of publicity. The excess expenditure can be met from savings under "Administration" and will require the Government of India's sanction. The closing balance on 31st March 1932 was Rs. 30,72,688-1-8 against Rs. 31,33,756-3-8 last year so that the Committee had to spend only Rs. 61,068-2-0 from the reserve.

A statement of the Provident Fund account for 1931-32 is also attached.

20. The Revised Estimates for the current year with actual opening balance are attached and they are subject to alterations recommended by the Agricultural Research Sub-Committee and approved by the Indian Central Cotton Committee. The estimate of cess receipts has been reduced to Rs. 5,00,000 from Rs. 6,00,000 due to trade depression and uncertainty of cotton exports. Interest also has been reduced by Rs. 11,000 as only a part of the sale proceeds of our Sterling Loan which has been disposed of has been reinvested in Rupee loan, the rest being required for the repayment of overdraft and current expenses till the end of December. No alterations have been made on the side of expenditure except increasing the grant under the major head XIV (b)—Baroda—to Rs. 4,250 which was sanctioned by the Sub-Committee at its 113th meeting.

21. As required by the Cotton Cess Rules the budget for 1933-34 for the pay of Government officers and other permanent Government servants employed by the Committee is put up for formal sanction.

22. The Sub-Committee also dealt with the Government accounts for 1931-32 for the fumigation of American cotton and its recommendations are dealt with under a separate subject.

23. Arising out of the ruling of the Government of India that grants made by the Committee should be treated as provincial revenues and the consequent alteration of the status of the employees of the Committee in provincial schemes to that of temporary Government servants, the Sub-Committee considered a reference from the Government of India enquiring (1) whether such temporary Government servants would be permitted to subscribe to the contributory Provident Funds of Local Governments where such existed instead of to the Committee's Provident Fund, and (2) in the event of temporary Government servants employed in the Committee's schemes being made permanent before completing five years' service how the Committee's contributions to their accounts would be treated. The Sub-Committee decided (1) to permit temporary Government servants to subscribe to the contributory Provident Funds of Local Governments and also (2) to give them the benefit of the Committee's contributions should they be made permanent before completion of five years in the Committee's service.

24. The Sub-Committee also considered a resolution moved by Rao Bahadur M. G. Deshpande that the cotton cess should be reduced from annas 2 to anna 1 on a 400 lb. bale of cotton. The Sub-Committee was of opinion that any benefit which the grower might derive from the reduction in the cess was quite incommensurate with the loss the Committee would suffer by the limitation of its research and seed distribution schemes and in view of this opinion Rao Bahadur Deshpande withdrew his resolution with the permission of the Chairman.

BALANCE SHEET AS AT 31st MARCH 1932.

Balance Sheet as at 31st March 1932.

[illegible]

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Profit on conversion of 6 per cent. Tax free Bonds into 5 per cent. Taxable loan ..	5,000 0 0	(b) (i) Surat Bollworm ..	1,14,509 9 7
Sinking Fund Account ..	2,675 9 0	(ii) Surat Bollworm Propaganda ..	29,000 12 0
Miscellaneous Receipts ..	14,712 15 5	(c) Dharwar Wilt ..	1,79,931 5 7
Refund from Provident Fund account for contributions disallowed to subscribers resigned.	3,046 9 5	(d) Khandesh ..	26,384 6 0
Suspense receipts ..	9 3 0	(e) Co-ordination of cotton research ..	314 4 0
		V. <i>Madras</i> :—	
		(a) Herbeucam ..	85,516 4 5
		(b) Pempheres and Physiological ..	15,209 10 10
		(c) Fodder Cholam..	3,019 10 0
		VI. <i>Punjab</i> :—	
		(a) Botanical ..	3,52,494 6 5
		(b) Entomological ..	95,772 14 1
		(c) White Fly ..	8,728 10 0
		VII. Central Provinces ..	2,44,194 12 1
		VIII. United Provinces ..	1,33,080 9 3
		IX. Institute of Plant Industry, Indore ..	10,29,676 12 0
		X. Sind ..	1,09,044 7 1
		XI. <i>Burma</i> :—	
		(a) Capital ..	2,906 15 5
		(b) Cotton Improvement ..	4,074 12 0
		XII. <i>Hyderabad</i> :—	
		(1) Botanical ..	66,625 10 2
		(2) Cotton Survey ..	3,591 11 0
		XIII. Bikaner ..	19,881 0 0
		XIV. Baroda—Root Rot ..	3,212 0 0
		XV. Loans recoverable (but considered doubtful). Suspense account ..	27,52,228 3 8
		By Balance ..	12,805 0 0
			63 11 2
			30,59,819 6 6
Grand Total ..	90,52,360 13 9	Grand Total ..	90,52,360 13 9

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Provident Fund Account.

STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED
31st MARCH 1932.

Statement of Receipts and Payments for the year ended 31st March 1932.

Receipts.

	Rs.	a.	p.
*Opening Balance	31,33,756	3	8
Receipts under Section 12 of the Indian Cotton Cess Act, 1923	5,65,792	13	1
†Other Receipts	8,409	14	5
Interest on Investments	1,64,602	9	6

	Rs.	a.	p.
Payments.			
Administration of the Committee (including Improvement of Cotton Marketing, Seed Distribution and Extension and Printing and Propaganda) ..	2,71,409	5	9
Agricultural Research Grants-in-Aid	3,75,333	9	3
Technological Research	1,53,130	8	0
Closing Balance (Government Paper at Cost).			

Face Value.

3½ per cent. Government Promissory Notes ..	7,56,300	5,39,864	6	5
5 per cent. Ten Year Bonds 1935 ..	2,75,000	2,40,032	13	0
5 per cent. Indian War Loan 1929-47 ..	7,88,000	7,65,220	12	10
4½ per cent. Govt. of India Loan 1955-60 ..	26,600	25,004	0	0
5 per cent. Govt. of India Loan 1939-44 ..	3,09,000	2,96,679	13	6
6 per cent. Govt. of India Loan 1933-36 ..	1,16,900	1,16,930	0	0
†6 per cent. Bombay Municipal Debentures 1954 ..	50,000	56,500	0	0
6 per cent. Rangoon Municipal Coupon Debentures 1955 ..	3,83,500	4,15,328	2	0

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6 per cent. Karachi Port Trust Coupon Debentures 1956 ..	1,30,000	1,41,212	8	0
4½ per cent. India Sterling Stock 1950-55 Bearer ..	16,000	1,95,621	14	4
4½ per cent. India Sterling Stock 1958-68 Bearer ..	8,000	93,762	12	6
3½ per cent. India Sterling Loan 1931 Bearer ..	16,000	1,28,579	12	8
(Market Value on 31st March 1932 Rs. 27,99,712-10-0.)				
3 Months Govt. Treasury Bills ..	25,000	30,14,736	15	3
Call Deposit (with approved Banks). Imperial Bank of India, Ltd.—Current Account ..		24,656	4	0
Imprest.—Committee's Account as certified by the Secretary ..		13,000	0	0
Imprest.—Technological Laboratory as certified by the D. T. L. ..		4,922	3	3

Carried forward ..	38,72,561	8	8
Carried forward ..	2,004	30,57,315	6 6 7,99,873 7 0

* Includes Rs. 1,735-7-0 on account of Sinking Fund and Rs. 12,805 against Loans recoverable from Hubli and Gadag.

† Includes Rs. 940-2-0 against Provision for Sinking Fund for the year 1931-32 and Rs. 3,046-9-5 being Committee's Contributions disallowed to Subscribers.

‡ Deposited with the Imperial Bank of India, Ltd., for security against any overdraft that may be required by the Committee.

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Statement of Receipts and Payments for the year ended 31st March 1932—contd.

Receipts.

	Rs.	a.	p.
Brought forward ..	38,72,561	8	8

Payments.

	Rs.	a.	p.	Rs.	a.	p.	
Brought forward ..	2,004	30,57,315	6	6	7,99,873	7	0

Imprest.—Cotton Research Botanist's Office, Punjab, as certified by the Cotton Research Botanist, Punjab.

500

2,504 0 0

Suspense (Recoverable) Loans Recoverable (but considered doubtful) ..

63 11 2

12,805 0 0

*Total Closing Balance..

30,72,688 1 8

Total .. 38,72,561 8 8

Total .. 38,72,561 8 8

*This amount includes Rs.2,675-9-0 on account of Provision for Sinking Fund.

We have examined the above Statement of Receipts and Payments of the Indian Central Cotton Committee with the Books, Vouchers and Certified Returns of the Committee, have obtained all the information and explanations we have required, and certify that to the best of our information and explanations received the above Statement is a correct abstract of the figures appearing in the Books and is drawn up in conformity with the Rules under the Indian Cotton Cess Act, 1923.

Bombay, 6th April 1932.

(Signed) S. B. BILLIMORIA & Co.,
Auditors.

PROVIDENT FUND ACCOUNT AS ON 31st MARCH 1932.

Final Accounts, 1931-32.

RECEIPTS.

EXPENDITURE.

Savings (+),
Deficit (-).

Rs.	a.	p.
To Opening Balance as on 1st April 1931 ..	31,19,215	12 8
To Loans Recoverable Account ..	12,805	0 0
To Sinking Fund Account..	1,735	7 0

Rs.
31,33,756 3 8

Cotton Cess Receipts ..	5,65,792	13 1
Interest Account ..	1,64,802	9 6
Other Receipts ..	7,469	12 5
Sinking Fund provision for long dated gilt-edged securities ..	940	2 0

I. A. Administration ..	1,57,510	0 0	1,31,002	1 9	26,507	14 3
B. Improvement of Cotton Marketing ..	5,000	0 0	3,040	8 3	1,959	7 9
C. Seed Distribution and Extension Schemes—						
(1) Bombay—						

Rs.

(i) Hubli ..	8,560
(ii) Gadag ..	9,240
(iii) Gadag Supple- mentary ..	7,612
(iv) Haveri ..	6,238
(v) Athani ..	4,238
(vi) Bailhongal ..	4,285
(vii) Surat ..	7,000
(viii) Khandesh ..	62,068
(2) Madras ..	3,300
(3) Punjab— Lyallpur Ginnery ..	18,125
(4) Sind ..	31,000
(5) Hyderabad State ..	5,000
(6) Central Provinces and Berar ..	34,518

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II. Technological Research—

(1) Technological Laboratory—						
A. Capital Expenditure ..	1,636	12 0	1,636	12 0		
B. Working Expenses ..	1,91,909	0 0	1,42,569	11 3	49,339	4 9
(2) Provincial ..	12,648	0 0	8,924	0 9	3,723	15 3
III. Research Studentships ..	40,000	0 0	9,323	7 6	30,676	8 6

Agricultural Research Grants.

IV. Bombay—

(a) Surat Physiological ..	33,630	0 0	28,024	4 11	5,605	11 1
(b) Surat Earias Boll-worm—Propaganda ..	31,480	0 0	29,000	12 0	2,479	4 0
(c) Dharwar Wilt ..	25,085	0 0	20,380	2 0	4,704	14 0
(d) Khandesh Cotton Breeding ..	5,768	0 0	4,919	3 0	848	13 0
(e) Co-ordination of Cotton Research ..	19,731	0 0			19,731	0 0

V. Madras—

(a) Herbaceum ..	9,011	0 0	9,010	15 6	0	0 6
(b) Fempheres and Physiological ..	22,400	0 0	12,984	14 3	9,415	1 9
(c) Fodder Cholam—						
Recurring ..	1,760	0 0	1,753	1 0	6	15 0
Non-recurring ..	40	0 0	11	9 0	28	7 0

VI. Punjab—

(a) Botanical—Working Expenses ..	58,180	0 0	49,174	3 1	9,005	12 11
(b) Entomological ..	18,500	0 0	14,033	9 9	4,466	6 3
(c) White Fly ..	11,360	0 0	8,728	10 0	2,631	6 0
VII. Central Provinces ..	44,619	0 0	30,970	12 9	13,648	3 3

Carried over .. 38,72,561 8 8

Carried over .. 8,98,651 12 0 6,42,855 6 6 2,55,796 5 6

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RECEIPTS.	Rs. a. p.	EXPENDITURE.	Sanctioned Budget.	Actual Expenditure.	Savings (+), Deficit (-).
			Rs. a. p.	Rs. a. p.	Rs. a. p.
Brought forward ..	38,72,561 8 8	Brought forward ..	8,96,651 12 0	6,42,855 6 6	2,53,796 5 6
VIII. United Pr vices—Recurring grant for staff ..	..	..	7,906 0 0	6,937 3 0	*208 13 0
IX. Institute of Plant Industry, Indore ..	..	..	1,15,000 0 0	85,000 0 0	*30,000 0 0
X. Sind ..	..	..	27,492 0 0	27,262 10 10	*229 5 2
XI. Burma Cotton Improvement ..	..	..	4,104 0 0	4,074 12 0	*29 4 0
XII. Hyderabad—					
(a) Botanical ..	..	..	26,300 0 0	24,880 8 9	*1,419 7 3
(b) Cotton Survey ..	..	..	5,000 0 0	3,591 11 0	*1,408 5 0
XIII. Bikaner—Working Expenses ..	..	..	7,640 0 0	3,271 0 0	*4,369 0 0
XIV. Baroda—Root Rot ..	..	..	9,257 0 0	3,212 0 0	*6,045 0 0
Total Expenditure ..	11,00,650 12 0		8,01,085 4 1	2,99,565 7 11	

Less—Boll-worm (Surat) unexpended balance returned by the Director of Agriculture, Bombay Presidency ..

-1,211 13 1 + 1,211 13 1

7,99,873 7 0 3,00,777 5 0

XV. Loans recoverable (but considered doubtful)—

Rs. a. p.
1. Hubli .. 5,513 0 0
2. Gadag .. 7,292 0 0

12,805 0 0

By Balance

30,59,883 1 8

Grand Total ~ 38,72,561 8 8

38,72,561 8 8

* Available for future expenditure.

Final Accounts, 1931-32.
(Provident Fund Account.)

RECEIPTS.

	Rs.	a.	Rs.	a.	p.
To Opening Balance ..	1,34,415	5			
Less — Refunds to the Director of Agriculture, Bombay Presidency, for excess payment ..	5	13			
			1,34,409	8	0
Subscribers' contributions account ..			19,492	2	0
Committee's contributions account ..			19,492	2	0
Recoveries against advances ..			6,712	7	0
Interest (net) received ..			5,541	0	8
Suspense deposit of Mr. H. N. Dutt's contributions with interest ..			382	9	7
Grand Total ..	1,86,529	13	3		

EXPENDITURE.

	Rs.	a.	p.
By refunds to subscribers resigned for their own contributions with interest ..	26,055	2	4
Payment to subscribers of the Committee's contributions including forfeitures refunded to the Committee ..	26,538	9	3
Advances made ..	3,331	11	0
By Balance ..	1,30,604	6	8
Grand Total ..	1,86,529	13	3

REVISED ESTIMATES, 1932-33—ALL HEADS.

Revised Estimates, 1932-33—All Heads.

(As passed by the Indian Central Cotton Committee on the 2nd August 1932.)

RECEIPTS

	Rs.	a.	p.	Rs.	a.	p.
To Opening Balance..	30,59,883	1	8			
Loans recoverable account ..	12,805	0	0			
	30,72,688	1	8*			
Cotton cess receipts ..	5,00,000	0	0			
Interest account ..	1,52,000	0	0			
Miscellaneous receipts.	1,500	0	0			
*(Audited closing balance 1931-32).						

EXPENDITURE.

	Rs.	a.	p.	Rs.	a.	p.
I. A. Administration ..	..	..	..	1,52,410	0	0
B. Improvement of Cotton Marketing ..	..	..	..	15,000	0	0
C. Seed Distribution and Extension Schemes—						
(1) Bombay—						
(i) Hubli ..	..	..	..	8,550	0	0
(ii) Gadag ..	..	..	..	9,240	0	0
(iii) Gadag Supplementary	..	..	..	4,613	0	0
(iv) Haveri ..	..	..	..	2,800	0	0
(v) Athani ..	..	..	..	2,980	0	0
(vi) Bailhongal ..	..	..	..	4,285	0	0
(vii) Surat ..	..	..	..	7,800	0	0
(viii) Khandesh ..	..	..	..	52,068	0	0
(2) Madras Presidency—						
(i) Pay and allowances of Business Manager, Tiruppur ..	..	..	..	3,300	0	0
(ii) Co. 2 ..	..	..	..	4,790	0	0
(iii) H. 1 ..	..	..	..			
(3) Sind ..	..	..	..	31,000	0	0
(4) Hyderabad State ..	..	..	..	5,000	0	0
(5) Central Provinces ..	..	..	..	33,015	4	0
				1,69,450	4	0

D. Printing and Propaganda—
(a) Publicity and Propaganda
(b) Printing and Distribution of Publications.

19,341 0 0
11,000 0 0

II. Technological Research—
(1) Technological Laboratory—Working expenses
(2) Provincial ..

1,57,447 0 0
12,275 0 0

III. Research Studentships ..

20,000 0 0

AGRICULTURAL RESEARCH GRANTS.

IV. Bombay—						
(a) Surat Physiological ..	..	..	..	21,113	0	0
(b) Surat Boll-worm—						
(i) Writing-up Scheme ..	..	..	..	2,420	0	0
(ii) Propaganda ..	..	..	..	31,610	0	0
				20,000	0	0
(c) Dharrwar—						
(i) Wilt Scheme ..	..	..	..	2,000	0	0
(ii) Writing-up Scheme ..	..	..	..	9,503	0	0
(d) (i) Broach Cotton Breeding Scheme ..	..	..	..	9,250	0	0
(ii) Jalgaon do. ..	..	..	..	8,318	0	0
(e) Co-ordination of Cotton Research ..	..	..	..	23,991	0	0

V. Madras—
(a) Herbaceum ..
(b) Pemphera and Physiological
(c) Fodder Cholam—Recurring

9,200 0 0
22,400 0 0
1,644 0 0

Carried over ..

37,26,188 1 8

Carried over .. 1,61,449 0 0 5,56,923 4 0

RECEIPTS.

	Rs.	a.	p.
Brought forward ..	37,26,188	1	8

EXPENDITURE.

	Rs.	a.	p.	Rs.	a.	p.
				Brought forward ..	1,61,449	0 0
VI. Punjab—						3,56,923 4 0
(a) Botanical—Working Expenses	..					
(b) Entomological	..				58,590	0 0
(c) White Fly	..				18,500	0 0
(d) Root Rot	..				11,140	0 0
(e) Spraying trials..	..				1,705	0 0
					3,250	0 0
VII. Central Provinces ..	..				46,119	0 0
VIII. United Provinces—Recurring grant for staff	6,931	0	0			
IX. Institute of Plant Industry, Indore	..				1,00,000	0 0
X. Sind ..	..				27,777	0 0
XI. Burma Cotton Improvement ..	..				6,408	0 0
XII. Hyderabad—						
(a) Botanical	..				26,462	0 0
(b) Cotton Survey	..				6,560	0 0
XIII. Bikaner ..	..				7,640	0 0
XIV. Baroda—						
(a) Root Rot	..				8,860	0 0
(b) Comparative tests of 1027 and 1A cottons	..				4,280	0 0
					4,95,671	0 0
Total Expenditure ..					10,52,594	4 0

CLOSING BALANCE.

XV. Loans recoverable (but considered doubtful)—

	Rs.	a.	p.
Habli ..	10,513	0	0
Less—instalment received ..	2,449	6	9
	8,063	9	3
Gadag ..	7,292	0	0
	15,355	9	3

By balance ..	26,58,238	4	5	26,73,533	13	8
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Grand Total .. 37,26,188 1 8

Grand Total .. 37,26,188 1 8

Revised Estimates, 1932-33.
Provident Fund Account.

RECEIPTS.		EXPENDITURE.	
	Rs.	Rs. a. p.	Rs. a. p.
To Opening Balance ..	1,30,004	6 8	By Balance.. 1,76,340 3 8
Subscribers' contribution. 18,500			
Committee's contribution. 18,500			
Recoveries against advances ..	37,000	0 0	
Interest receivable ..	2,235	13 0	
	6,500	0 0	
Total ..	1,76,340	3 8	Total .. 1,76,340 3 8

Budget for 1933-34 for pay and allowances of Government servants lent to the Indian Central Cotton Committee.

34-A—AGRICULTURE.

INDIAN CENTRAL COTTON COMMITTEE.

BUDGET ESTIMATES FOR 1933-34.

No.	Minor and detailed heads.	Amount provisic
<i>Non-voted.</i>		
1	Salary—Secretary—Rs. 2,000—50—2,250 and Overseas pay at £13-6-8 ..	29,087
	Less 10 per cent. cut from pay for March 1933 ..	—238
1	Salary—Deputy Secretary—Rs. 350—1,250, Overseas pay Rs. 300 and Special pay Rs. 250 ..	18,074
	Less 10 per cent. cut from pay for March 1933 ..	—150
	Leave salary ..	
<i>Voted.</i>		
PAY OF ESTABLISHMENT.		
5	Superintendent and Clerks (at rates varying from Rs. 70 to Rs. 750) ..	20,861
	Less 10 per cent. cut from pay for March 1933 ..	—167
	Leave salary—Establishment ..	1,600
ALLOWANCES, HONORARIA, ETC.		
<i>Non-voted.</i>		
	House rent and other allowances ..	6,000
	Travelling allowance of officers ..	5,000
<i>Voted.</i>		
	Travelling allowance of Establishment ..	300
Total {		
Non-voted ..		57,773
Voted ..		22,594
Grand Total ..		80,367
Deduct—Recoveries from the Committee ..		78,767
Net—Leave salary of Establishment paid by Government ..		1,600

Statement showing the details of the provision for establishment of the office of the Secretary, Indian Central Cotton Committee, for the year 1933-34.

