

[FIFTY-SIXTH ISSUE]

DEPARTMENT OF COMMERCIAL INTELLIGENCE AND STATISTICS  
INDIA

ESTIMATES  
OF  
AREA AND YIELD  
OF  
**Principal Crops in India**  
1923-24

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*Published by Order of the Governor-General in Council*

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