Details of appointment.	Sanctioned scale of pay.	Actual pay on 1st April 1933.	Amount of provision.	Remarks.
1. Superintendent ..	450—20—550—25—750	675	8,075	
2. Statistical Assistant ..	300—20—500	500	5,980	
3. First Assistant ..	200—10—300	270	3,230	
4. Upper Division Clerk ..	110—5—150—10—230	180	2,260	Draws Rs. 100 from 1st May 1933.
5. General Clerk ..	70—4—130	110	1,316	
			20,861	
			—167	
			20,694	

APPENDIX XV.

SUBJECT 18—Agricultural Research—General Progress Report.

During the year under report, the Indian Central Cotton Committee provided funds for 22 Agricultural Research Schemes and 12 Seed Distribution and Extension Schemes.

AGRICULTURAL RESEARCH SCHEMES.

1. *Scheme for the Co-ordination of Cotton Research in the Bombay Presidency* has been held up owing to the difficulty of obtaining a Botanist with the requisite qualifications but it is hoped this appointment will soon be filled.

2. *Surat Boll-worm Scheme*.—This scheme came to an end in March 1931 and at its last meeting, the Committee sanctioned a grant of Rs. 2,420 for writing up the results of the research. The report will be available for consideration at the next meeting of the Committee.

3. *Broach and Jalgaon Cotton Breeding Schemes*.—These two schemes which were sanctioned by the Committee at its meeting held in December 1931 have started work very recently and there is nothing to report on them.

4. *The United Provinces Entomological Research Scheme* closed down in July 1931 and at its last meeting the Committee sanctioned an extension for one year of the services of Mr. H. D. Nangpal to carry out certain work on the Pink Boll-worm which had not yet been completed and to help Mr. Richards to prepare the results of the investigation for publication.

5. *Scheme for comparative tests of 1027 and 1A cottons in Baroda*.—As per power delegated by the Committee at its last meeting, the Standing Finance Sub-Committee approved of the revised scheme at a cost of Rs. 4,280. The work commenced very recently and there is practically nothing to report.

The remaining 17 schemes detailed below are dealt with under separate subjects noted against them on the agenda of the Committee and require no comment here :—

	Subject No.
6. Surat Physiological Scheme	19
7. Surat Boll-worm-Propaganda-Scheme	20
8. Dharwar Cotton Wilt Research Scheme	21
9. Sind Physiological Research Scheme	23
10. Madras Herbaceum Research Scheme	24
11. Madras Pomphres and Physiological Research Scheme	25
12. Madras Fodder Cholam Scheme	26
13. Punjab Botanical Research Scheme	27
14. Punjab Entomological Research Scheme	28
15. Punjab Cotton White Fly Scheme	29
16. Central Provinces Botanical Research Scheme	30
17. Institute of Plant Industry, Indore	31
18. Burma Cotton Improvement Scheme	32
19. Hyderabad Botanical Research Scheme	33
20. Hyderabad Cotton Survey Scheme	34
21. Bikaner Gang Canal Scheme	35
22. Baroda-Root Rot Scheme	36

It will be seen that out of the above 22 research schemes, three schemes, viz., Dharwar Cotton Wilt, Surat Boll-worm and the United Provinces Entomological Schemes, have closed down and the Committee has provided funds only for the writing up the results of their research. The Khandesh Cotton Breeding Scheme also closed down very recently. So that six schemes in all have been wound up since the Committee started including the Central Provinces Mycological and Dharwar-American Cotton Breeding Schemes already reported.

SEED DISTRIBUTION AND EXTENSION SCHEMES.

Out of the 12 schemes only ten were in operation during the year. The remaining two, the Haveri and Bailhongal Schemes have not started work. Progress reports

on 9 of these schemes have been received and will be found under separate subjects on the agenda of the Committee as detailed below :—

	Subject No.
1. Hubli Scheme	37
2. Gadag (Extension) and	38
3. Gadag (Supplementary) Schemes }	39
4. Khandesh (Banilla) Scheme	40
5. Surat Scheme	41
6. Sind Scheme	42
7. Madras Scheme	43
8. Hyderabad Scheme	44
9. Central Provinces Scheme	44

10. *The Athani Seed Distribution and Extension Scheme* as finally sanctioned at the last meeting of the Committee has started work very recently and there is nothing to report.

A short report on the scheme for the erection of a small ginnery at Lyallpur for which the Committee sanctioned funds at its July 1930 meeting has been received and will be found under subject 45 of the agenda.

The total grant for the 34 schemes sanctioned in the current year's budget amounts to Rs. 6,27,952.

APPENDIX XVI.

SUBJECT 46—Report of the Agricultural Research Sub-Committee.

A. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON PROGRESS REPORTS AND GENERAL ITEMS.

The Agricultural Research Sub-Committee considered the progress reports for 1931-32 and the programmes of work for 1932-33 of the following Research Schemes received from the Officers in charge :—

Bombay Presidency.

1. *Surat Physiological Scheme*.—The work carried out during the year was largely a repetition of what was done in the last year and the results obtained only confirm the previous results. As decided by the Indian Central Cotton Committee at its meeting in July 1931 the scheme was closed down at the end of the cotton season this year and the year 1932-33 is to be utilised for writing up the results of the research work. The Agricultural Research Sub-Committee approves of the outline for the "Monograph on Studies in the Physiology of the Cotton Plant" under which title the Cotton Physiologist proposes to publish the results of the whole scheme and recommends that mention should be made in the monograph of the extent to which the cultivator is benefited by these results.

2. *Surat Boll-worm-Propaganda-Scheme* which was sanctioned for one year in the first instance commenced work in April 1931 and it has since been extended for another year. The scheme aims at bringing home to the cultivators of the three Talukas, Broach, Amod and Vagra of Broach district, by intensive propaganda, the necessity for a "Close" period between the harvest of one crop and the sowing of the next crop by removing from the fields the cotton stubbles which are mainly responsible for the carry-over of the pest from one season to another. The Sub-Committee approves the progress report and the work forecasted for the next year.

3. *The Khandesh Cotton Breeding Scheme* came to an end in March 1932 as approved by the Indian Central Cotton Committee at its meeting in July 1931. The object of the scheme was to give a thorough test both on the Government Farms and in villages to Banilla cotton about the yield of which there was some doubt. The comparative tests show that it is at least as good a yielder as Farm N. R. under normal agricultural conditions and it has extended over a lakh of acres against 40 acres in 1926 when the scheme was first started. Banilla is, however, susceptible to wilt and it has also deteriorated in spinning quality during the past few years. Some new promising strains have been obtained and they will be tested hereafter at Jalgaon.

4. The Scheme for the Co-ordination of Cotton Research in Bombay Presidency still is in abeyance for want of an officer with requisite qualifications. The post has been advertised both in England and in India on an attractive scale of Rs. 1,000—50—1,200 with an overseas allowance of £30 which is to be given only to officers of non-Asiatic domicile and the Sub-Committee recommends that a Selection Sub-Committee be appointed to examine the applications and select a suitable candidate.

Punjab.

5. The Botanical Research Scheme has now completed its second year of the five years' extension from April 1930. The scheme has been in charge of Mr. Mohammad Afzal since July 1931 when Mr. Trought left the Committee's service and the work was carried on during the year on lines laid down by the latter. Efforts are being made to multiply as quickly as possible an early strain which has shown satisfactory resistance to Jassids. The programme of work for 1932-33 requires no comment as it is only an extension of the work done so far.

6. The Punjab Entomological (Pink Boll-worm) Research Scheme was reviewed in December 1930 and extended for a further period of two years. The object of the scheme when it commenced in 1926 was to ascertain the causes for the difference in the incidence of the Pink Boll-worm between the south-east of the Punjab and the Canal Colonies. The work of the first five years has shown that the difference in distribution was mainly controlled by temperature and the results of the last year show that, in addition, both fecundity and oviposition are considerably reduced by the higher temperatures of the Canal Colonies. The Sub-Committee has approved the programme for 1932-33 at the end of which the scheme would come to a close unless it is further extended.

7. The Punjab White Fly Scheme which was sanctioned in December 1930 for a period of three years has now completed its 1st year and the results so far obtained are encouraging. The Sub-Committee approves the progress report and the programme of work.

Madras.

8. The Madras Herbaceum Research Scheme was started in 1923 with the object of selecting a few strains from local Uppam (*G. Herbaceum*) equal to Karunganni (*G. indicum*) in yield and spinning value when sown under similar conditions on black soils of Salem and Coimbatore districts of the Madras Presidency. The selection work having failed, attention has now been directed to hybridisation. Several hundreds of plants of F_1 and F_2 generations of herbaceum, indicum and cernuum crosses were examined and the promising types have been selected for further trials. X-ray treatment does not appear to have yielded any useful results. The scheme is due for review in the July 1933 meeting. The Sub-Committee recommends that the programme of work might be approved.

9. The Madras Pempheres and Physiological Research Scheme commenced work only in September 1931 though it was sanctioned as far back as 1925. The scheme has made a good start with the study of the Pempheres problem from the botanical, entomological and chemical aspects. From the botanical standpoint of view, an attempt has been made to find out what it is in the plant that attracts or repels the insect. On the entomological side the life-history of the insect was studied and as for the chemical point of view the changes in the mineral content of the attacked plant were investigated. The Sub-Committee approves the programme of work for 1932-33.

10. The Madras Fodder Cholam Scheme commenced in January 1931. The results of the work so far done show that the low yield of cotton after cholam (sorghum) crop might be due to (i) the inability of the plant to utilise soil moisture quickly, (ii) to the usual practice of allowing the cholam crop to set seed, (iii) to the low nitric nitrogen content of the soil and (iv) to the large quantity of roots left in the soil. The work will continue in 1932-33 for the purpose of having these results confirmed.

Central Provinces.

11. The Central Provinces Botanical Research Scheme was reviewed in July 1931 when it was decided that it should continue for another two years. The season was very unfavourable for cotton in Central Provinces and Verum 262 and its two new strains, early and late varieties, suffered severely like all other varieties but they maintained their superior quality. Two other promising new strains of Verum 262 have been under severe tests and a number of pure strains of Chanda Jari, with white lint, are being multiplied. Bani 306 and E.B. 31 continue to maintain their superiority. The Sub-Committee approves the programme of work for 1932-33.

12. The Burma Cotton Improvement Scheme commenced work in April 1931 with the appointment of six Demonstrators who are required to run the demonstration holdings and demonstrate to the cultivators the improved methods of agriculture. In addition to the six Demonstrators appointed this year six more will be appointed next year as per programme of work.

13. The Hyderabad Botanical Research Scheme has now completed its third year. A very large number of plants consisting of single plant selections of the year, progenies of selections made during the previous year and F_2 generation of Bani-Rosea crosses were under observation and out of them several promising types have been selected for further tests. Out of 28 strains that were tested for yields only nine were found worth retaining and they will be further tested. Much useful information has also been obtained about the incidence of the Spotted and the Pink Boll-worm pests at Parbhani. The Sub-Committee recommends that the work should continue on the lines mentioned in the programme for 1932-33.

14. The Hyderabad Cotton Survey Scheme has completed its first year. It has made good progress with the botanical classification of the cotton crop grown out of the representative samples of seed obtained from Aurangabad and Parbhani districts and the results were verified by the survey of the standing crop in 19 villages of the same districts. The Sub-Committee approves the programme of work.

Institute of Plant Industry, Indore.

15. During the year under report the Rules and Regulations of the Institute were modified to suit the present needs and the Board of Governors was increased from 5 to 11 members. The ten pure line selections of local Malvi were tested for yields for the first time and they proved no better than mass selected Malvi. The botanical survey of cottons grown in India was continued and a new experiment was started to find out the effects on yield, on the health of the plant and on the soils when various correctives were applied to the soil. Attempts were also made to secure some desirable mutants by X-ray process. The Sub-Committee approves the programme of work for 1932-33. The general programme of work of the Institute which was called for at the last meeting will be considered by the Central Cotton Committee.

16. The Bikaner Gang Canal Scheme was started in March 1931 and the year under report was largely devoted to the varietal tests of the 67 pure types of cotton that were obtained from all parts of India. Only 8 of them have proved worth further trial; all the rest having been discarded. The Sub-Committee notes with satisfaction that, since the necessary staff, furnished laboratory and other facilities are now available, work of higher standard has been taken in hand.

17. The Baroda-Root Rot Scheme commenced only in February last. The Sub-Committee approves the programme of work drawn up for 1932-33.

Seed Distribution and Extension Schemes.

18. Hubli and Gadag Schemes.—The object of the two schemes is to produce and distribute pure seed of Jayawant and Gadag cottons for two lakhs of acres each in Hubli and Gadag centres. The Agricultural Department maintained reserved areas of 17,640 acres in Hubli tract and 22,000 acres in Gadag tract but the Hubli and Gadag Sale Societies distributed pure seed for only 71,533 and 124,000 acres respectively as they could not sell the whole quantity of seed which they had stocked due to the fall in prices. The two societies have shown reluctance to shoulder their full obligations under the scheme and the Sub-Committee recommends that they should be asked to work up to the extent of two lakhs of acres each as originally planned.

The Sub-Committee also recommends that one or more small standing Sub-Committees consisting of not more than three members each should be appointed out of the expert members of this Sub-Committee and also other research workers on the Committee's schemes who are not members of the Committee, to examine every new scheme in all its aspects and offer their advice before it is sanctioned and also to go into all other schemes, past and present, and lay down definite principles for the guidance of this Sub-Committee for sanctioning the new schemes hereafter.

19. The Khandesh (Banilla) Scheme commenced only in May 1931 and it has been possible therefore to organise only the first two stages of the scheme in full and the next two stages in part. It is hoped that in 1932-33 the first three stages will be in full working condition according to the plan and that in the fourth stage an area of at least 6,000 acres would be reached.

20. *Surat Scheme*.—Twenty-one seed depots were organised during the year in the Surat-Broach area and pure 1027 A.L.F. seed enough for 73,446 acres in the Bombay Presidency and 157,206 acres in Rajpipla, Chhota Udepur, Jambughoda and Baroda States were distributed.

21. *Sind Scheme*.—Pending the opening of the Barrage for perennial irrigation the grant for this scheme is utilised for carrying out demonstrations on the right bank of the Indus and demonstrations and varietal tests on the left bank with a view to induce the cultivators to take to cotton cultivation when irrigation facilities become available. Accordingly, 15 demonstration plots on the right bank and two demonstration plots and 9 varietal test plots on the left bank were laid out but for one reason or another the results were not satisfactory. The Sub-Committee approves the programme of work for 1932-33.

22. *The Madras Scheme*.—There were 1,200 acres under Seed Farms which were expected to yield 3,000 bags of Co. 2 (Cambodia) seed sufficient to sow 12,000 acres.

23. *Hyderabad Scheme*.—The Department of Agriculture distributed in 66 villages 256,670 lbs. pure seed—207,500 lbs. of Jayawant and 49,170 lbs. of Gadag No. 1—but the area sown with this seed was only 11,300 acres. The Sub-Committee notes that a large quantity of pure seed distributed was not sown due to the rains being late and other causes.

24. *The Central Provinces Scheme* was sanctioned in July 1931 for one year with the object of maintaining the purity of Verum cotton on 50,000 acres the seed of which will be sufficient for 4 to 5 lakhs of acres in 1932-33. The Agricultural Department sold in 1931 enough pure Verum seed for 187,600 acres in addition to the reasonably pure seed sufficient for about 74,360 acres sold extra departmentally. The Sub-Committee has separately made its recommendations for sanction of a less ambitious scheme put up by the Director of Agriculture, Central Provinces.

25. *Lyallpur Ginnery*.—The Sub-Committee notes with satisfaction that the erection of the building and machinery has been completed and the ginnery will commence work next season.

General.

26. *Prize Schemes for clean picking and improved varieties of cotton*.—The Sub-Committee considered the views of the Directors of Agriculture and decided not to recommend any prizes either for clean picking or for improved varieties of cotton.

27. *Broach Cotton Breeding Scheme*.—The Sub-Committee approved of the Budget for 1932-33 which amounts to Rs. 9,250.

28. *Jalgaon Cotton Breeding Scheme*.—The Budget for 1932-33 amounting to Rs. 8,318 was approved by the Sub-Committee.

29. *Disposal of seed of long staple cottons grown in the Punjab*.—The Sub-Committee decided to refer the question to the Director of Agriculture, Punjab, for concrete proposals to be put up for the next meeting.

30. *Investigation into the damage done by Earia Boll-worm in the Punjab*.—The Sub-Committee decided that the matter should be referred to the Director of Agriculture, Punjab.

31. *Employment of ex-research students and ex-servants of the Committee*.—The Sub-Committee recommends that a Special Sub-Committee consisting of the President, three of the Directors of Agriculture, Sir Purshotamdas Thakurdas and Sardar Sampuran Singh might be appointed to consider the various points involved in the present financial arrangement which the Committee has entered into with the Provincial Governments.

Publicity and Propaganda.

32. The Sub-Committee considered the scheme of publicity and propaganda prepared by the Publicity Officer and recommended that the subject be referred to the full Committee.

33. *Appointment of Cotton Botanists for Bombay and the Punjab*.—The Sub-Committee recommends that the Selection Sub-Committee to consider applications for Botanists' posts in the Punjab and Bombay be composed as follows:—

The President,
Sir Purshotamdas Thakurdas,
Dr. McRae,
Mr. Saklatvala and
Mr. Main.

34. *Cotton Policy in the United Provinces*.—The Sub-Committee decided to refer the question to the Director of Agriculture, United Provinces, for putting up definite proposals for the next meeting of this Sub-Committee.

B. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON NEW SCHEMES AND ADDITIONAL GRANTS FOR SCHEMES SANCTIONED.

1. *Dharwar Cotton Wilt Scheme*.—The Sub-Committee at its last meeting decided that the scheme should be closed down at the end of May 1932 and made a recommendation to the Indian Central Cotton Committee which was accepted that a sum of Rs. 4,000 should be sanctioned, subject to detailed consideration at this meeting, for writing up the results of the work done from 1923 when the scheme first commenced. The final progress report and the fresh proposals for writing up the results submitted by the Director of Agriculture, Bombay, have now been considered by the Sub-Committee which recommends that the scheme might be sanctioned till the end of January 1933 subject to review at the end of this period, at a cost of Rs. 9,503 in the place of Rs. 4,000 already sanctioned.

2. *Sind Physiological Scheme*.—The Indian Central Cotton Committee at its last meeting provisionally sanctioned the extension of the scheme for one year to avoid any break in the work till the final report was considered at this meeting and further extension was granted. The water requirement experiments are inconclusive due to disturbing factors such as water table and rain but a duty of 100 gives 16 maunds of *kapas* per acre. The same experiment shows that there is actual deficit of available nitrogen at the time of flowering and bolling. Punjab-Americans are capable of high yield in Sind conditions, but Egyptians are very susceptible to White Ant attack and "Red Leaf" disease. The Sub-Committee is convinced that the work of the past five years has been fruitful and that further work is necessary to confirm the conclusions already arrived at. The Sub-Committee therefore recommends that the scheme might be extended for another period of five years. The extension entails a total expenditure of Rs. 1,62,854.

3. *Punjab Root-Rot Scheme*.—The Sub-Committee considered the Root-Rot Scheme submitted by the Punjab Provincial Cotton Committee and recommends that the scheme might be sanctioned at a total cost of Rs. 13,506 for three years.

4. *Hyderabad Cotton Survey Scheme*.—The Sub-Committee considered the proposal to extend this scheme from four to five years so that the programme is a little slowed down and the number of villages in which samples are selected is increased to make the results of the survey more reliable. The Sub-Committee recommends that the proposal be approved. The additional expenditure required is Rs. 1,560 for the current season and Rs. 2,340 for each of the remaining years.

5. *United Provinces Entomological Scheme—Grant for Staff*.—The application of the Entomologist to the Government of the United Provinces to extend the services of the staff engaged on the scheme for another year at a cost of Rs. 6,400 including provision for Provident Fund was considered and the proposal was sanctioned.

6. *Scheme for spraying trials against the white fly pest in the Punjab*.—The Sub-Committee considered the proposals put up by the Director of Agriculture, Punjab, and sanctioned the scheme at Rs. 11,250 for one year.

7. *Seed Distribution and Extension Schemes*.—(i) *Co. 2 and H.1 (Madras)*.—The Sub-Committee considered the proposals put up by the Director of Agriculture, Madras, for the extension of Co. 2 in Coimbatore and Salem districts and H.1 in the Westerns area of the Madras Presidency, and recommends that the Co. 2 scheme might be sanctioned for five years at a total cost of Rs. 81,310. The Sub-Committee also recommends that the H.1 scheme might be sanctioned for two years at a cost of Rs. 18,860 subject to review at the end of that period in the light of the principles to be laid down as mentioned in paragraph 18 of Section A of the report of the Sub-Committee.

(ii) *Malvi (Gwalior)*.—The Sub-Committee is unable to recommend the sanction of this scheme in the absence of any satisfactory data to show that Malvi is superior to the local cotton.

(iii) *Verum (Central Provinces)*.—In the absence of any representative from the Central Provinces to explain the details, the Sub-Committee recommends that the scheme might be referred, if Mr. Plymen thinks it urgent, to the Standing Finance Sub-Committee which might be authorised to sanction it; otherwise it might be brought before this Sub-Committee at its next cold weather meeting.

(iv) *Jayawant (Hubli)*.—The Sub-Committee considered the request from the Hubli Society for an additional loan of Rs. 5,000 without interest to meet the anticipated loss in seed transaction in 1932-33. The Sub-Committee recommends that this be approved.

C. Report of the Agricultural Research Sub-Committee on Research Students.

The Sub-Committee considered and approved the progress report on the work of Bhai Partap Singh Bhullar and Bhai Ajsib Singh Gulzar, Research Students, Punjab. Their final reports are due in December.

2. The progress reports for 1931-32 and the programme of work for 1932-33 of Mr. Madanlal Bhatia, working on Jassids at Lyallpur and Mr. Bhola Nath working in Plant Breeding and Cytology at Indore were considered and approved.

3. The Sub-Committee recommended at its last meeting that the programmes of work drawn up for Messrs. B. N. Bhargava and B. S. Seshgiri, Research Scholars in Cotton Marketing and Economics at Lucknow and Surat respectively, required curtailment. The revised programmes were considered and approved.

4. The Sub-Committee also approved the programmes of work for Messrs. Santok Singh Jaggi and S. V. Doraiswami Ayyar, Research Students in Cotton Marketing and Economics in the Punjab and in the Madras Presidency respectively.

5. The application from Rai Saheb Ram Prasad Singh for a foreign scholarship for his son was considered. The Sub-Committee decided not to recommend the scholarship.

APPENDIX XVII.

SUBJECT 48.—*Investigation into Cost of Growing Cotton in India.*

Secretary's Note.

The following resolution was passed by the Indian Central Cotton Committee at its last meeting :—

"That a sum amounting to Rs. 10,000 be provided in next year's budget for the initial expenses of an investigation into the cost of production of cotton and rotation crops."

It was also decided that the question of appointing a small Sub-Committee to work out jointly with the Sugar Committee the details connected with the investigation should be left to the Standing Finance Sub-Committee. A Sub-Committee consisting of the following members was accordingly appointed :—

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Rao Bahadur Bhimbhai Ranchodji Naik,
Mr. J. Vonesch,
Mr. Haridas Madhowdas (representative of the East India Cotton Association),
and
The Secretary.

Owing, however, to the temporary absence out of India of Sir Joseph Kay and Mr. J. Vonesch, the Standing Finance Sub-Committee at its meeting held on the 27th June 1932 appointed Mr. Chunilal B. Mehta to take the place of Sir Joseph Kay and Mr. F. K. Jackson to take the place of Mr. J. Vonesch on the Sub-Committee.

The Chief Economist who will be in charge of this investigation is expected to join duty shortly and the first meeting of the Joint Sub-Committee is likely to be held some time in August.

This is for information.

APPENDIX XVIII.

SUBJECT 49.—*Institute of Plant Industry, Indore—Report of Policy to be followed.*

Secretary's Note.

At the last meeting of the Committee held in December 1931, the question of policy to be followed at the Institute of Plant Industry, Indore, was fully discussed and Mr. F. K. Jackson, the Director of the Institute, agreed to submit a programme for consideration at this meeting. The programme received from Mr. Jackson together with the programme approved in 1923 and the programme of work for 1932-33 is attached for consideration.

INSTITUTE OF PLANT INDUSTRY, INDORE.

GENERAL PROGRAMME OF COTTON RESEARCH.

(Revised and extended, July 1932.)

Since the initial programme of cotton investigations was drawn up in 1923 the activities of the Institute (which started operations in 1925) have developed and cover a much wider territory.

In addition to Central India this now includes all types of soil and climate in Rajputana, e.g., the arid sandy areas of Bikaner, the somewhat less arid State of Jaipur, the borders of the Jumna valley in Bharatpur and the zone typified by Bundi and Tonk States. The area dealt with in Malwa proper and the lowlying tracts adjoining the Central Provinces and Bombay Presidency has also grown in size by the adherence of new States, as well, also, as in Bundelkhand which again is distinct in agricultural character. Hence a greater variety of problems in cotton cultivation now present themselves and this tendency will continue as more States join the Institute.

The Indian Central Cotton Committee has also recently expressed its desire that the original programme of cotton investigations should be developed and extended.

For these reasons it has become necessary to revise and extend that programme although its main lines are still maintained. The items are not to be regarded as forming a rigid and limiting basis of work; in all scientific research glimpses into unknown and attractive country are afforded from time to time and exploration must be permitted.

(a) *Botanical Survey.*

Up to the present, little or no attempt has been made in India to isolate, classify and study the unit species which form the framework of the various species and varieties of cotton. It is true that the Indian cottons have been classified and surveyed from the point of view of systematic botany, but this is entirely inadequate for modern work as by this method cottons of very different agricultural value are not distinguished. This work has a direct practical bearing. It will, in all probability, lead to the isolation of useful types for distribution. It will also provide material for the plant-breeder and for critical work on the physiology and agronomy of cotton. In addition a revision of the present systematic classification of cottons will be considered, the collection of types already amassed providing good material for comparative studies.

(b) *Cotton Breeding and Selection—Economic.*

(i) The creation, establishment and maintenance of an island of improved cotton on the Malwa plateau. The types isolated will be available for other areas in India and the crop will enable a grade of improved cotton to be established for the mills and for the shippers.

(ii) The introduction of a pure and improved early-ripening, hardy cotton for the lowlying tracts of Central India.

(iii) The discovery of the most profitable cotton to be grown in the new Gang Canal Colony, Bikaner.

(iv) The selection of a pure improved cotton or cottons to replace the mixtures grown in other parts of Rajputana and in Bundelkhand.

(c) *Cotton Genetics.*

The mode of inheritance of characters in cottons will be studied. Many problems await investigation; among them one of the most important is the genetical relationship between the factors determining lint length and ginning percentage with the associated variations in yield.

The effects of exposing cotton seeds, buds and pollen to X-rays and radium emanations will be investigated with a view to producing mutants of economic value. It has been found by several workers in recent years that such treatments have the effect of violently disturbing the arrangement of chromosomes and even of genus in the germ cells and consequently producing types differing widely from the parent. The possibility of thus producing new types of economic value has hardly been touched as the whole subject is in its infancy and an entirely new field of unknown possibilities is awaiting exploration. Both these studies will also involve cytological work.

(d) *The Physiology of the Cotton Plant.*

In order to increase production something more than improved varieties is needed. The new varieties must be provided with suitable conditions for growth. To discover these, the physiology of the cotton plant must be studied and the factors which now limit production must be determined. This involves the study of root-development, the relations of the root-system to the soil type and the influence of factors, such as soil moisture, soil-aeration and drainage, soil texture and soil temperature, on growth. Included in these studies is the discovery of the factors which produce the shedding of buds, flowers and bolls. The general nutrition of the cotton plant will also be considered and how far the yield can be improved by manuring and other methods of soil treatment.

In the course of these studies many more types of soil are now involved than those of the Malwa plateau and accordingly a collection of soil profile samples will be made from different parts of the area covered. Mechanical analysis and other examinations will be made so that the behaviour of cotton may be correlated with their characteristics.

(e) *The Influence of Environmental Factors on the Lint Characters.*

Modern industries demand a uniform product. Once this is obtained, the purchase of raw material as well as the details of manufacture are simplified. In the case of cotton, any tract which can produce uniform lint will rapidly establish its reputation in the trade. It is well known, however, that the cotton fibre alters in character according to the soil on which it grows and to some extent according to the season. Further work is desirable on this matter with the object of discovering what factors bring about these changes, which varieties are most easily affected and whether any practical remedies exist for improving the uniformity of the fibre of the same cotton. This portion of the work is of direct bearing on the question of the maintenance of grades of cotton for the highest class of spinning in this country. It is hoped to resume this piece of work on somewhat more intensive lines than those previously adopted.

(f) *Field Experiment Technique.*

With the exception of preliminary trials all field experiments involved by the programme will be laid out either on the replicated Randomized Block or the Latin Square system as elaborated at the Rothamsted Experimental Station or with such later developments as seem desirable to adopt. Modern developments in statistical mathematics will be used in interpreting results.

Programme of Cotton Research, 1923.

"The Central India Agency includes two distinct cotton tracts: (a) the Malwa plateau (a long staple area) in which the best indigenous cottons are found and where improved types like Cambodia have already given excellent results under cultivators' conditions and (b) the low-lying areas adjoining the Central Provinces where short staple cotton of the *Roseum* type is the rule.

The aim of the Indore Institute (as regards cotton investigations) is to provide a centre of research for the black soil tracts. At this centre any problems suggested, either by the Central Cotton Committee or by other workers in India can be taken up. A special effort will be made to create a good library dealing with the various aspects of cotton production for the use not only of workers at the Institute itself but also of other investigators on cotton in India.

While the Institute will always be prepared to consider any useful suggestions as regards problems to be investigated, the following preliminary programme is put forward. This falls into four parts.

(a) *Botanical Survey.*—Up to the present, little or no attempt has been made in India to isolate, classify and study the unit species which form the framework of the various species and varieties of cotton found on the black soils. It is true that the Indian cottons have been classified and surveyed from the point of view of systematic botany, but this is entirely inadequate for modern work as by this method cottons of very different agricultural value are not distinguished. The work needs to be carried much further and nothing short of the isolation and study of the unit species will meet the case. This work has a direct practical bearing. It will, in all probability, lead to the isolation of useful types for distribution. It will also provide material for the plant breeder and for critical work on the physiology and agronomy of cotton.

(b) *Plant Breeding.*—Two main practical problems will be taken up at once:—

(1) the creation, establishment and maintenance of an island of long staple cotton on the Malwa plateau. The types isolated will be available for other areas in India and the crop will enable a grade of improved cotton to be established for the mills and for the shippers;

(2) the improvement of the fibre of the hardy *Roseum* type which is, in all other respects, admirably suited for the lowlying areas of Central India.

In the solution of these questions the inheritance of characters will have to be studied. The results will apply not only locally but will also be of general interest.

(c) *The Physiology of the Cotton Crop.*—In order to increase production something more than improved varieties is needed. The new varieties must be provided with suitable conditions for growth. To discover these the physiology of the cotton plant must be studied and the factors which now limit production must be determined. This involves the study of root development, the relations of the root system to the soil type and the influence of factors such as soil moisture, soil aeration and drainage, soil texture and soil temperature on growth. Included in these studies is the discovery of factors which produce the shedding of buds, flowers and bolls. During the course of these physiological studies, the general nutrition of the cotton plant will be considered and how far the yield can be improved by manuring and other methods of soil treatment.

(d) *The Influence of Environmental Factors on the Lint Characters.*—Modern industries demand a uniform product. Once this is obtained the purchase of raw material as well as the details of manufacture are simplified. In the case of cotton, any tract which can produce uniform lint will rapidly establish its reputation in the trade. It is well known, however, that the cotton fibre alters in character according to the soil on which it grows and to some extent according to the season. Further work is desirable on this matter with the object of discovering what factors bring about these changes, which varieties are most easily affected and whether any practical remedies exist for improving the uniformity of the fibre of the same cotton. This portion of the work is of direct bearing on the question of the maintenance of grades of cotton for the highest class of spinning in this country."

INSTITUTE OF PLANT INDUSTRY, INDORE, C. I.

PROGRAMME OF RESEARCH WORK FOR THE YEAR ENDING 30TH JUNE 1933.

In this programme field experiments are classed by themselves because in many cases the problems they are intended to solve will be attacked co-operatively by workers in different sections.

For every field experiment a Scheme has been prepared on a standardized model; all details of lay-out, treatment or variety, agricultural operations and records to be maintained are included and the persons responsible for the conduct of the experiment are named.

Only what may be termed laboratory or pot-culture work is arranged under sections—chemical, plant-breeding or botanical.

Four distinct rotation types have been standardized and every field on the farm has been placed under one or other, so that after some years their relative advantages and convenience may be recognized by experience.

Field Experiments.

Experiment 1.—Manurial trials, Malvi cotton (nitrogenous manures).

- " 1a.—Manurial trials, Malvi cotton (compost and farmyard manure—poor land).
- " 1b.—Manurial trials, Malvi cotton (compost and farmyard manure—rich land).
- " 1c.—Manurial trials, Malvi cotton (superphosphate as a soil deterioration corrective).
- " 2.—Control of soil moisture by surface drainage.
- " 3.—Response of Malvi cotton to irrigation.
- " 4.—Effect of associated growth of cotton and legumes.
- " 5.—Effect of *khari*/legumes upon a succeeding wheat crop.
- " 6.—Comparative root activity and distribution of six legume crops and their yields of seed and straw.

- Experiment* 7.—Relative economic merits of five rotations, embodying differences in crop sequences, inclusion of legumes, compost manuring and methods of tillage.
- „ 8.—The economic results of different spacings of tur (*cajanus indicus*) in a juar crop and influences on a succeeding cotton crop.
- „ 9.—Juar variety trial—5 types.
- „ 10a.—Comparison of Sudan grass with juar as green fodder crops, irrigated and barani.
- „ 10b.—Comparison of Sudan grass and natural grass as a permanent lea.
- „ 11a.—Groundnut variety trial, manured and unmanured—poor land.
- „ 11b.—Groundnut variety trial, manured and unmanured—rich land.
- „ 11c.—Comparison of effects of sowing whole, cracked and shelled groundnuts soaked and dry.
- „ 12.—The effect of different modes of winter ploughing (shallow eversion, deep eversion, inversion, sub-soiling) upon succeeding *kharif* and other crops in a four-year rotation.
- „ 13.—The effect of three methods of inter-cultivation of cotton and juar compared with hand-weeding only throughout a rotation.
- „ 14.—Comparison of six different spacings in Malvi cotton.
- „ 15.—Comparison of three types of Cambodia cotton, Cawnpore 9 and a Malvi type sown early on irrigation and sown on rains, irrigated later and not irrigated.
- „ 16.—Soil uniformity test—

Objects :

- The estimation of natural soil uniformity.
 - The same estimation as modified by grading and drainage.
 - The rise of fertility due to grading and drainage.
 - To discover the conditions governing the necessity of non-experimental borders in cultural trials.
 - To discover the most suitable size and shape of plot for field experiments under local conditions.
- „ 17a.—Yield test of Malvi cotton selections on rich land.
- „ 17b.—A duplicate test on well-drained but poor land.
- „ 18.—Test of comparative vigour of seed from selfed cotton selections and from a mixture of the same selections grown unselfed in 1931.
- „ 19.—The effect, if any, of X-ray treatment on the vigour of a strain of Cambodia cotton highly susceptible to red leaf and leaf curl under deteriorated soil conditions.

The above 26 field experiments starting in the *kharif* season are arranged on the Institute Farm with replicated plots on either the randomized block or Latin square system and involve a total of 970 unit plots.

Small-scale tests of some 90 new introductions, whether crops or varieties of crops, will be sown, usually in 2 to 4 short rows. Among the more important of such subjects are the following:—Groundnut, Soya bean, Tobacco, Tur, Jowar, Sesamum and Castor.

Chemical Section.

Soil Studies.

1. Determination of properties of typical soils in Central India and Rajputana with a view ultimately to divide the region into homogeneous agricultural tracts.
2. The collection of soil profiles from the region.
3. A study of the soil of three typical fields at the Institute, embracing mechanical and chemical analysis, the movement of moisture and changes in PH values in the profile during the year and leaf sap reactions of crops growing in the soils.
4. Examination of the relative nitrifying power of some typical Malwa and Rajputana soils.
5. Investigation of the controlling influences of nitrogen supply and moisture on crops in Malwa in Field Experiments Nos. 1, 1a, 1b, 1c, 2, 3, 5, 7, 11a and 11b and the estimates (soil permeability, moisture and nitrogen content, feeding values, etc.) associated with those experiments.

Studies on red leaf and leaf roll of Cambodia cotton, embracing investigations into composition of leaf sap and soil water.

Further developments in compost making mainly in the directions of economy in labour and water, the investigation of the fixation of nitrogen and special adjustments of the process.

Agronomical Studies.

Cambodia cotton.—Preliminary culture tests to discover methods of controlling factors inducing a vigorous start to seedlings and the health of the plants.

Sugarcane.—Small scale work on systems of cultivation, dates of planting, regulation of nutrition and moisture.

Soya Beans.—Investigation of merits of soil inoculation with nodule bacteria and of application of superphosphate as a soil corrective.

Lucerne.—Study of possible improvement in system of cultivation, value of soil inoculation with a specific strain of nodule bacteria and determination of optimum stage for cutting, with analysis at different stages of growth, there being no India data.

Plant Breeding Section.

Selection work will be continued among single-plant cultures of Malvi, Bani, Roseum, Verum, some Cawnpore crosses and Cambodia cottons. The F_2 generation of crosses between the following varieties will also be subjected to selection:—

Cawnpore roseum $\times$ Bani; Malvi $\times$ Bani; Bani $\times$ roseum; Roseum $\times$ Malvi; Malvi $\times$ Cawnpore roseum.

Crossing.—A desirable early but delicate Cambodia strain will be crossed with a hardy but late type.

The genetical relation between lint length and ginning percentage.—In this study the F_2 generation of a cross between Cawnpore 20 and Bani 13 will be examined statistically.

Botanical Section.

Survey of Indian Cottons.—Forty-three additional types have been obtained and will be sown, and selfed. As with the types already in hand detailed morphological descriptions and records with drawings will be made, including those of root types. Herbarium specimens will be mounted, also ginned and whole seeds with lint halos and bolls preserved in formalin.

X-radiation Studies.—1. Pure line seed of Malvi, Bani and roseum cotton will be X-rayed at different dosages and sown alongside controls; morphological variations from seedling to maturity will be recorded.

2. F_1 generation seeds from a cross will be similarly treated.

3. Flower-buds and pollen of Malvi, Bani and roseum will be X-rayed and the nowers selfed; also X-rayed pollen applied to an untreated parent. Pollen and ovules will be used in several crosses after exposure.

4. The seeds obtained from X-rayed plants in 1931 will be sown and variations in progeny noted.

5. Wheat seeds from plants X-rayed in 1931 will be sown and variations noted.

Cytological Studies.—1. Material from the X-radiation studies will be examined.

2. An investigation of the development of the seed in "No lint" cotton and in Wagale is to be attempted.

FIELD EXPERIMENTS IN STATES.

With the co-operation of the Darbars concerned and in some cases of private cultivators twenty-four replicated field experiments have been arranged as follows:—

- Experiment* 20A.—Yield trial of five Malvi strains and local cotton, on the Dhar State Farm.
- „ 20B.—A duplicate on the Rutlam State Farm.
- „ 20C.—A duplicate on the Narsingarh State Farm.
- „ 21A.—Yield trial of five types of irrigated cotton (four of Cambodia and Cawnpore 9).
- „ 21B.—A duplicate on the Rutlam State Farm.
- „ 21C.—A duplicate on the Narsingarh State Farm.
- „ 22A.—Yield trial of four barani cottons (Verum, Roseum 15, Banilla, Malvi) for the Nimar tract on the estate of Seth Bhanwar Lal Sethi at Sanawad, Holkar State.
- „ 22B.—A duplicate on the estate of V. S. Khode, Esquire, B.A., LL.B., Vakil, at Khargone, Holkar State.
- „ 22C.—A duplicate on land in Dhar State arranged by the Agricultural Superintendent, Dhar.

Jaipur.

- Experiment* 1.—Comparative studies on Cambodia, Punjab 289F and Malvi cottons under different systems of cultivation.
- „ 2.—Yield trial of ground-nut varieties.
- „ 3.—Bajra and Tur spacing test.
- The above are to be on the Jaipur State Farm.

Bharatpur.

- Experiment* 1.—Yield trial of four varieties of barani cottons (Cambodia, Cawnpore 520, Rosea Bhatla and Mollisoni).
- „ 2.—Yield trial of four varieties of irrigated cotton (two Cambodia types, Cawnpore 402 and Cawnpore 9).
- „ 3.—Yield trial of ground-nut varieties.
- The above are to be on the Bharatpur State Farm.
- Experiment* 4. } Scheme No. 1 will, it is hoped, also be carried out on three other
- „ 5. } types of land in the State.
- „ 6. }

Bikaner.

- Experiment* 1.—Yield trial of five cotton varieties (Punjab 289F, Cawnpore 402, Cawnpore 520, Sanguineum, N. T. 12 and Mollisoni).
- „ 2.—Yield trial of three cotton varieties (Acala, Early American, N. T. 39, Roseum N. T. 10).
- „ 3.—Single plot trials of twelve cotton varieties.
- „ 4.—Irrigation test—frequency and quantity—on Mollisoni cotton.
- „ 5.—Duplicate on Punjab 289F cotton.
- „ 6.—Date of sowing test, on Mollisoni cotton.
- „ 7.—Manurial test, legume green manure and compost.

The above are on the Ganganagar Farm of Bikaner State, in the Gang Canal Colony, under the special scheme of the Indian Central Cotton Committee.

RABI CROP EXPERIMENTS.

The detailed Field Experiment Schemes for *rabi* crops have not yet been prepared. They will include yield trials of barani and irrigated wheat and probably of gram and linseed.

Those of the Field Experiments begun in the *Kharif* season which are continuous for several years will of course be in operation.

APPENDIX XIX.

SUBJECT 50.—*Representation of the Indian Central Cotton Committee on the Advisory Board of the Imperial Council of Agricultural Research.*

Secretary's Note.

Under the Rules and Regulations of the Imperial Council of Agricultural Research the Indian Central Cotton Committee is entitled to nominate one member to the Advisory Board of the Imperial Council of Agricultural Research and at its 19th meeting held in July 1929 the Committee appointed Mr. S. D. Saklatvala as its representative. Owing, however, to his inability to attend regularly meetings of the Board outside Bombay, Mr. Saklatvala tendered his resignation, and at its meeting held on the 8th April 1932, the Standing Finance Sub-Committee appointed Rao Bahadur Bhimbhai Ranchodji Naik to take Mr. Saklatvala's place. The action of the Sub-Committee requires the approval of the Indian Central Cotton Committee.

APPENDIX XX.

SUBJECT 51.—*Provincial Cotton Committees—Abolition of United Provinces Provincial Cotton Committee—Letter from the United Provinces Government.*

Secretary's Note.

At the last meeting of the Committee held in December 1931, the following resolution was unanimously passed:—

“That the Central Cotton Committee, while being thoroughly appreciative of the work which some Provincial Cotton Committees have accomplished, feels that sufficient use is not made of these local advisory bodies and recommends that they should be more closely associated with all matters connected with grants from the Committee. The Central Cotton Committee further deplores the action of the United Provinces Government in failing to re-constitute the United Provinces Provincial Cotton Committee but trusts this will last only for the period of the financial stringency.”

A copy of the above resolution was forwarded to the United Provinces Government and the following reply has been received.

Copy of letter No. 30/XII-A-73, dated the 22nd January 1932, from the Secretary to Government, United Provinces, Allahabad, to the Secretary, Indian Central Cotton Committee, Bombay.

SUBJECT.—*Abolition of the United Provinces Provincial Cotton Committee.*

With reference to your letter No. 2077, dated January 9, 1932, forwarding a copy of a resolution on the above subject, which was passed by your Committee at its meeting held on December 15, 1931, I am directed to say that the circumstances which led to this Government's decision not to re-constitute the United Provinces Provincial Cotton Committee are, briefly, as follows.

2. At a conference between the Director of Agriculture, United Provinces, and members of the Upper India Chamber of Commerce interested in cotton, which was held in August 1930, a definite policy regarding cotton was agreed upon and is being carried out. Cotton policy in the United Provinces is therefore settled for a number of years. Further, the Upper India Chamber of Commerce has constituted a Cotton Sub-Committee to deal with matters relating to cotton. These arrangements, this Government considered, did away with the necessity of having a Provincial Cotton Committee, and in these circumstances and in view of the pressing need for economy, they decided not to reconstitute the Committee for the present.

3. I am to add that, if and when the Provincial Cotton Committee is reconstituted, this Government will bear in mind your Committee's desire that such local advisory bodies should be more closely associated with all matters connected with grants from the Indian Central Cotton Committee.

APPENDIX XXI.

SUBJECT 52.—*Provincial Cotton Committees—Abolition of Burma Provincial Cotton Committee.*

Secretary's Note.

The following extract from a resolution passed by the Committee at its last meeting was forwarded to all Provincial Directors of Agriculture:—

“That the Central Cotton Committee, while being thoroughly appreciative of the work which some Provincial Cotton Committees have accomplished, feels that sufficient use is not made of these local advisory bodies and recommends that they should be more closely associated with all matters connected with grants from the Committee

The reply below has been received from the Director of Agriculture, Burma. In the circumstances mentioned no action is called for at present.

Copy of letter No. 3745/1A-48, dated the 31st March 1932, from the Director of Agriculture, Burma, to the Secretary, Indian Central Cotton Committee.

PROVINCIAL COTTON COMMITTEE.

I have the honour to acknowledge receipt of your letter No. 2239, dated the 15th January 1932, and to state that the Cotton Committee of this province has not met since 1928. On several occasions subsequent to that date members were asked to submit subjects for discussion but none were forthcoming. The province did not accept the

legislation relating to Cotton Transport and the Licensing of Ginneries on the grounds that the abuses prevalent in India did not exist in Burma to anything like the same extent. In view of this fact and of the fact that the area under cotton in Burma is small and shows little tendency to increase it would appear to be anomalous to require a special committee for this crop when similar committees did not exist for other and more important crops. The separation of Burma from India is possible at a very early date and in view of this possibility and of the other facts mentioned above I do not consider that any useful purpose would be achieved by resuscitating the Committee at the present time.

APPENDIX XXII.

SUBJECT 53.—*Provincial Cotton Committees—Proceedings of the Central Provinces Provincial Cotton Committee.*

Secretary's Note.

The minutes of the meeting of the Central Provinces Provincial Cotton Committee held on the 23rd February 1932 are attached for information. The Committee considered the question of seed supply for Central Provinces and Berar and agreed to the necessity for licensing the ginning and pressing factories to counteract the evil consequences of the pools, though further consideration of the subject was postponed to the next meeting. The Committee also decided that the Department of Agriculture should confine its attention to the spreading of only Verum cotton and passed a resolution supporting Mr. Kolhe's Central Provinces Cotton Market Bill which was accepted by the Indian Central Cotton Committee in its last meeting.

Proceedings of the meeting of the Central Provinces Provincial Cotton Committee held on Tuesday, the 23rd February 1932.

Present :

F. J. Plymen, Esquire, C.I.E., I.A.S., Director of Agriculture, Central Provinces, Chairman.
R. N. Banerjee, Esquire, I.C.S., Director of Industries, Central Provinces.
Sir Sorabji Mehta, Kt.
M. P. Kolhe, Esquire.
M. R. Dokras, Esquire, M.L.C.
Rao Bahadur M. G. Deshpande.
Rao Bahadur G. R. Kothare.
D. N. Mahta, Esquire, Economic Botanist for Cotton, Central Provinces, Secretary.

Visitors.

R. H. Hill, Esquire, I.A.S., Deputy Director of Agriculture, Southern Circle, C. P.
J. C. McDougall, Esquire, Deputy Director of Agriculture.

The minutes of the last meeting were confirmed and action taken by the Local Government on Resolution 3 was recorded.

The Chairman referred to the congratulatory remarks of the Indian Central Cotton Committee on the useful work carried out by the Central Provinces Cotton Committee.

SUBJECT No. 1.—*Cotton Seed Supply for the ensuing year.*

The Chairman said Mr. McDougall had investigated this question and he would therefore ask him to explain the position.

Mr. McDougall said there was doubtless going to be a shortage of seed this year but after careful examination of the position, he thought the difficulty would be tided over. He explained that the current season's production would be somewhere in the neighbourhood of 40 per cent. as compared with last year but the redeeming feature was the decline in the export of cotton seed from the province, which during the last three months was only 17.88 per cent. of last year's export. If the exports continued in the same proportion during the rest of the period there would be left a balance of some 3,450,876 maunds of cotton seed for sowing and feed. In view of other feeding stuffs, such as oil-cakes, teora, and chuni, etc., being readily available at cheaper rates, he thought the demand for cotton seed for feed would be considerably less than it was last year and he therefore ventured to hope that there would be sufficient seed left for sowing in the coming season.

The Chairman said it had been suggested by some that Government should take steps to prohibit the export of cotton seed but he did not think that the Committee could recommend such an action to Government. He thought that as there were now so many alternatives to cotton seed for feed which could be bought at much cheaper rates, the difficulty about cotton seed for sowing purposes would probably not be so great as was apprehended.

Mr. Banerjee said he would like to know where the seed came from and if the Agriculture Department could not take steps to buy up and store, for sowing in the coming season, as much cotton seed as possible.

The Chairman in explaining the position said that there was certainly not going to be enough seed for "A class" farmers. He thought, however, that the number of "B class" farmers would have to be increased. There was a provision of a sum of Rs. 28,000 for purchase of seed, out of which Rs. 16,000 were allotted to Berar. He assured the Committee that he would do his best to buy up as much seed as possible.

SUBJECT No. 2.—*Resolution of the Indian Central Cotton Committee regarding cotton ginning and pressing factories pools.*

Rao Bahadur M. G. Deshpande, in opening the discussion said the Indian Central Cotton Committee had passed a resolution that the report of the Local Sub-Committee on the investigations carried out in the Central Provinces and elsewhere be adopted. The growers' representatives did not think that the report of the Local Government on the effect of pools on the price paid to the grower for his cotton went far enough and desired the Committee to request Local Governments to undertake legislation to stop the evil by the fixation of maximum prices.

Mr. Kolhe said the accuracy of the report was challenged by some trade members on the ground that the investigators had to depend on the information given them by interested parties.

Mr. Banerjee said the report of the Central Provinces investigations was circulated to members of the Local Sub-Committee of the Indian Central Cotton Committee which showed that they did not disagree with the report. But the Local Sub-Committee was of opinion that under the present conditions nothing could be done by the Cotton Committee beyond drawing the attention of the Local Government to the investigations carried out by its own officers and the matter was thus left to the Local Government who had asked him to draw up proposals to deal with the evils resulting from pools.

Mr. Kolhe said that the evils were admitted by all but what was wanted was an adequate remedy to prevent the grower from being penalised by a combine of factory owners. He would request Mr. Banerjee to give his own views on the subject.

Mr. Banerjee said that pools had been in existence in most of the larger centres during the last ten years and the rates charged for ginning and pressing had been generally higher in many centres than they should be under conditions of normal competition. But there was no evidence to show that the increase resulting from these pools was excessive in many places as there were several natural checks. For example, cotton was often diverted to centres without pools and many of the merchants and purchasers were also setting up their own factories to avoid the high cost of ginning and pressing. The establishment of factories in some of the larger villages in the interior had similarly enabled the cultivator to avoid pooling centres. He did not deny that the agriculturist suffered to some extent by the system of pools, but he felt that any drastic interference would be against the right of free trade. The practice arose merely from the businessman's instinct of self defence against the consequences of cut-throat competition. So long as there was no abuse, the practice resulted in economy in overhead charges and ensured the working only of the minimum number of gins and presses necessary for disposing of the cotton of each centre. The remedy that he could think of was to limit the number of factories at each centre to such a figure as would be just sufficient for coping with the total volume of cotton normally coming to the local market and to close down all the surplus factories. He agreed with the suggestion that no license should be granted to a ginning and pressing factory which did not undertake to work for at least eight weeks in the year unless prevented by causes beyond the control of its owner. Such a system of licensing would have to apply to all existing as well as new factories.

Sir Sorabji Mehta said that it seemed to him that they were going to bring in legislation as recommended by the Indian Cotton Committee of 1917. He thought that what was required was an all-India legislation and if the Local Government approached the Indian Central Cotton Committee, the latter would go up to Government of India for it.

Rao Bahadur Kothare said he could not see how legislation was going to help the agriculturist. He was himself in favour of free trade and did not think that there should be any interference. The pools were the result of the present day tendency for rationalisation so as to reduce costs and to try to stop them would mean that the stronger concerns would obtain monopoly and the prices would go up considerably.

Rao Bahadur M. G. Deshpande said he was in favour of issuing licenses only to those who agreed to work for eight weeks in the year and for fixing maximum rates.

Mr. Dokras favoured issuing of licenses and fixed rates.

Mr. Kolhe said he would favour any method, whether it was that of issuing licenses for fixation of maximum rates, as he felt that something must be done.

The Chairman, in winding up the debate, said that the general opinion of the Committee was that legislation was necessary to introduce a system of licensing whereby maximum rates could be applied. He thought that the best thing would be to ask *Mr. Banerjee* if he would circulate his proposals, drawn up in the light of their discussion, to members of the Committee. These could then be discussed at a subsequent meeting.

This was agreed to.

SUBJECT No. 3.—*The question whether both pure Verum and pure Roseum seed should be supplied to the cultivator.*

The Chairman said that this subject had been discussed at some length at the last meeting of the Indian Central Cotton Committee. That Committee would no doubt be of opinion that the Agricultural Department should confine itself to Verum. But the question was whether they should fill the whole of the province with Verum. He knew that Verum was not as good as they wanted it to be, but the Botanical Section was trying to bring out new and more suitable strains of this cotton. He drew attention of members to the spinning test reports from Matunga on Verum which, he said, were very satisfactory. He would like a little guidance as to what types of cotton should be aimed at.

Sir Sorabji Mehta said that, in his opinion, there was still scope for short staple, though he was definitely against growing Roseum. He thought that Verum lacked uniformity which should be aimed at in the work of improvement.

The Secretary said that this aspect was already receiving their attention.

Mr. Banerjee said that in his opinion the Department should confine itself to Verum but if any one wanted to grow any other type, he could do so.

After some discussion it was decided that the Department should confine itself to Verum for the present but that a small area should be maintained under Roseum on Government Farms.

SUBJECT No. 4.—*The resolution passed at the second meeting of the Verum Central Organisation Committee held at Akola on the 13th December 1931.*

“Resolved that the attention of the Provincial Cotton Committee be invited to *Rao Bahadur M. G. Deshpande's* apprehension that the spread of Garrowhill cotton in Wardha, Arvi and some parts of Berar will affect adversely the reputation of the local cotton. That steps be taken by the Provincial Cotton Committee to discourage the spread of this variety.”

The Chairman explained what the Verum Central Organisation Committee was and said that as it had drawn their attention to this subject, it was up to them to take action on it. The question of Garrowhill cotton came up a few years ago. We saw some of it in Wardha and Arvi. It was bought for mixing to increase the ginning percentage of local cotton. He wanted to know what action could be taken to discourage the spread of this variety.

Sir Sorabji Mehta said that, before arriving at any decision, it was necessary to find out what quantity of this cotton was met with in the province.

Rao Bahadur M. G. Deshpande said that at present the quantity involved was not very great, but he was told that it obtained the same price as Verum. In appearance it was very fine and, as there was a danger of its spreading, they should have propaganda against it.

Mr. Dokras said that on account of the higher lint percentage, the buyer was tempted to pay a higher price for it. He was himself tempted to grow it but it was a late-ripening variety and required a better type of soil.

Sir Sorabji Mehta thought that the Department should take no action on the matter. If the cultivator got a better price for it, he would go on growing it.

Mr. Banerjee said he did not agree with *Sir Sorabji*, for, if five years hence, the mixture grew bigger, the Central Provinces cotton would get a bad name. He thought that, if it was a potential evil, steps should be taken to stop it.

Mr. Kolhe said that in his opinion Deputy Directors should be asked to find out what area was under Garrowhill in their respective circles and to keep a watch on its progress so that it did not surpass the danger point.

The Chairman said it would be inadvisable to advertise this cotton and the best thing was not to recognise it at this stage. The Department would, however, keep an eye on its progress and give figures of area and outturn from time to time.

This was agreed to.

SUBJECT No. 5.—*(Not on the agenda—Mr. Kolhe's Cotton Market Bill.)*

After some discussion, *Rao Bahadur M. G. Deshpande* moved and *Mr. Banerjee* seconded the following resolution :—

RESOLUTION No. 1.—“That this Committee representing the interests of growers supports *Mr. Kolhe's* Central Provinces Cotton Market Bill as it stands.”

The resolution was carried.

(Signed) D. N. MAHTA,

Secretary,

Provincial Cotton Committee, Central Provinces.

APPENDIX XXIII.

SUBJECT 54.—*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.*

Secretary's Note.

The Sind Cotton Committee was constituted in March 1931 as was already reported to this Committee in July 1931. The minutes of its first meeting held on the 18th February 1932 are attached for information. The Committee discussed several important subjects which included (i) the policy to be followed with regard to the extension of the different varieties of cotton in different cotton growing tracts of Sind, (ii) multiplication and distribution of seed, (iii) removal of cotton stalks from fields against the spreading of boll-worm attack and (iv) starting open mandis for the sale of cotton and the subject of “Relation between the Indian Central Cotton Committee and the Provincial Cotton Committees” which will separately be considered by this Committee. The Sind Cotton Committee has made a very good beginning and it is hoped that it would continue to take similar interest in future.

SIND COTTON COMMITTEE.

1ST MEETING.

18TH FEBRUARY 1932.

Minutes.

Present :

W. J. Jenkins, M.A., B.Sc., I.A.S., Chief Agricultural Officer in Sind (Chairman).
H. Dow, I.C.S., Revenue Officer, Lloyd Barrage.
Khan Bahadur Azimkhan, Deputy Registrar, Co-operative Societies, Sind.
Bakshi Darshansingh, Southern Jamrao.
Babu Ghulam Mahomed Khan, Northern Jamrao.
A. J. Panas, Karachi Chamber of Commerce.
Seth Issardas Varindmal, Karachi Indian Merchants' Association.
G. B. Kotak, Buyers' and Shippers' Chamber.
Rao Saheb Tharumal Bilaram, Nawabshah.
Mukhi Gobindram Pritamdas, Hyderabad.

The under-noted attended the meeting by invitation :—

Khan Bahadur Gul Mahomed Abdur Rehman, Assistant to Chief Agricultural Officer in Sind.

K. I. Thadani, M.Sc., M.Ag., Botanist in Sind.

K. H. Advani, M.Sc., B.Ag., Cotton Supervisor, Left Bank.

H. A. Idnani, B.Ag., Cotton Supervisor, Right Bank.

SUBJECT (1)—(a) *Formation of a Cotton Committee for Sind.*

(b) *Cotton Committee for Sind; Nomination of representatives of cotton growers on the—*

Government Resolution No. 2221, Revenue Department, dated 13th March 1931, approving the formation of a Cotton Committee for Sind and Government Resolution No. 2221, Revenue Department, dated 19th August 1931, nominating representatives of cotton-growers on the Sind Cotton Committee were recorded.

SUBJECT (2).—*Trade Representatives on the Sind Cotton Committee.*

The Chief Agricultural Officer in Sind's Note, giving the names of representatives nominated by trade organisations in Karachi on the Sind Cotton Committee, was recorded.

SUBJECT (3).—*Relation between Indian Central Cotton Committee and Provincial Cotton Committees.*

The Chief Agricultural Officer in Sind gave a resume of the discussion on this subject which took place at the December (1931) meeting of the Indian Central Cotton Committee.

Rao Saheb Tharumal Bilaram suggested that the Indian Central Cotton Committee should be requested to hold one of their half-yearly meetings in Sind in the near future. This was agreed to.

The Chief Agricultural Officer in Sind's Note was recorded.

SUBJECT (4).—*Representation of Sind cotton-growers on the Indian Central Cotton Committee—Action taken at 24th Meeting of Indian Central Cotton Committee, December 1931.*

The Chief Agricultural Officer in Sind's Note was recorded.

Seth Issardas Varindmal proposed that the Sind Cotton Committee should submit its recommendation to the Commissioner in Sind with regard to the nomination of a representative of the Sind cotton-growers on the Indian Central Cotton Committee when and if such representation was granted. This was agreed to.

SUBJECT (5).—*Occurrence of "green stain" in Sind-American Cotton of the Jamrao Tract.*

The Chief Agricultural Officer in Sind's Note and the report received from the Director, Technological Laboratory, Indian Central Cotton Committee, Bombay, on this subject were discussed. Mr. Panas and Seth Issardas Varindmal explained the attitude of the trade towards the occurrence of "green spot" on Sind-American "phutties" and lint. It was finally agreed that in the absence of any complaint from growers of loss on account of "off" allowances being taken for "green stain" cotton, no action was necessary at present. The results of the tests carried out at the Technological Laboratory, Matunga, on "green stain" cotton should be brought to the notice of trade organisations through the Joint Cotton Committee, Karachi.

SUBJECT (6).—*Cutting and destruction of cotton stalks left in fields after picking is completed as a measure of checking attack by insect pests. Proposal by D. M. Bakshi, Esq.*

Mr. Bakshi's proposal and the Chief Agricultural Officer in Sind's Note were considered. It was agreed that, at present, the only practicable line of action was by means of propaganda and educative work by the Agricultural Department to induce zamindars to remove the cotton stalks from their fields after harvest.

SUBJECT (7).—*Encouragement of green-manuring in cotton-growing tracts. Proposal by D. M. Bakshi, Esq.*

Mr. Bakshi's proposal and the Chief Agricultural Officer in Sind's Note were considered.

The Chief Agricultural Officer in Sind explained that proposals for the exemption of green-manure crops, i.e., scheduled crops grown and ploughed into the land before the 15th September, from assessment had been submitted to Government and orders were awaited.

SUBJECT (8).—*Proposals by Rao Saheb Tharumal Bilaram regarding separation of cotton seed of second picking in ginneries for sowing purposes.*

Rao Saheb Tharumal Bilaram's proposal was considered.

Mr. Panas considered it impracticable and pointed out that zamindars, desirous of obtaining pure, selected seed of second picking, would have no difficulty in obtaining the same from the ginneries by special arrangement. The Chief Agricultural Officer in Sind pointed out the drawbacks to any system of "certification" of seed and stated that the future policy of the Agricultural Department with regard to seed distribution would be discussed under another subject on the Agenda.

It was decided that no action could be taken on the lines of Rao Saheb Tharumal Bilaram's proposal.

SUBJECT (9).—*Consideration of the Policy of the Agricultural Department with regard to the extension of different varieties of improved cottons in the different cotton-growing tracts in Sind.*

The Chief Agricultural Officer in Sind's Note and the decisions of the Staff Conference of the Agricultural Department (November 1931) in this connection were considered.

Mr. Panas considered that the proposed policy was a step in the right direction and should be approved fully. He stated that there would be no difficulty in disposing of two lakhs to two and a half lakhs of bales of Sind *deshi* cotton and that the area under this variety could suitably be increased to four lakhs of acres without glutting the market. He also pointed out that there was a practically unlimited demand for long-stapled cottons and that their cultivation in separate areas should be encouraged.

In reply to a query by Mr. Dow, the meeting agreed that the cultivation of improved varieties of cotton on the Right Bank could be encouraged by lower rates of assessment for this crop. The policy of the Agricultural Department as laid down in the Note was approved.

SUBJECT (10).—*Consideration of suitable schemes for multiplication and distribution of seed of improved varieties of cotton.*

The Chief Agricultural Officer in Sind's Note and the decisions of the Staff Conference of the Agricultural Department (November 1931) in this connection were considered.

The policy of the Agricultural Department, as laid down in the Note, was approved.

Seth Issardas Varindmal proposed that one non-official member should be added to the Sub-Committee proposed to consider the final stages of seed distribution through co-operative agencies. This was agreed to.

SUBJECT (11).—*Future programme of work of the "Cotton Extension Scheme" on (a) Right Bank, (b) Left Bank, financed by the Indian Central Cotton Committee.*

The proposed programme of work was approved.

SUBJECT (12).—*Possible future lines of research on the improvement of cotton agronomy and cultivation in the Barrage areas.*

The Chief Agricultural Officer in Sind's Note and the decisions of the Staff Conference of the Agricultural Department in Sind (November 1931) in this connection were considered and approved.

SUBJECT (13).—*Cotton Improvement in India. Suggestions of Karachi Indian Merchants' Association.*

Letter No. 1062, dated 23rd December 1931, from the Secretary, Karachi Indian Merchants' Association, Karachi, to the Secretary, Indian Central Cotton Committee, was considered. Most of the points raised in the Association's letter had been dealt with under other items on the Agenda of the meeting.

The Chief Agricultural Officer in Sind produced figures showing the rates at which departmental cotton seed had been sold to zamindars in comparison with ginnery rates over the past four years. It was agreed that the rates charged by the Department were reasonable.

SUBJECT (14).—*Annual Report of the Dhulia Cotton Market for the year 1930-31.*

The Report was recorded.

Rao Sahab Tharumal Bilaram suggested that steps should be taken at once to open cotton "mandis" in the Barrage areas of Sind. Seth Issardas Varindmal pointed out that, owing to deficient transport and road facilities, this could not be done successfully at present. Rao Sahab Tharumal Bilaram was requested to put up concrete proposals at the next meeting of the Committee.

SUBJECT (15).—*Any other business.*

(a) Mukhi Gobindram Pritamdas proposed a resolution to the effect that the Barrage authorities should be requested to expedite the soaking of canals and water-channels so that an early supply of water would be available for cotton sowing in the coming kharif season.

Mr. Dow said that he was certain that the Barrage authorities were already doing all possible in that direction.

It was agreed that the resolution should be brought to the notice of the Chief Engineer in Sind by the Chief Agricultural Officer in Sind.

(b) Mr. D. M. Bakshi proposed that the Indian Central Cotton Committee should be requested to grant a loan for the purpose of opening seed depots and stores in the cotton growing tracts. It was generally considered that, pending the full organisation of seed supply, the proposal was premature but Mr. Bakshi was asked to place detailed proposals before the next meeting.

(c) Seth Issardas Varindmal proposed that the number of meetings of the Committee to be held during the year should be increased and that a regular constitution and rules for the working of the Committee should be drawn up.

It was decided that a meeting of the Committee should be arranged for whenever there was a sufficient number of subjects—or any specially important subject—in relation to cotton-growing to be discussed. The Chief Agricultural Officer in Sind stated that he was prepared to submit draft rules, etc., for consideration at the next meeting of the Committee.

(Signed) W. J. JENKINS,

Chief Agricultural Officer in Sind and

Chairman, Sind Cotton Committee.

Karachi, 26th February 1932.

APPENDIX XXIV.

SUBJECT 55.—*Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee.*

Secretary's Note.

Attached is a copy of the Proceedings of a Meeting of the Punjab Provincial Cotton Committee held on the 4th May 1932. Subjects 1 and 2 of these Proceedings are being dealt with separately by the Agricultural Research Sub-Committee and its recommendations will be found in its report to the Indian Central Cotton Committee.

Proceedings of a meeting of the Provincial Cotton Committee, Punjab, held in the office of the Director of Agriculture, Punjab, at 10 a.m. on the 4th of May 1932.

Present :

1. D. Milne, Esquire, B.Sc. (Agri.), C.I.E., I.A.S., Director of Agriculture, Punjab, Chairman.
2. Mian Ahmad Yar Khan Daultana, M.L.C., Multan District.
3. Rai Bahadur L. Sewak Ram, M.L.C.
4. H. R. Stewart, Esquire, I.A.S., Assistant Director of Agriculture, Punjab.
5. Sardar Darshan Singh, I.A.S., Deputy Director of Agriculture, Hansi.
6. Khan Bahadur M. Fateh-ud-Din, I.A.S., Deputy Director of Agriculture, Jullundur.
7. D. P. Johnston, Esquire, I.A.S., Professor of Agriculture, Lyallpur.
8. Sardar Sahib S. Kharak Singh, I.A.S., Deputy Director of Agriculture, Gurdaspur.
9. Agha Yusaf Ali Khan, P.A.S., Deputy Director of Agriculture, Montgomery.
10. Rai Sahib L. Jai Chand, I.A.S., Associate Professor of Botany, Lyallpur (by invitation).
11. Muhammad Afzal, Esquire, P.A.S., Offg. Cotton Research Botanist, Lyallpur.

Agenda.

1. Scheme for the investigation of the Cotton Root-rot disease in the Punjab (Annexure A).
2. Schemes for clean picking and growing of improved varieties of cotton (Annexure B).
3. Any other business.

The Chairman read out letter No. 12596, dated 22nd April 1932 (Annexure C), received from Mr. W. Roberts of the British Cotton Growing Association, Khanewal, stating his inability to attend the meeting as he hoped to sail from Bombay on the 30th April 1932; making certain comments on the various items of the agenda; and suggesting a new item for the consideration of the Committee. The Chairman said that the item suggested by Mr. Roberts would be taken up at the conclusion of the items on the agenda as they stand at present.

S. S. Ujjal Singh, M.L.C., also expressed his inability to attend the meeting.

Re : Item No. 1.—The Associate Professor of Botany had submitted a scheme for the study of the cotton root-rot disease—a copy of which was sent to all the members of the Committee.

The scheme was carefully gone into and revised after a good deal of discussion. It was then agreed that the revised scheme be forwarded to the Indian Central Cotton Committee with a request for a grant to cover the cost of the scheme in order to enable the Department to take up this important piece of research work.

The revised scheme is attached herewith (Annexure D).

Re : Item No. 2.—To facilitate discussion on this item it was divided into the following two parts :—

- (a) Prize schemes for clean picking.
- (b) Prize schemes for the growing of improved varieties of cotton.

Re : (a).—The Chairman read out a letter No. 3181, dated 27th February 1932, from the Secretary, Indian Central Cotton Committee, to his address and its enclosure, which had been circulated to all the members of the Committee. He personally felt that prizes for samples of cotton exhibited at shows would fail to attain the object in view, as they are no true indication of how clean the exhibitors have picked the bulk of their cotton crop.

Rai Bahadur Sewak Ram said that prizes need not necessarily be awarded at shows; but they should be given to zamindars who enter for the competition and who can show large quantities of clean picked cotton. The staff of the Agricultural Department should inspect the stocks in their godowns.

The Chairman said that unfortunately our district agricultural staff has been considerably reduced recently and they are not now numerous enough to inspect the large number of holdings with the frequency necessary to discuss the condition in which each farmer has picked the bulk of his crop. He, therefore, felt that the suggestion given above is not practicable under the circumstances.

Rai Bahadur Sewak Ram suggested that we might revert to the old scheme of cotton auctions. The Department should advertise that in the month of, say, January in a certain mandi prizes will be awarded, according to the standard laid down, to zamindars who bring in clean cotton. The minimum weight of a sample can be fixed. He further explained the procedure of the cotton auctions when they used to bring in cart-loads of cotton for sale to mandis.

Mian Ahmad Yar Khan said personally he considered the scheme a very good one but it was not practicable. He thought that the scheme is for the benefit of the agriculturist. As 80 per cent. of the cotton is sold in villages to middlemen who bring it to mandis, he feared that it would have an irritating effect on zamindars; there would be many complaints and the Department would become unpopular.

Deputy Director of Agriculture, Jullundur, said that enquiries should be made from the Indian Central Cotton Committee as to how the conditions of picking have altered. Another thing to be enquired into was whether the cost involved in picking cotton clean will be covered by the premium a farmer would get for his clean picked cotton.

Professor of Agriculture said the premium usually got is 4 to 8 annas per maund and that his enquiries showed that at present it does not pay farmers to have his cotton picked clean.

Deputy Director of Agriculture, Montgomery, suggested that the scheme might be tried in the controlled area of the Nili Bar.

MO. P. R. V. 31-7

Chairman said the cotton auctions mentioned by Rai Bahadur Sewak Ram were not altogether an unmixed blessing. If cotton rates were good on the particular day of the auction every one was happy; but if rates happened to have fallen on the day of the auction zamindars were dissatisfied. He was, therefore, not in favour of reviving these auctions. He agreed with Mian Ahmad Yar Khan that a very large percentage of cotton is sold in village and thus the cotton brought in mandis is not brought in by farmers themselves. Consequently there would be difficulty in ensuring that the prizes really went to growers. Regarding the Deputy Director of Agriculture, Montgomery's suggestion he said that under the scheme of Peasant Grants for good husbandry in the Nili Bar Colony one rectangle has been reserved in each of 20 villages in the Colony and is to be allotted in half rectangle grants to the tenants of the villages concerned who farm their holdings best during the year and who followed the methods advocated by the Department. He, however, expressed his doubts whether a trial there would be of any use as even in that locality there was insufficient staff to visit all holdings with sufficient frequency to see a large proportion of the *kapas* without restricting farmers as to the dates they may sell it.

He said that the Deputy Director of Agriculture, Gurdaspur, had suggested that a premium might be offered to the buyer of clean cotton, but he did not agree with this proposal as the buyer would endeavour to buy clean *kapas* only when it pays him to do so, and the sums of money which he has at stake are so large that no small prize such as we can offer will compensate him for ignoring the possibilities of immediate profits. If farmers bring dirty cotton to the market the middleman buyer merely pays less for it and still gets his profits. It is the farmer and the spinner who lose. The Chairman was of opinion that the most effective remedy lies in the hands of the spinner. He is the man who fixes the prices that middlemen can pay for different classes of cotton, and if he will pay a sufficiently higher rate for clean than for dirty cotton he will get cleaner cotton. He felt that the Indian Central Cotton Committee can assist in getting cleaner picked cotton for the spinners and also in reducing the present practice of mixing *Desi* and American lints by agreeing to help us in subsidising Zamindara Co-operative Sale Societies as proposed in the scheme laid before them in July 1930. The main objection which the Indian Central Cotton Committee had to supporting that scheme was our proposal that the Co-operative Sale Societies should sell wheat, oilseeds and other farm products as well as cotton. They did not feel that the Indian Central Cotton Committee money should be spent on work other than cotton. In this connection he pointed out that they are now entering into an agreement with the Imperial Council of Agricultural Research to help to finance a scheme of costs of raising crops (including all main crops), and he did not see why they should not enter into a scheme to help to finance sales of crop produce, including cotton. He also drew attention to the fact that in one of the provinces they are subsidising investigations on crops other than cotton—the reason being that those crops affect the cotton crops' rotation.

As regards Co-operative Sale Societies he reminded the members that this Committee passed the following resolution on the subject in 1930 :—

"That this Committee recommends that instead of organising societies for the production and marketing of pure Punjab-American cotton only, Zamindara Societies which will sell all farm crop produce, including Punjab-American cotton, shall be started on the lines of the Okara Zamindara Association, and that the Indian Central Cotton Committee may be requested to kindly contribute up to Rs. 5,000 for one year for work in organising and starting such societies. This money will probably be utilised in paying part salaries of the organising Secretaries, Graders, etc. The societies will be generally supervised by the Agricultural and Co-operative Department and their accounts will be audited".

To this we received the following reply from the Indian Central Cotton Committee :—

"The Indian Central Cotton Committee at its meeting held on the 1st July decided to adhere to its original scheme, viz., that the Committee would pay half the cost of a full time officer and staff to organise Co-operative Sale Societies up to a maximum of Rs. 5,000 for one year for the production and marketing of pure American cotton".

The Chairman thought that we might again recommend the above scheme to the attention of the Indian Central Cotton Committee.

Deputy Director of Agriculture, Jullundur, suggested that instead of awarding prizes we should engage additional staff with this money, who should do propaganda advocating the growing of improved cottons and clean picking.

Deputy Director of Agriculture, Montgomery, while reiterating his proposal of trying the scheme on the peasant grants as above suggested, stated that we might take one tehsil first. This was not agreed to on account of insufficient district agricultural staff.

Professor of Agriculture suggested that a certain number of mandis might be selected in different parts of the province and we should fix certain dates for awarding prizes (dates not to be notified) during the months of December and January when the bulk of the cotton comes to the market, send our officers to those mandis and award the prizes on these dates. He said that the fact that the Agricultural Department will give prizes for clean picked cotton on any day during these two months must be well advertised.

Chairman said that his objections to this proposal were :—

(a) 80 per cent. of the cotton never goes to the mandis at all by the farmer himself,

(b) a large part of the cotton which goes to the mandis does not belong to the farmer. Under these circumstances he thought it will not be the farmer who will benefit by this scheme.

Cotton Research Botanist agreed with the Professor of Agriculture. He said that in the beginning it does not matter to whom the prize goes whether he be a zamindar or a middleman. He was sure that as time goes on and this fact gets wide publicity the zamindar will benefit ultimately.

R. B. Sewak Ram also supported the idea of the Professor of Agriculture.

Mian Ahmad Yar Khan said that those people who bring cotton in mandis are not zamindars. The best thing will be to ask the Deputy Director of Agriculture to visit villages and award prizes there.

Chairman pointed out that unless there is sufficient agricultural staff to inspect all holdings concerned sufficiently frequently to ensure fair awards, this scheme would cause great dissatisfaction, and the Departmental staff will be accused of corruption.

Deputy Director of Agriculture, Jullundur, said if a trial is going to be made it should be done at a place where growers bring their cotton to mandis. He suggested that Jullundur would be a suitable place for this purpose as there is only one factory and the zamindars bring their cotton there.

Chairman enquired how this scheme would be worked that in case a trial was made at Jullundur.

Deputy Director of Agriculture, Jullundur, replied that he would depute staff for this purpose to the factory but admitted that we had no staff to spare for this work to be done on any scale at present. This suggestion was considered unworkable for want of sufficient district staff in the Department.

Professor of Agriculture suggested that in order to meet the objection that zamindars will not benefit if prizes are awarded in mandis, a principle could be laid down that prizes will be given for the cotton marketed by the zamindar himself. In this way other people would be excluded; also it will act as an inducement to the cultivator to market his own cotton.

R. B. Sewak Ram said this was an exceedingly good idea of the Professor of Agriculture, a trial may be given to this method to encourage growers of pure cotton.

Deputy Director of Agriculture, Hansi, raised an objection to the suggestion that dates of awarding prizes would be kept secret. He said in this way we might miss the best cotton.

Deputy Director of Agriculture, Jullundur, agreed with the Deputy Director of Agriculture, Hansi. Professor of Agriculture felt that as we had not staff enough to enable us to have men stationed at the mandis all the season the dates of prize giving would have to be kept secret, if the scheme was going to do any good.

After discussion the following resolution was unanimously agreed to :—

RESOLUTION.—That the Indian Central Cotton Committee should be approached again with a request for a grant of money to assist in organising societies for the production and marketing of all farm crop produce including Punjab-American cotton.

Regarding (b) Prizes for the growing of improved varieties of cotton.

Chairman said that experience gained in this province seems to indicate that there is no necessity for such prizes. The success which has attended the introduction of American cotton and improved strains of *desi* in the Punjab clearly indicates that when a really improved variety of cotton, i.e., one which has financial superiority, is placed in the hands of the zamindar aided by properly laid out demonstration plots on farmers' lands it quickly establishes itself and is taken up very rapidly without any other inducement, in spite of the fact that we always sell our seeds above market rates for ordinary seeds.

Professor of Agriculture suggested that the Indian Central Cotton Committee should be asked to subsidise our seed supply. In order to get pure seed we have to pay a premium to growers. 30,000 maunds of pure cotton seed were sold last year and if market rates are charged more could be sold.

After discussion the suggestion was approved by the members present and the following resolution was passed :—

That this Committee ask for a grant of Rs. 25,000 to enable the Department to sell the cotton seed at a price nearer the bazar rate.

It was agreed that this will increase the area of unmixed varieties of cotton grown in the province, and will contribute to a better class of cotton being put on the market.

It was agreed that with the present reduced district agricultural staff it would not be practicable to award prizes for the introduction of pure improved varieties.

Regarding Item No. 3.—Mr. Roberts' letter was taken up.

As regards his suggestion to ask for assistance from the Indian Central Cotton Committee for large scale spraying experiments for the "White-fly". After hearing the results got by spraying, it was unanimously agreed that this should be done. It was agreed that the Entomologist should be asked to put up a scheme in this connection and that that scheme should be circulated to members for opinion. Cotton Research Botanist suggested that a grant should be obtained from the Indian Central Cotton Committee in order to study the life history and control measures of the Spotted Bollworm. He said that last year was a very bad year and that an investigation was urgently needed.

Chairman said that the Entomologist was already doing some work on this pest.

Assistant Director stated that no control measures have so far been devised to exterminate this pest. Last year he enquired from Mr. Afzal Hussain who said that the only control measure he could suggest was to pass a rope through a cotton field and cause the affected bolls containing the spotted bollworm to fall to the ground, then irrigate the field and drown the worms in this way.

It was agreed to ask the Entomologist to report on the work already done, if desirable to put up a scheme for further investigation into the life history and control measures of the spotted bollworms: the scheme to be linked up, if possible, with the present Pink Bollworm Scheme.

ANNEXURE A.

SCHEME FOR INVESTIGATION OF THE COTTON ROOT-ROT DISEASE IN THE PUNJAB.

Cotton is one of the most important staple crops of the Punjab. It occupies an area of 2½ million acres including both American and indigenous (*Desi*) cottons.

One of the diseases from which the crop has been seriously damaged is what is described as Root-Rot. This disease affects the roots almost exclusively and brings about at first wilting of the shoots and then death of the entire plant. It attacks both American and *Desi* cottons, mainly in the canal irrigated tracts. The damage caused by the disease to the cotton crops has been found to vary a great deal in different fields. Observations made on the cotton area on the Sargodha Agricultural Farm show that the percentage of the crop affected varies from 1-15 in different fields; while that on the Lyallpur Agricultural Farm, on the average it amounts to 3.3 per cent. Similarly in the Botanical area about 6 per cent. of the crop grown has been found attacked by the Root-Rot disease. In some plots as much as 30 per cent. of the plants were killed by the disease. Reports received regarding the occurrence of the disease in zamindars' fields have shown that the disease occurs almost everywhere in the Province where cotton is grown, and incidence of the disease varies to a great extent. In some cases the damage reported was very heavy. Taking into consideration the extent of the disease for the whole Province it can be, at a moderate estimate, put down to about 3 per cent. On this basis the area of cotton crop damaged by the disease would, therefore, be 82,500 acres, taking 2½ million acres as the total cotton crop grown in the Province. If 5 maunds be taken as average outturn per acre and Rs. 7 as the price of cotton per maund, total value of the cotton crop destroyed by the Root-Rot disease would amount to 82,500 acres × Rs. 35 = Rs. 28,87,500. It is evidently a very heavy loss.

But if individual cases of loss are taken into consideration the loss to the cotton grower would be considerable. Generally 4-6 acres of cotton per square are cultivated and in some cases the damage as observed has been found no less than 15-20 per cent.

In view of the heavy loss caused by the disease to some individual zamindars and the entire Province, the Root-Rot disease has been a matter of serious attention. Some investigations have been carried on in the Botanical Section of the Agricultural College Research Institute, Lyallpur, and a brief note on the observations made is appended herewith.

But as the investigation has not been conclusive and the problem is of great economic importance, it is essential to undertake a regular research of the disease to find out its cause and measures of control. The problem requires to be investigated under the following headings :—

- (1) A study of the life history of the fungus causing the disease, and mode of its attack.
- (2) Isolation and inoculation experiments, including the study of physiological behaviour of causal organisms on plants and in cultures.
- (3) Study of the climatic and soil factors influencing the disease.
- (4) Control measures, i.e., remedial and preventive.

It is proposed that the investigation be carried out at the Punjab Agricultural College and Research Institute, Lyallpur, under the supervision and guidance of the Professor of Botany and that the scheme be financed by the Indian Central Cotton Committee to whom application for provision of necessary funds may be made.

The investigation will involve a detailed study of the problem as outlined above and would take at least three years to arrive at some definite conclusions.

Staff and Expenditure.

	Total for three years. Rs.
1. A Mycologist with suitable foreign qualifications at Rs. 300 per mensem	10,800
2. One Laboratory Attendant at Rs. 20 -- 1- 22	756
3. Travelling allowance at Rs. 300 per annum	900
4. Casual labour at Rs. 200 per annum	600
5. Contingencies at Rs. 150 per annum	450
Total	13,506

Necessary apparatus is available in the Botanical Section for Mycological research and will be supplied.

For the purpose of making observations and carrying out experiments on cotton fields outside Lyallpur, certain amount of travelling would be necessary. Therefore provision has been made to meet this cost.

A sum of Rs. 150 a year is proposed to meet contingent expenditure.

A Brief Note on the Observations made on the Root-Rot Disease of Cotton at Lyallpur.

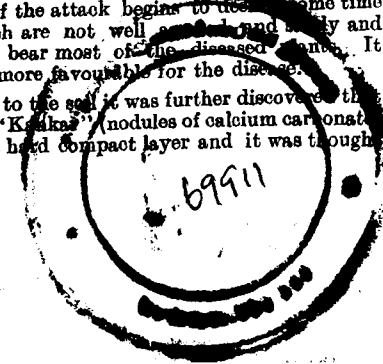
Investigation of the cotton Root-Rot trouble has been carried on since 1911. Observations made on the diseased roots showed the presence of a fungus, as both hyphae and spores were found in plenty in the affected portions of the plants. Dr. Butler, Imperial Mycologist, also had been studying it and the preliminary results obtained by him pointed to the occurrence of a soil fungus of the nature of *Fusarium*. But nothing definite was established regarding causal organism. The problem remained undecided and no further light has since been thrown on the presence of any effective parasitic fungi, as inoculation of healthy plants failed to produce the disease.

2. Cotton diseases similar to the Root-Rot found in the Punjab are known to occur in the Central Provinces, Bombay and other cotton growing tracts in India as well as in America. Although their symptoms are identical, i.e., the diseased plants show wilting preceding their death, yet they are attributed to different types of fungi.

3. Observations made on the diseased plants in Lyallpur and other places in the Punjab have shown that the course of the disease is as follows :—

The disease first begins to appear in the last week of June, i.e., 2-2½ months after sowing. The affected plants are characterised by the wilting of the leaves and drooping of the branches. The attack continues to spread, and the disease travels in a circle involving healthy plants. The wilted plants ultimately dry up and a prominent patch of dead plants becomes noticeable in the fields. The disease proceeds up to the middle of September, although the severity of the attack begins to decrease some time in August. Crops grown on heavy soils which are not well aerated and sandy and poor portions of the field have been found to bear most of the diseased plants. It appears that the particular types of soil are more favourable for the disease.

4. With regard to the relation of the disease to the soil it was further discovered that wherever wilting took place there was a bed of "Kankar" (modules of calcium carbonate) in the soil. "Kankar" bed is, in many cases, a hard compact layer and it was thought



that it might interfere with the growth and functions of the root system. In other words, besides the trouble being pathogenic it might be physiological as well. The experiments carried out for the study of this factor have shown that in plots in which "Kankar" bed was removed death rate due to root-rot was considerably diminished, although the disease was not eliminated.

5. *Variation in the extent of the attack of different types of cotton.*—Studies made in this respect show a great deal of variation in the amount of attack of cotton plants in the same fields. Some plants escape the disease while others close to them were attacked. Seed of plants which remained unaffected, when sown, did not produce plants resistant to the disease. They also became affected.

Indigenous (*desi*) cottons have been found to be more attacked than American types. Then Multani cottons (*Gossypium Sanguineum*) are more susceptible than other *Desi* types. There is a certain degree of resistance shown by different types of cottons.

ANNEXURE B.

Copy of a letter No. 3181 of 1932, dated 27th February 1932, from the Secretary, Indian Central Cotton Committee, Bombay, to the Director of Agriculture, Punjab, Lahore.

SUBJECT.—Prize schemes for clean picking and growing of improved varieties of cotton.

I have the honour to invite your attention to my Circular No. 4533, dated the 27th March 1928, in which the views of Provincial Agricultural Departments were invited on the subject of the award of prizes to encourage the cleaner picking of cotton and the introduction of improved varieties by individuals and societies. The replies received to this reference indicated a lack of enthusiasm generally on the part of the Agricultural Departments concerned and under the circumstances my Committee did not proceed further with the matter.

2. Since the above reference was made, conditions have altered and some Provincial Agricultural Departments have now expressed themselves distinctly in favour of the Committee financing schemes having for their object the award of prizes for clean picking and growing of improved cottons. My Committee has, accordingly, come to the conclusion that the time is now ripe for re-opening this question, but before proceeding further it would welcome an expression of opinion on the proposal from Provincial Agricultural Departments, as the successful working of any scheme, such as that contemplated, will mainly depend on them.

3. The general outlines of the scheme are contained in my Circular No. 4533, dated the 27th March 1928, a copy of which is enclosed for ready reference, and I shall be obliged if you will favour me with your views so as to reach me not later than 31st May 1932 to enable me to place them before the Agricultural Research Sub-Committee at its monsoon meeting.

Copy of Circular No. 4533, dated the 27th March 1928, from the Deputy Secretary, Indian Central Cotton Committee, Bombay, to all the Directors of Agriculture.

Representations have been made at various times to the Indian Central Cotton Committee that the Committee should award prizes to encourage the cleaner picking of cotton and also for the introduction of improved varieties by individuals and societies. These have always been ruled out because the funds of the Committee cannot, by the Cotton Cess Act, be used for propaganda purposes. Recently, however, some of the Trade Members have again brought up the subject and I have been directed to draw up a scheme to put before the next meeting of the Committee. In the event of the scheme being approved, the Government of India will be approached to allow the Committee funds to be employed for this purpose either by a modification of the Act or under the head of marketing which is a legitimate charge on the funds.

2. Mr. Ellis Jones, Vice-President, agreed with me that the Agricultural Departments and the States represented on the Committee should be asked to give their views as they were better able to know their own requirements and on receipt of their replies a comprehensive prize scheme will be drawn up for presentation to the Committee.

3. The Committee would make a grant to the Province or State and it would be left to the Agricultural Departments to make the awards in the manner most convenient to them. The prizes might take the form of a *Sanad* and a medal in addition to a cash

prize but these are matters on which your views are solicited. The prize for clean picking would, I presume, be given at one of the Agricultural Department shows or exhibitions though the samples would have to be large enough to prevent the possibility of special care being taken of them.

4. The prizes under the second category would be given to the growers of the largest area of an improved variety introduced by the Agricultural Department, though in this case the big zamindars would invariably obtain them. In order to give the smaller cultivator a chance of competing, it would be necessary, I think, to give separate prizes for small areas and I would ask for your views on the best method of doing this. The Committee do not wish to add to the work of the Agricultural Departments and for this reason thought it best to follow as far as possible the schemes outlined by them.

5. Another suggestion was made that prizes should be given to individual members of Co-operative Producing and Sale Societies who produced the best samples of an improved cotton. The Committee are of opinion that the money allotted for this purpose should be utilised to encourage the cleaner picking of the crop and for individual efforts in the introduction of improved varieties, but they are quite open to consider any other scheme put forward.

6. I am directed to put before you the above suggestion and I would be obliged for your views particularly on the best method of awarding the prizes and the amount you consider it necessary to give.

7. I should be obliged if you would favour me with a reply in sufficient time to enable me to put up a scheme to the Standing Finance Sub-Committee for their approval before the monsoon meeting of the full Committee.

ANNEXURE C.

Copy of a letter No. 12596, dated 22nd April 1932, from W. Roberts, Esquire, B.C.G.A., Khanewal to the Director of Agriculture, Punjab.

Reference your No. 37/63-748-V, of the 21st instant. I regret that I will not be able to attend the Provincial Cotton Committee on 4th May 1932 as I am hoping to sail from Bombay on the 30th April 1932.

I have received the Agenda and would wish to make the following comments:—

1. *Root-rot.*—I would strongly support this investigation. Some of the preliminary observations are misleading, i.e., the disease being found in stiff soils and in light soils. Further I was under the impression that Dr. Butler failed to identify any "fusarium" actually on the root or on the plant. I suggest your people make certain of their facts before bringing the case to the Indian Central Cotton Committee or better perhaps omit such details, deal only with the incidence percentage.

2. *Clean picking and improved varieties.*—I cannot see any clear advantage in this proposal except as a means of extracting money from the Indian Central Cotton Committee. Of the two proposals the growing of new varieties is the one it might pay to subsidize.

3. I suggest asking for assistance for large scale spraying experiments for the "White-fly". These on a small scale appear to be definitely beneficial, a large scale programme is now necessary.

ANNEXURE D.

Scheme for Investigation of the Cotton Root-pest Disease in the Punjab.

Cotton is one of the most important staple crops of the Punjab. It occupies an area of 2½ million acres including both American and indigenous (*desi*) cottons.

One of the diseases from which the crop has been seriously damaged is what is described as root-rot. This disease affects the roots almost exclusively and brings about at first wilting of the shoots and then death of the entire plant. It attacks both American and *desi* cottons, mainly in the canal irrigated tracts. The damage caused by the disease to the cotton crops has been found to vary a great deal in different fields. Observations made on the cotton area on the Sargodha Agricultural Farm show that the percentage of the crop affected varies from 1.15 in different fields; while that on the Lyallpur Agricultural Farm, on the average it amounts to 3.3 per cent. Similarly in the Botanical area about 4 per cent. of the crop grown has been found attacked by the root-rot disease.

In some plots as much as 30 per cent. of the plants were killed by the disease. Reports received regarding the occurrence of the disease in zamindars' fields have shown that the disease occurs almost everywhere in the Province where cotton is grown, and incidence of the disease varies to a great extent. In some cases the damage reported was very heavy. Taking into consideration the extent of the disease for the whole Province it can be, at a moderate estimate, put down to about 2.5 per cent. On this basis the area of cotton crop damaged by the disease would, therefore, be 56,250 acres, taking 2½ million acres as the total cotton crop grown in the Province. If 4 maunds be taken as average out-turn per acre and Rs. 7 as the price of cotton per maund, total value of the cotton crop destroyed by the root-rot disease would amount to 56,250 acres $\times$ Rs. 28 = Rs. 15,75,000. It is evidently a very heavy loss.

But if individual cases of loss are taken into consideration the loss to the cotton grower would be considerable. Generally 4-6 acres of cotton per square are cultivated and in some cases the damage as observed has been found no less than 15 to 20 per cent.

In view of the heavy loss caused by the disease to some individual zamindars and to the entire province, the root-rot disease is a matter for serious attention. Some investigations have been carried on in the Botanical Section of the Agricultural College Research Institute, Lyallpur, and a brief note on the observations made is appended herewith.

But as the investigation has not been conclusive and the problem is of economic importance, it is essential to undertake a regular scheme of research to find out the cause of the disease and measures for its control. The problem requires to be investigated under the following headings:—

- (1) A study of the life history of the organism or/and conditions causing the disease.
- (2) Isolation and inoculation experiments of causal organisms if any on plants and in cultures.
- (3) Study of the climatic and soil factors influencing the disease.
- (4) Control measures, i.e., remedial and preventive.

It is proposed that the investigation be carried out at the Punjab Agricultural College and Research Institute, Lyallpur, under the supervision and guidance of a committee consisting of the Associate Professor of Botany, the Agricultural Chemist, the Agricultural Bacteriologist, and the Professor of Agriculture from the staff of the Lyallpur Institute, and that the scheme be financed by the Indian Central Cotton Committee to whom application for provision of necessary funds may be made.

The investigation will involve a detailed study of the problem as outlined above and would take at least three years to arrive at some definite conclusions.

Extra staff and expenditure required would be:—

1. An investigator with suitable mycological qualifications at Rs. 300 per mensem	Rs.
2. One Laboratory Attendant at Rs. 20-1-22	10,800
3. Travelling allowance at Rs. 300 per annum	750
4. Casual labour at Rs. 200 per annum	900
5. Contingencies at Rs. 150 per annum	600
	450
Total	13,508

The Associate Professor of Botany who has specialised in plant physiology will be in immediate charge.

Necessary apparatus is available in the Botanical Section for mycological research and will be supplied.

For the purpose of making observations and carrying out experiments on cotton fields outside Lyallpur, a certain amount of travelling will be necessary. Therefore, provision has been made to meet this cost.

A sum of Rs. 150 a year is proposed to meet contingent expenditure.

A Brief Note on the Observations made on the Root-rot Disease of Cotton at Lyallpur.

Spasmodic investigation of the cotton root-rot trouble has been carried on since 1911. Observations made on the diseased roots showed the presence of a fungus, as both hyphae and spores were found in plenty in the affected portions of the plants. Dr. Butler, Imperial Mycologist, studied it and the preliminary results obtained by him pointed to the occurrence of a soil fungus of the nature of *Fusarium*. But nothing definite was established regarding a causal organism. The problem has remained undecided as inoculation of healthy plants failed to produce the disease.

2. Observations made on the diseased plants in Lyallpur and other places in the Punjab have shown that the course of the disease is as follows:—

It began to appear in the last week of June, i.e., 2 to 2½ months after sowing. The affected plants are characterised by the wilting of the leaves and drooping of the branches. The attack continues to spread and the disease spreads in a circle among healthy plants. The wilted plants dry up within a day and a patch of dead plants becomes very noticeable in the fields. The disease continues up to the middle of September, although the severity of the attack begins to decline some time in August.

3. With regard to the relation of the disease to the soil it was further discovered that wherever wilting took place there was a bed of "Kankar" (nodules of calcium salts chiefly carbonate) in the soil. "Kankar" beds are in many cases hard compact layers and it was thought that these might interfere with the growth and functions of the root system. Experiments carried out have shown that in plots in which the "Kankar" bed was removed the death rate due to root-rot was not eliminated.

4. Studies made on the incidence of the disease show a great deal of variation in the intensity of attack on the cotton crop in the same fields. Some plants escape the disease while others close to them are attacked. Seeds of plants which remained unaffected in one year when sown next year did not produce plants resistant to the disease. They also become affected.

Indigenous (*desi*) cottons have been found to be more attacked than American types and Multani cottons (*Gossypium Sanguineum*) are more susceptible than other *desi* types. Different degrees of resistance may therefore be inherent in different types of cottons.

APPENDIX XXV.

SUBJECT 58.—*Provincial Cotton Committees—Co-operation between the Indian Central Cotton Committee and Provincial Cotton Committees.*

Secretary's Note.

The question of increasing the usefulness of Provincial Cotton Committees received the consideration of the Committee at its meeting held in December last and the following extract from a resolution passed at that meeting was sent to Provincial Directors of Agriculture and their suggestions were invited:—

"That the Central Cotton Committee, while being thoroughly appreciative of the work which some Provincial Cotton Committees have accomplished, feels that sufficient use is not made of these local advisory bodies and recommends that they should be more closely associated with all matters connected with grants from the Committee."

The Directors of Agriculture, Madras and Bengal have not expressed their views whilst the Directors of Agriculture, Central Provinces and Punjab have no suggestions to offer. Extracts from other replies received are attached and it is now for consideration what further action the Committee can take.

Copy of letter No. S. 28-842, dated the 5th May 1932, from the Director of Agriculture, Bombay Presidency, Poona, to the Secretary, Indian Central Cotton Committee, Bombay.

PROVINCIAL COTTON COMMITTEES.

"With reference to paragraph 7 of your circular letter No. 2239, dated 15th January 1932, on the above subject, I have the honour to observe that the usefulness of a Provincial or Divisional Cotton Committee depends mainly upon two factors:—

- (a) the personnel and (b) the powers.

These Committees have advisory powers only and I do not favour giving them executive powers, but this being so it does not seem reasonable to expect too much from them where there is a competent Department of Agriculture, beyond giving opinions on specific issues and occasionally taking the initiative in raising an issue. I think this initiative could be increased if there were closer contact between the Divisional Committees and the Central Committee. This might be brought about by granting representation on the Central Body to these Divisional Committees."

Extract from letter No. 30/XIIA-73, dated 22nd January 1932, from the Secretary to Government, United Provinces, Agriculture Department, Allahabad, to the Secretary, Indian Central Cotton Committee, Bombay.

"3. I am to add that, if and when the Provincial Cotton Committee is reconstituted, the Government will bear in mind your Committee's desire that such local advisory bodies should be more closely associated with all matters connected with grants from the Indian Central Cotton Committee."

Copy of letter No. 3745/1A-48, dated the 31st March 1932, from the Director of Agriculture, Burma, Rangoon, to the Secretary, Indian Central Cotton Committee, Bombay.

PROVINCIAL COTTON COMMITTEES.

"I have the honour to acknowledge receipt of your letter No. 2230, dated the 15th January 1932, and to state that the Cotton Committee of this province has not met since 1926. On several occasions subsequent to that date members were asked to submit subjects for discussion but none were forthcoming. The province did not accept the legislation relating to Cotton Transport and the Licensing of Gineries on the grounds that the abuses prevalent in India did not exist in Burma to anything like the same extent. In view of this fact and of the fact that the area under cotton in Burma is small and shows little tendency to increase it would appear to be anomalous to require a special committee for this crop when similar committees did not exist for other and more important crops. The separation of Burma from India is possible at a very early date and in view of this possibility and of the other facts mentioned above I do not consider that any useful purpose would be achieved by resuscitating the committee at the present time."

Extract from letter No. 351-B, dated the 31st May 1932, from the Special Agricultural Officer in Sind, Karachi, to the Secretary, Indian Central Cotton Committee, Bombay.

"2. With regard to paragraph 7 of your circular, reference is requested to this office's No. 421, dated 20th May 1932, wherein it has been suggested that in order to bring about closer relation between the two committees, the Indian Central Cotton Committee may be requested to consider at their next meeting the question of holding one of their half-yearly meetings in Sind in the near future; kindly vide subject No. 3 of the Minutes of the Sind Cotton Committee in this connection."

Copy of letter No. 201, dated the 18th July 1932, from the Agricultural Adviser, Gwalior Government, Gwalior, to the Secretary, Indian Central Cotton Committee, Bombay.

Referring to your Circular letter No. 2230, dated 15th of January 1932, and subsequent letters Nos. 4674 and 5666, dated 4th of May and 30th of June respectively, I have the honour to reply as follows:—

As recommended by the Indian Cotton Committee of 1919 the Gwalior Darbar have been pleased to appoint Gwalior Cotton Committee, and the same is in existence since July 1923. A copy of rules* governing this Committee is enclosed herein for your information. As time rolled on certain changes were considered to be necessary and a revised draft is now before the council for the necessary sanction.

For various reasons the aforesaid Committee has not been able to meet more than 4 times. Copies of *proceedings of the 3rd and 4th meetings are sent herewith. Copies of 1st and 2nd meetings are out of stock.

After the revised draft of the Gwalior Cotton Committee has been approved and sanctioned by the Council, we hope to meet twice every year and discuss problems which have a bearing on cotton cultivation and cotton marketing.

This Committee will also consider the recommendations made from time to time by the Indian Central Cotton Committee and submit their proposals to the Darbar for necessary sanction.

I shall certainly be very glad to work in co-operation with the Indian Central Cotton Committee and shall put up valuable suggestions offered by your Committee before the Gwalior Cotton Committee.

* Not printed.

APPENDIX XXVI.

SUBJECT 57.—*Meeting of the Committee at Indore—Proposed postponement of —.*

Secretary's Note.

At its meeting held in July 1928, the Indian Central Cotton Committee unanimously passed the following resolution:—

"That a cold weather meeting of the Indian Central Cotton Committee be held once in three years at Indore."

In accordance with this resolution the first meeting was held at Indore in November 1929 and the second meeting is due this year.

It is for consideration whether, in view of the present financial stringency, it is desirable to hold a meeting at Indore this year.

APPENDIX XXVII.

SUBJECT 58.—*Proposal to hold a meeting of the Committee in Sind.*

Secretary's Note.

The Special Agricultural Officer in Sind has forwarded a recommendation of the Sind Cotton Committee arrived at at its meeting held on the 18th February 1932, to the effect that the Indian Central Cotton Committee should hold one of its half-yearly meetings in Sind in the near future, the object being to establish closer relations between the Indian Central Cotton Committee and the Sind Cotton Committee.

The question of holding meetings of the Committee outside Bombay has been mooted more than once in the past.

In February 1923, when the question was first raised, the advantages and disadvantages of such meetings received full consideration as will be seen from the attached extract* from the minutes of that meeting. Although the proposal was not accepted then, the Committee, in July 1928, unanimously passed a resolution that a cold weather meeting should be held at Indore once in three years. Again at its meeting in July 1930, the Committee decided to accept the invitation of the Punjab Government to hold its cold weather meeting of that year at Lahore, but as the date drew near, the majority of the trade members in Bombay found that it would be difficult for them to leave Bombay, and the proposal had accordingly to be abandoned.

In view of the present attitude of the Committee in the matter of publicity and propaganda, the present would appear to be an opportune time for re-opening this subject.

APPENDIX XXVIII.

SUBJECT 59.—*United Provinces Pink Boll-worm Extension Scheme—Report of deputation to Cawnpore and Lucknow.*

At its meeting held in December 1931 the Indian Central Cotton Committee considered the proposals of the United Provinces Government for the extension of the results of the United Provinces Pink Boll-worm investigation. These proposals entailed a recurring expenditure of Rs. 3,35,000 over a period of five years and provision for machinery at a maximum cost of Rs. 6½ lakhs. The Committee approved of the scheme in general and appointed a Special Sub-Committee to negotiate with the United Provinces Government on the question of capital grant and to report to this meeting.

The Special Sub-Committee consisting of Sir Joseph A. Kay, Messrs. Burt, Milne, Roberts, Chunilal B. Mehta and Ritchie first conferred with the cotton members of the Upper India Chamber of Commerce and officers of the United Provinces Agricultural Department at Cawnpore on the 17th February 1932 and then discussed the scheme with the Honourable the Minister for Education and Agriculture, United Provinces, at Lucknow on the 18th February 1932.

* Not printed.

Mr. Ritchie on his return from Lucknow addressed a letter to the Government of the United Provinces as suggested by the Secretary to the Government during the meeting and a copy* of his letter and the Government's reply* thereto and also a copy* of the letter from the Honourable the Minister for Education and Agriculture to the President of the Indian Central Cotton Committee are attached for information.

In the circumstances, I suggest that we should accept the decision of the United Provinces Government and take up the subject again at some future date.

Copies of the Minutes* of discussion held at Cawnpore and Lucknow are also attached.

APPENDIX XXIX.

SUBJECT 60.—*Tariff Board Enquiry into the Cotton Textile Industry.*

Secretary's Note.

Members are aware that the Tariff Board addressed the Committee in April last on certain specific points connected with the enquiry into the Cotton Textile Industry, and that a reply drafted by a representative *ad hoc* Sub-Committee appointed by the Local Sub-Committee has already been forwarded to the Tariff Board with a note that the reply contained the considered views of nine members only, and that if the remaining members, who have been circularised, had any fundamental differences of opinion, they will be communicated later on. Eight replies have so far been received. Messrs. D. Milne, F. J. Plymen, F. D. Odell and V. Ramanatha Ayyar agree with the reply sent. Mr. B. C. Burt, Seth Naranlal Jiwaulal, Mr. Y. G. Deshpande and Rao Sahib C. S. Shirahatti have commented on the reply.

The Tariff Board would like to know if the Committee agrees with the reply sent by the Sub-Committee or if any modifications have to be made therein. For convenience of reference copies of the Tariff Board's letter and the Sub-Committee's reply are attached.

The Tariff Board's questionnaire has since been issued. A copy of the questions with which the Committee is concerned in it is attached. It will, however, be seen that the information already supplied by the Sub-Committee covers the points raised in these questions. There does not, therefore, appear any need to send a separate reply to questionnaire.

Copy of letter No. 168, dated the 22nd April 1932, from the Secretary, Tariff Board, Bombay, to the Secretary, Indian Central Cotton Committee, Bombay.

In connection with the Tariff Board enquiry into the Cotton Textile Industry, I am directed to ask that you will be good enough to supply the Board with information on the points noted below :—

- (i) Please refer to paragraph 81 and Appendix XIII of the Report of the Indian Tariff Board, 1927, and your Committee's pamphlet on Cotton Improvement in India, 1931, Chapter V. What is the present available supply of long staple cotton in India? What is the net supply available for use in Indian Mills? What are the counts of yarn in the manufacture of which Indian long staple cotton may be used?
- (ii) To what extent is the raw cotton now imported into India of the same quality as Indian long staple cotton? Does the present import duty on raw cotton materially help the Indian cultivator?
- (iii) Does the present position of the world's cotton crops justify the assumption that there is overproduction? If so, can it be argued that a decline in the output of the Indian mills will adversely affect the Indian cultivator of cotton? This of course assumes that the countries to which Indian cotton is now exported may obtain increasing supplies of short staple cotton from other countries. It is in fact suggested that such a tendency is already noticeable, especially in the case of Japan.

2. I am to request that the reply to this letter (with six spare copies) may be sent as early as convenient, if possible, not later than the 15th of June.

* Not printed.

Reply.

Subject.—*Enquiry into the Cotton Textile Industry.*

Before answering the specific questions asked in the letter of the Textile Tariff Board it would be as well to give a short history of the Indian cotton crop since the 1925-26 season when the Committee supplied a note to the previous Board.

It has to be realised at the outset that the year 1925-26 was a record one in the history of Indian cotton, the estimated production (final figures) being 6,215,000 bales, which is 127,000 bales more than the previous recorded figure of 6,088,000 bales in 1924-25, and 2,151,000 bales more than the estimated production of the current season. During the season 1925-26 the short staple and all varieties of long staple crops fared very well, but since then there has been no year in which one or other of the long staple varieties has not been affected by the vagaries of the season. Further the low prices of 1925-26 were largely responsible for the sharp decline in the total area sown from 28.4 million acres in 1925-26 to 24.8 million in 1926-27. This level was maintained in 1927-28, and the area then rose to 27.1 million in 1928-29, fell to 25.9 million in 1929-30 and as a result of low prices in that season again fell to 23.8 million in 1930-31 and 23.5 million in 1931-32. It will thus be seen that both unseasonable weather conditions and reduced area are responsible for the small crops since 1925-26.

The form of the statement defining long and short staple cotton sent in 1926 by the Committee to the Tariff Board was taken from the classification adopted in Annexure II of the Report of the Indian Cotton Committee of 1919 and in order to make the present day figures comparable with those submitted to the previous Board, the same classification has again been adopted. Cotton 7/8" and over has been classified as long staple while cotton up to 13/16" has been taken as short staple. For mill purposes, however, many of the types included in the long staple class, due to unevenness in staple or lack of strength, fall short of the definition of long staple cotton given below, viz., that capable of spinning 24s warp counts and above. We therefore attach a second statement showing the quantity of commercial long staple cotton grown in India, i.e., those qualities capable of spinning 24s warp counts and above.

Questions—1 (a).—What is the present available supply of long staple cotton in India?

1 (b).—What is the net supply available for use in Indian mills?

Answers.—My Committee is not quite sure what is meant by the word "available" in the first question. A particular cotton may be available in so far as it may be grown, but it may be unobtainable by the mills because, for one reason, of the malpractice of mixing in the intermediate stage of marketing. Nearly 85 per cent. of the Punjab-American crop in the Punjab is sold by the grower with a maximum amount of approximately 10 per cent. mixture of *desi* cotton, but owing to mixing during the process of marketing the same amount of staple cotton is not available to the trade. My Committee therefore prefers to answer the first two questions 1 (a) and 1 (b) by giving in two tables firstly the total amount of long staple cotton produced in the country and secondly by furnishing an estimate of the amount of commercial long staple cotton available for consumption. In the latter case only those types capable of spinning 24s warp counts and above are included. A cotton may be 7/8" in length but may still be incapable of spinning 24s and is thus excluded from the second table, though it may be found under the long staple classification in the first table.

TABLE I.

Indian Cotton Crops Classified by Staple Lengths.

(In thousands of bales of 400 lbs. each.)

	1931-32 (as estimated in the forecasts).
<i>Long Staple—7/8 inch and above—</i>	
<i>Oomras—</i>	
Hyderabad Gaorani	115
Verum 262	20
<i>Broach—</i>	
Surat-Navsari mostly 1027 A.L.F. (Staple 1")	103
Others	120

TABLE I—contd.

	1931-32 (as estimated in the forecasts).
<i>Long Staple—7/8 inch and above—</i>	
<i>Kumta-Dharwar—</i>	
Gadag 1 (Staple 1")	13
Jayawant (Staple 1")	12
Others	224
<i>Westerns and Northern—</i>	
Hagari 1 (Staple 7/8")	28
Nandyal 14 (Staple 15/16" to 1")	2
Others	191
<i>Tinnevellys—</i>	
Karunganni C-7 (Staple 1") }	140*
Karunganni others (Staple 7/8") }	
Others	
<i>Cambodia—</i>	
Coimbatore-2 (Staple 1")	32
Irrigated Cambodia (Staple 1")	59
Others	30
<i>Punjab and Sind-Americans—</i>	
280-F (Staple 1" to 1-1/16") }	231*
4-F (Staple 7/8") }	
Total (Long Staple)	1,320
<i>Short Staple—Below 7/8 inch—</i>	
Oomras (part)	1,188
Broach (part)	57
Dholleras	577
Bengals	785
Salems	36
Cocanadas	34
Comillas, Burmahs, etc.	67
Total (Short Staple)	2,744
Grand Total	4,064

Over a period of ten years previous to the present season, the average of long staple cotton to the total crop has amounted to 26.7 per cent. so that it can be taken that roughly one-fourth of the Indian crop is long staple.

TABLE II.

Classification of Long Staple Indian Cottons capable of spinning 24's Standard Warp Counts and above.

(In thousands of bales of 400 lbs. each.)

	(As estimated in the forecasts.)
<i>Long Staple—7/8 inch and above—</i>	
<i>Oomras—</i>	
Hyderabad Gaorani	115
Verum 262	20
<i>Broach—</i>	
Surat-Navsari mostly 1027 A.L.F. (Staple 1")	70

* Separate figures not yet available.

TABLE II—contd.

	(As estimated in the forecasts.)
<i>Kumta-Dharwar—</i>	
Gadag 1 (Staple 1")	13
Jayawant (Staple 1")	12
Kumta and Dharwar-Americans	75
<i>Westerns and Northern—</i>	
Hagari 1 (Staple 7/8")	28
Nandyal 14 (Staple 15/16" to 1")	2
Others	81
<i>Tinnevellys—</i>	
Karunganni C-7 (Staple 1") }	140*
Karunganni others (Staple 7/8") }	
Others	
<i>Cambodia—</i>	
Coimbatore-2 (Staple 1")	32
Irrigated Cambodia (Staple 1")	59
Others	30
<i>Punjab and Sind-Americans—</i>	
280-F (Staple 1" to 1-1/16")	8
4-F (Staple 7/8")	50†
Total (Long Staple)	735

The quantity of Indian long staple cotton available to Indian mills for spinning the higher counts is not necessarily that given in the above table for the following reasons:—

- (1) It may not be economic for every mill in India to use only Indian cotton for spinning counts above 24s.
- (2) The mills spinning higher counts are not all concentrated in areas growing superior types of cottons.
- (3) The mills in such areas and inefficient mills may waste superior types in spinning lower counts.
- (4) Some quantity of long staple cotton is used in hand spinning and for domestic purposes.
- (5) A portion of the long staple crop is exported.

No estimate of the first four factors is possible but the amount of long staple cottons exported from India is ascertainable. The bulk of the long staple cotton exported from India may be taken to be that grown in Madras Presidency. Last year this amounted to 70,000 bales which may be taken as a fair average. If, therefore, the first four factors are ignored, the quantity of long staple cottons produced in India and available for use in Indian Mills amounts this year to 6.65 lakh bales.

*Question 1(c).—*What are the counts of yarn in the manufacture of which Indian long staple cotton may be used?

Answer.—24's to 32's warp and 26's to 40's weft counts.

*Question (ii) (a).—*To what extent is the raw cotton now imported into India of the same quality as Indian long staple cotton?

Answer.—Below will be found a statement showing the quantities and staple lengths of American, Egyptian and East African Cottons imported into India during the last 2½ years. The only cottons which can be said to compete effectively with Indians are those between 7/8" and 1" in length. Except for a crop of 8,000 bales of 1-1/16" staple grown in the Punjab, India does not so far produce any cotton of greater staple than 1". It will be seen from the table that the bulk (70 per cent.) of the American cotton imported competes with Indian styles while from Egypt and Africa is imported cotton not grown in India and therefore not competitive.

* Separate figures not yet available.

† Contains up to 10 per cent. mixture.

STAPLE LENGTHS OF IMPORTED COTTONS.

(From 1st September 1929 to 1st May 1932.)

TABLE III.

Americans.

Staple length.	Total number of bales.	
Below $\frac{7}{8}$ "	1,000	
$\frac{7}{8}$ "	33,810	
29/32"	53,705	
15/16"	91,190	
31/32"	28,038	
1"	8,785	Actual Imports.—
1-1/32"	11,150	
1-1/16"	28,800	
1-3/32"	13,085	1929-30 Bales.
1-1/8"	14,900	1930-31 12,769
1-5/32"	200	Up to 1st May 1932 128,845
		168,475
Total	284,663	310,079

TABLE IV.

Egyptians and East Africans.

Total number of bales.

	Egyptians.	East Africans.	Remarks.
1"		2,200	
1-1/32"			
1-1/16"	3,875	700	*24,000 *Staple 1" to 1-1/8".
1-3/32"	100		
1-1/8"	2,981		
1-5/32"			
1-3/16"	3,740		†52,167 †Staple 1-1/16" to 1-3/16"
1-7/32"			†Staple 1-1/8" to 1 1/2"
1-1/4"	6,968		§Staple 1-9/32" to 1 1/2"
1-9/32"			
to 1-15/32"			Staple over 1 1/2".
1 1/2"	955		
	4,997		
Total	40,686	79,067	

	Actual Imports (in 3 1/2 cwt. bales).
1929-30	12,387
1930-31	134,533
Up to 1st May 1932	148,947
	94,226
	179,473
	73,580
Total	255,560
	387,586

N.B.—The figures of imports of foreign cotton given above have been supplied through the courtesy of importers. From 1st September 1929 to 30th April 1932, 310,079 bales of American Cotton were imported and information regarding their staple lengths has been furnished voluntarily for 92 per cent. of that quantity.

The reason for the meagre information supplied concerning Egyptian and East African cottons is that some importers have not replied to our request for information and some have not kept a record of the staple lengths of the bales imported by them.

Question (ii) (b).—Does the present import duty on raw cotton materially help the Indian cultivator?

Answer.—The bulk of the Indian crop being short staple, there is no competition from outside sources with cotton less than $\frac{7}{8}$ ", so that the imposition of an import duty on this type of cotton can have had no effect on the majority of the Indian growers of cotton. There is also no competition in India with cottons over 1" in staple except for the 8,000 bales of 289F of 1-1/16" staple grown in the Punjab. We understand, however, that there may be a great future for cottons of this staple in Sind and the Punjab. For the effect of the duty on the intermediate staples between $\frac{7}{8}$ " and 1", there is only the experience of the past eight months to fall back on and this has been a period in which abnormal factors have predominated in the world's markets e.g., a big and high class American cotton crop being dumped on the world's markets and the general trade depression. It is therefore difficult to say to what extent the grower of staple cotton in India has benefited by the duty during this period but under normal conditions and circumstances an import duty on cotton should afford protection to the grower of these staples.

Question (iii) (a).—Does the present position of the world's cotton crops justify the assumption that there is overproduction?

Answer.—Yes, in the respect that for the present the supply is greater than the demand.

Question (iii) (b).—If so, can it be argued that a decline in the output of the Indian mills will adversely affect the Indian cultivator of cotton?

Answer.—Yes, it is certainly so in regard to cotton from $\frac{7}{8}$ " to 1" because the export demand in regard to such cotton is entirely dependent on its cheapness in comparison with American. What ensures a reasonable price to the grower of such cottons is the Indian mill demand. This was clearly brought out during the seasons 1926-28 when large quantities of cheap low grade American cotton were imported to replace Indian cotton. The position therefore is that a part of the Indian cotton crop, varying from 1 to 2 million bales, will, if not taken up by Indian mills, be dumped on the export market and thus depress it. It can therefore be presumed that a decline in the output of Indian mills will adversely affect the price of Indian cottons of $\frac{7}{8}$ " to 1" staple. Past experience also shows that in time of strike in the mills in Bombay and Ahmedabad the general tone of the home markets has not been altogether wholesome. In regard to cottons below $\frac{7}{8}$ " there is also a danger of such an adverse effect taking place when a short output of Indian mills coincides with an increase of short staple American cotton due to deterioration.

Question (iii) (b) 2.—Does the Indian cultivator normally get a lower nett price for cotton exported than for cotton sold to mills?

Answer.—No. The conditions in the markets are such that the grower gets the best price for his produce owing to competition between buyers whether for export or home consumption. The highest bidder obtains the cotton and as roughly half the crop is exported and half used in the country, it is safe to assume that there is no differentiation in rates.

Extract from questionnaire relating to the Tariff Board Enquiry into the Cotton Textile Industry.

10. Please supply any information which you may possess on (ii) the main sources and qualities of raw cotton used.

11. Do you consider that a decline in the output of Indian mills either generally or in particular lines of goods will adversely affect the Indian cultivator of cotton:—

(a) by reducing the nett demand for Indian cotton, or

(b) by discouraging the growth of long staple cotton?

N.B.—In order to facilitate discussion, some considerations relevant to this question are indicated below. If there is a decline in the production of Indian mills as the result of foreign competition, it may be argued that it will be replaced mainly by imports from Japan which is the largest foreign purchaser of Indian cotton. There will therefore be little, if any, reduction in the nett demand for Indian cotton. On the other hand, it may be possible for Japan hereafter to draw its supplies of cotton increasingly from other sources. This may happen normally, but the danger is specially great whenever there is a break in the price relation between Indian and other cotton in the direction of a lowering

of the latter. Such a break has apparently occurred at least twice during the past six years. Does the Indian cultivator normally realise a lower net price for cotton exported than for cotton sold in India? If so, even if a reduced demand for cotton in India were followed by an increased demand from Japan, the net earning of the *ryot* would be diminished. As regards the cultivation of long staple cotton, it is economically advantageous to the *ryot* to increase the area under improved varieties so as to meet the demand of Indian mills in respect of finer yarn. Nevertheless a stage may be reached when it may prove of doubtful advantage to the Indian cultivator to replace short by long staple cotton. Climatic conditions in most parts of the country favour the growth of short rather than long staple cotton. The former being to a large extent a monopoly of the Indian cultivator would probably give him in the long run a more dependable market.

12. To what extent is the raw cotton now imported into India of the same quality as Indian long staple cotton? Do you consider that the present import duty on raw cotton materially helps the Indian cultivator?

APPENDIX XXX.

SUBJECT 62.—(a) *Cotton Contracts Bill—Reference from Bombay Government.*

A Bill to provide for the better regulation and control of transactions in cotton in Bombay.

Whereas it is expedient to provide for the better regulation and control of transactions in cotton; it is hereby enacted as follows:—

- Short title. 1. This Act may be called the Bombay Cotton Contracts Act, 193 .
- Extent and operation. 2. (1) This Act shall apply to the City of Bombay and the Island of Salsette.
- (2) It shall come into operation on such date as the Governor in Council may, by notification in the *Bombay Government Gazette*, direct.
- Definitions. 3. In this Act, unless there is anything repugnant in the subject or context,
- (a) "Bombay" means the City of Bombay and the Island of Salsette;
- (b) "Board of Control" means a board appointed for the time being by the Governor in Council as provided in section 9;
- (c) "Board of Directors" means a board of directors of a recognised cotton association constituted under section 5 and acting through at least a quorum of their members at a meeting of that board duly called and constituted;
- (d) "Certified godown" means a godown maintained by a cotton association for storing cotton certified under the by-laws of the association;
- (e) "Contract" means a transaction in cotton entered into or to be carried out in whole or in part in Bombay except such as the Governor in Council may, by notification in the *Bombay Government Gazette*, declare to be excluded from the provisions of this Act;
- (f) "Cotton Association" means any association, organisation or a body of individuals, whether incorporated or not, established or formed for the purpose of regulating and controlling business in the sale, purchase or other transactions in cotton;
- (g) "Forward contract" means a contract for the delivery of cotton at some future date;
- (h) "Option in cotton" means a contract entered into or to be carried out in whole or in part in Bombay for the purchase or sale of a right to buy, or a right to sell, or a right to buy or sell cotton in future, and includes a *teji*, a *mandi* or a *teji-mandi* in cotton;
- (i) "Ready contract" means a contract made or to be carried out in Bombay in which immediate delivery is contemplated;
- (j) "Recognised cotton association" means a cotton association which is for the time being recognised by the Governor in Council, as provided in section 4.

4. (1) A cotton association desirous of being recognised for the purposes of this Act shall make an application in writing to the Governor in Council for such recognition, and shall submit by-laws for the regulation and control of transactions in cotton and furnish such information in regard to such recognition as the Governor in Council may from time to time require.

(2) The Governor in Council may give or refuse such recognition;

Provided that no such recognition shall be given unless the by-laws submitted by the cotton association under sub-section (1) shall have been published in the *Bombay Government Gazette* at least one month before the date of such recognition.

(3) The Governor in Council may at any time withdraw the recognition given to a cotton association under sub-section (2), and such cotton association shall thereupon cease to be a recognised cotton association.

(4) It is hereby declared that the East India Cotton Association, Limited, is a recognised cotton association for the purposes and subject to the provisions of this Act and the Articles and by-laws of the said Association shall be deemed to be by-laws made and published under the provisions of this Act.

5. (1) Subject to the provisions of section 9, in every recognised cotton association there shall be a Board of Directors. Subject to the sanction of the Governor in Council, a recognised cotton association may make and may from time to time add to, vary or rescind by-laws providing for—

- (a) the constitution of the Board of Directors,
- (b) the powers and duties of the Board of Directors and the manner in which its business shall be conducted,
- (c) the number and constitution of electoral panels and the representation upon such panels, and
- (d) the method of appointment of members to the Board of Directors.

(2) By-laws made, added to, varied or rescinded under sub-section (1) shall be laid upon the table of the Bombay Legislative Council at the session of the said Council next following.

6. (1) The Board of Directors may, subject to the sanction of the Governor in Council, make and, from time to time add to, vary or rescind by-laws for the regulation and control of transactions in cotton.

(2) In particular and without prejudice to the generality of the foregoing provision, such by-laws may provide for—

- (a) the admission of various classes of members of a recognised cotton association and the exclusion, suspension, expulsion and re-admission of such members;
- (b) a clearing house for the periodical settlement of contracts or differences thereunder and for the passing on of delivery orders and for any purpose in connection with options in cotton, and the regulation and maintenance of such clearing house;
- (c) the number and classes of contracts in respect of which settlements shall be made or differences paid through the clearing house;
- (d) fixing, altering or postponing settling days;
- (e) determining and declaring the market rates for cotton of any and every description;
- (f) the terms, conditions and incidents of contracts and the forms of such contracts as are in writing;
- (g) regulating the making, performance and cancellation of contracts, including contracts between a commission agent and his constituent, or between a broker and his constituent, or between a jethawala or muccadum and his constituent, or between a member and a non-member of a recognised cotton association, and the consequences of insolvency on the part of a seller or buyer or intermediary, the consequences of a breach or omission by a seller or buyer and the responsibility of commission agents, muccadums and brokers not parties to such contracts;
- (h) the prohibition of specified classes or types of dealings in cotton by a member of a recognised cotton association;
- (i) the settlement of claims and disputes by arbitration and appeals against awards;
- (j) the levy and recovery of subscriptions, fees, fines and penalties;
- (k) disciplinary measures against members of a recognised cotton association, including suspension, expulsion, fines and non-monetary penalties, for breach of any by-law made by the Board of Directors;
- (l) regulating the course of business between parties to contracts in any capacity;
- (m) the institution, maintenance and control of certified godowns; and
- (n) regulating the making, performance and cancellation of options in cotton.

(3) If any person committing a breach of any by-law made by the Board of Directors is a company, every Director and officer of such company shall also be deemed to have committed such breach, unless he proves that the breach was committed without his knowledge and control.

7. By-laws made under section 5 or 6 shall be subject to the condition of previous publication and, when sanctioned by the Governor in Council, shall be published in the *Bombay Government Gazette*.

8. (1) Save as hereinafter provided in this Act, any contract (whether either party thereto is a member of a recognised cotton association or not) which is entered into after the date on which this Act comes into operation and which is not in accordance with the by-laws of any recognised cotton association, shall be void.

(2) No claim shall be allowed in any court for the recovery of any commission, brokerage, fee or reward in respect of any such contract.

9. (1) When the Governor in Council is of the opinion that it is necessary, in order to secure free trading in the market and to prevent obstruction thereto and interference therewith, to supersede any Board of Directors, the Governor in Council may, by notification in the *Bombay Government Gazette*, declare such Board to be superseded and may appoint in the place of such Board such persons as he thinks fit to constitute a Board of Control and may appoint one of their number to be Chairman.

(2) When the Governor in Council has appointed a Board of Control under the provisions of sub-section (1), the members of the Board of Directors which has been superseded shall, from the date of the notification, vacate their office as such members.

(3) The Board of Control appointed under sub-section (1) shall hold office for such period as the Governor in Council may, by notification in the *Bombay Government Gazette*, appoint.

(4) When a Board of Control has been appointed under sub-section (1), the Governor in Council may make by-laws to be published in the *Bombay Government Gazette* prescribing the powers and duties of a Board of Control and the manner in which its business shall be conducted.

(5) The Board of Control appointed under sub-section (1) may, subject to the provisions of sub-section (4), exercise all or any of the powers vested in or exercisable by the Board of Directors which it superseded.

(6) Notwithstanding anything contained in the by-laws of the recognised cotton association, a Board of Control may, subject to the previous sanction of the Governor in Council, rescind, add to or vary the by-laws of the said association and may, subject to a like sanction, make all or any such by-laws as may be made by the Board of Directors under the provisions of section 6 and which, in the opinion of the Board of Control, may be necessary for carrying out the purposes of this Act: and all or any such by-laws shall be deemed by-laws of the recognised cotton association.

(7) When a Board of Control has been appointed under sub-section (1) all such property of the recognised cotton association as such Board may by order in writing declare to be necessary for carrying out the purposes of this Act shall vest in such Board.

(8) On the determination of the period of office of the Board of Control appointed under sub-section (1), the recognised cotton association shall constitute a Board of Directors in accordance with the by-laws of the association and the property vested in the Board of Control or which such Board may have acquired shall revert or vest as the case may be in the recognised cotton association.

10. (1) When a Board of Control has been appointed under section 9, the Governor in Council may, by notification published in the *Bombay Government Gazette*, declare that after the date appointed in the said notification, any forward or ready contract entered into except by or through the agency of a member of a recognised cotton association shall be void.

(2) No court shall entertain any suit or proceeding relating to any contract declared to be void under the provisions of sub-section (1) and no claim shall be allowed in any court for the recovery of any commission, brokerage, fee or reward in respect of any such contract.

(3) Any person entering into such contract shall, on conviction, be liable to a fine not exceeding Rs. 1,000 for such offence.

11. No suit, prosecution or other legal proceedings whatsoever shall be entertained in any court against any officer or servant of a recognised cotton association or Board of Control for anything in good faith done or intended to be done in pursuance or execution of this Act or by-laws made thereunder.

Bar of suits and proceedings against officers, etc.

12. (1) Contracts entered into under the provisions of the Bombay Cotton Contracts Act, 1922, shall be deemed to be valid, except in so far as they may be inconsistent with any of the provisions of this Act and by-laws made thereunder.
- (2) Forward contracts entered into before the date when this Act comes into operation and which are otherwise valid shall not be deemed to be invalid merely because they contravene the provisions of section 8.

APPENDIX XXXI.

SUBJECT 64.—Publicity and Propaganda-Scheme prepared by Publicity Officer.

Secretary's Note.

The attached memorandum was considered by the Agricultural Research Sub-Committee at its 23rd meeting held on the 31st July 1932. The suggestions put forward by the Publicity Officer were discussed at some length and it was decided that items 1, 3, 4, 5 and 7 of the summary given on page 121 of the memorandum should be given effect to, for the present.

An Upper Division Clerk, a Stenographer and a peon were sanctioned. The proposal that the Publicity Officer should have the power to operate the relevant budget was approved of. It was also suggested that the Secretary might be conferred with whenever the Publicity Officer thinks it advisable to do so.

The Publicity Officer was instructed to prepare a budget for his requirements during the current year and this is as follows:—

	Rs.	Rs.
1. <i>Pay of Officer—</i>		
Publicity and Propaganda Officer at Rs. 850 per mensem from 1st June 1932 to 28th February 1933..	7,650	
Provident Fund ..	638	8,288
2. <i>Pay of Establishment—</i>		
Stenographer at Rs. 80 per mensem (80—4—100) from 1st August 1932 to 28th February 1933 ..	560	
Upper Division Clerk at Rs. 110 (110—5—150) from 1st August 1932 to 28th February 1933 ..	770	
Peon at Rs. 25 from 6th July 1932 to 28th February 1933 [25—1 (biennial)—30] ..	196	
Provident Fund ..	28	1,554
		2,500
3. <i>Travelling Allowance</i> ..		
4. <i>Contingencies—</i>		
Printing ..	3,000	
Translators ..	1,000	
Postage and Telegrams ..	350	
Furniture ..	300	
Typewriter ..	325	
Telephone ..	115	
Stationery ..	250	
Exhibits and cost of transport accommodation, etc.	818	
Miscellaneous ..	500	6,658
Total ..		19,000

Memorandum on Indian Central Cotton Committee Publicity Methods by R. D. Mithra, M.A., B.Litt. (Oxon), Post-Graduate Dip. Higher Scientific Agriculture, University of Oxford.

It was made clear by the report of the Local Sub-Committee on the replies received from Provincial Directors of Agriculture on Publicity and Propaganda and the discussion which took place thereon at the meeting of the Committee in December last that the work of the Indian Central Cotton Committee suffers gravely from lack of propaganda. The replies to the Committee's pamphlet on "Cotton Improvement in India" showed, as the Sub-Committee's report stated, that the Committee's work is neither known nor appreciated and this is entirely due to the fact that no systematic publicity has been carried out. As an example of the need for publicity to bring the Committee's work before every section of the public interested in the production of Indian cotton and its improvement may be mentioned the remark of Mr. S. D. Saklatvala that "even educated people in his own constituency, viz., the Bombay Millowners' Association, were ignorant about the Committee's doings".

2. It is axiomatic that the work of a body like the Indian Central Cotton Committee needs publicity as an essential aid to its success and the report of the Local Sub-Committee and the opinions expressed by members of the Committee suggest that the kind of comprehensive propaganda that is required can only be adequately undertaken and carried out if a scheme of an all embracing character is laid down, which the Officer in charge of publicity may put in execution step by step. It is not to be supposed that all the suggestions which are sketched out in the scheme outlined below can be taken in hand or be effective at once. Some of them will take time to work up and others can only become effective as the means on which they depend—such as Radio and Aeroplane distribution—become more developed in this country. But there is much that can be done at once and if an immediate start is made a considerable effect could be produced in a few months and a transformation achieved respecting the present lack of knowledge and interest in the work of the Committee.

3. *People to be reached.*—In his reply to the Local Sub-Committee's letter, the Director of Agriculture, Bombay Presidency, said there seem to be two audiences:—

- (a) The general public, and
- (b) The cotton growers (mostly peasants).

4. The classification of audiences, however, requires to be more precise. The cotton growers should be placed first, as it is they to whom the work of the Committee should primarily make an appeal. Next are the middlemen, merchants and brokers, who buy and sell the cotton. Third the consumers, who are divided into two classes both requiring to be cultivated by propaganda:—

(i) The manufacturers, millowners and hand spinners and weavers and (ii) the people who purchase and use the manufactured cloth. Then there are the exporter and the foreign market—for which he caters, and finally the public at large. All these categories of classes and persons must become the object of vigilant attention of and constant nursing by the Publicity Office of the Committee if Indian cotton is to develop to the fullest extent and achieve and hold the position which it deserves to have with the consuming public both in India and abroad. Indian cotton, which at one time had a bad reputation, is now regarded with respect and its consumption has not only made strides in India but it has made headway in foreign countries like Japan, Britain and the Continent of Europe. It is obvious, therefore, that propaganda in foreign countries must be regarded as an important branch of the publicity work that is to be carried on.

5. *The general public.*—As regards the general public who may, for convenience, be taken first, it is obvious that the reports, pamphlets and bulletins of the Committee do not reach the public at large and from this point of view are ineffective. For this purpose the Press, which is the most important channel by which the general public can be reached, requires to be carefully nursed. There should be a constant stream of matter likely to catch the attention of editors as attractive matter for their readers in the form of brief notes and items of news, occasional articles of the magazine class, with and without illustrations and readable summaries of all the reports, pamphlets, etc., at present issued by the Committee. These will have to be supplied in all vernaculars. An intelligent cultivation of periodicals with matter of this kind is likely to produce very fruitful results. Editors, in India, especially are quick to appreciate the benefits to them of a Publicity Bureau which keeps up a constant supply of the readable matter and the ultimate effect produced on the public mind is impressive and incalculable.

6. The Press, indeed, must be regarded as the chief instrument for the publicity work of the Committee and in the early stages it will be practically the only one. It should be seconded next by a poster campaign, driving effective slogans into the minds of the public and initiating a "Use Indian Cotton" campaign of a country-wide character which might be reinforced by "Indian Cotton Weeks", wherever local enthusiasts can be found to help in the work of organisation. There are many other ways of reaching the public, such as "Use Indian Cotton" stamps and letter heads and post cards, and the Radio, the cinematograph and the aeroplane should all ultimately be brought into play for popularising Indian cotton. But some of these are, perhaps, too ambitious in their nature to be considered at the start. Others are described below. The essential thing at the first is to capture the press and to make it the chief instrument of the Committee's publicity. When that has been effectively done, other forms of bringing the virtues of Indian cotton to the attention of the general public may be considered.

7. In time it should be feasible to bring out a quarterly or a monthly journal under the Committee's auspices which should be circulated free to all newspapers and other important periodicals as well as to libraries, reading rooms and all bodies and associations, directly or indirectly connected with the Cotton Industry in India and abroad.

8. *Pamphlets.*—A series of illustrated pamphlets on the following subjects may be prepared for the dissemination of knowledge of cotton from sowing to marketing stage:—

- (1) The cotton plant,
- (2) Cultivation of cotton,
- (3) Culture and treatment of cotton plant,
- (4) Diseases and pests of the cotton plant,
- (5) Picking of cotton,
- (6) Technology of cotton,
- (7) Uses of cotton and cotton seed,
- (8) Cotton as a world force, and
- (9) A decade of work on cotton in India.

9. *Bulletins.*—Attractive pamphlets, running over 8 or 10 pages, written in simple and concise language, and giving a summary of the various schemes financed by the Indian Central Cotton Committee and the results achieved should be issued periodically. These pamphlets would be illustrated and would serve a very useful purpose in acquainting the bulk of the people with improved methods of cotton growing.

10. *Leaflets.*—A leaflet, printed in a folder form and setting out the organization, aims and the functions of the Committee and containing a brief summary of the important improvements made in cotton growing, would be useful. This would be printed in all important vernaculars of the country and distributed widely.

11. *Posters.*—Simple but striking designs showing the main activities in the improvement of cotton could be prepared with the help of an expert designer. They can be displayed at exhibitions, fairs, village chowkies, at railway stations, in courts and other places and wherever cultivators usually assemble. For instance, a poster illustrating a comparison between a clean and an unsatisfactory manner of picking cotton might be prepared. Another poster could show a single model plant of an improved variety of cotton such as "Jayawant" wherein characters of branching, bearing habits, etc., are brought out prominently. A third one could drive home the importance of ginning percentage through combing seed or by way of a contrast in two heaps of cotton.

12. *Films.*—A cinematograph film showing works at Matunga, Indore, Lyallpur, the Entomological Scheme of the United Provinces, the fumigation of American cotton may be prepared and these films should be shown at important centres throughout the cotton growing tracts. They may also be shown to members of the Council of State, Legislative Assembly and Councils, Rural Councils, sundry Agricultural Associations, Chambers of Trade and Commerce, and other public bodies interested in cotton directly and indirectly, such as Revenue and Irrigation Departments and Co-operative Societies. Preparation of slides on improved methods of the cultivation, marketing, etc., of cotton could also be undertaken.

13. *The Cotton Grower.*—Turning to special and individual classes, the cotton grower must of course claim the first attention. Below are outlined some of the forms which have been found most useful in other countries in educating the grower in improved methods and helping him to market his produce to the best advantage. All these methods can be profitably applied in this country and could produce, if energetically and intelligently carried out, an effective improvement in the farmer's mentality and methods within a comparatively brief period.

14. *Exhibits.*—Exhibits are essential factors in disseminating information. They have had much to do with the advancement of agriculture and its business in the leading agricultural countries of Europe which I visited. People generally grasp readily the significance of what they see. In practically all the country wide, regional, district or community fairs, agriculture and the industries dependent upon it have occupied a prominent place. Exhibits afford the observer opportunities to comprehend quickly progress in agricultural science and practice and enable him to apply this new knowledge to the solution of his own problems.

15. The value of exhibits as a teaching method cannot be over-estimated and has long been recognised. Side by side with exhibits of the Indian Central Cotton Committee, consisting of specimens of products, models or panels presenting photographs and statements the object of display should be to show what the Committee is doing and what it can do to help the grower. Exhibits must answer questions affirmatively: will it give the visitor the information likely to make his farming more profitable? The Indian Central Cotton Committee, for instance, need not always emphasise the long staple cotton as the only goal to be achieved but the growing of cotton that will bring to the grower the greatest return. The exhibit must tell its own story quickly, strikingly and convincingly, so as to arrest, hold and impress the attention of the observer. The Publicity Department of the Indian Central Cotton Committee should be ever on the alert to find newer and better methods of presenting information about cotton growing, marketing and manufacture.

16. Exhibits need not give complete details of a principle, but must arouse interest so that the observer will seek the further information required to put the illustrated principle into practice. Exhibits of course should be supplemented by the Publicity Department's publications which may be distributed widely. Railway stations are excellent venues for the display of exhibits.

17. *Demonstration Van.*—A demonstration van, containing samples of the improved varieties of cotton, and other exhibits of special interest, films, slides, loud speaker and wireless, etc., might be considered. The function of the Van would be to serve as a nucleus, and at every centre in the cotton growing tract a fair would have to be arranged for. The Van would visit all the cotton growing tracts and prove a remarkably effective agency for the dissemination of knowledge. The experiment made by the Punjab Government in co-operation with the North Western Railway in running the Demonstration Train was a conspicuous success. As a part of the Adult Education Movement, the Demonstration Train had probably exercised a far more profound influence upon the lives of the peasantry and of the dwellers in the small towns in the Punjab districts than any other agency hitherto established. Combining all the attractions of a 'tamasha', a novelty and an economic opportunity, it could not fail to attract thousands of people of all classes, farmers, landless artisans and cultivators, labourers, weavers, dyers, carters, school children, peasants' wives and coolies' daughters, and evoke general interest and enthusiasm. It must be admitted that the varied character of exhibits can be safely calculated to make a permanent impression upon every mind, and that each grown-up visitor would leave with recollections which cannot possibly fade away altogether from his mind: the farmer would never forget agricultural items which would capture his special fancy, once convinced of the value of better methods, better implements and a better choice of crops and seeds, he will readily abandon his old primitive ways as has been exemplified by the manner in which millions of acres in the Punjab have come under more advanced cultivation. The weaver would always recall yarn knots prepared from the improved and the local varieties of cotton, as also the breaking tension of these yarns shown in bold types in the vernaculars of the areas concerned. Demonstration Van would open the eyes of the people to the existence of improved appliances and more scientific ideals concerning cultivation and industry and would bring them at least slightly in touch with a world of thought and production into which they can rarely obtain an insight.

18. *Tournaments.*—The possibility of inaugurating, in co-operation with Provincial Agricultural Departments, a series of cotton growing tournaments in the districts with improved variety of cotton and awarding prizes to successful candidates might also be considered.

19. *Co-operative Farming and Marketing.*—Co-operative efforts should take a strong economic turn in the history of agriculture in India. In different areas farming should be re-organised so as to place equal emphasis on effective individual practice and on wise group action tending to regulate production and the movement of cotton into consuming channels. These will have a constructive influence in changing farm practices and competitive business methods. Vigorous efforts should be made to acquaint farmers with the object, relation and business possibilities of co-operative associations.

- (6) Demonstration motor van with loud speakers, wireless, films, etc., to be considered and got into operation as soon as feasible. (Paragraphs 12 and 17.)
- (7) Cotton Tournaments in the districts with improved variety to be organised in co-operation with Provincial Agricultural Departments. (Paragraph 18.)
- (8) Co-operative farming and marketing to be sedulously encouraged and stimulated. (Paragraph 19.)
- (9) Establishment of a market news service. (Paragraphs 20, 21 and 22.)
- (10) In all other ways middlemen, consumers and the public generally to be supplied with every kind of informational matter concerning Indian cotton and the home and foreign markets. (Paragraph 23.)

N.B.—In order to be able to operate the scheme fully and effectively I would require at the start a stenographer and an upper division clerk with knowledge of general office routine.

I suggest that I should also have the authority to operate the finances which are set apart for "publicity and propaganda", as in the case of other departmental heads. The man in charge of publicity and propaganda is the only one who can properly understand the necessity for payments as they arise. He should, therefore, have complete freedom within the scheduled limits laid down by the Committee, to allocate funds and payments in the directions and to the extent that he thinks desirable and most productive of results.

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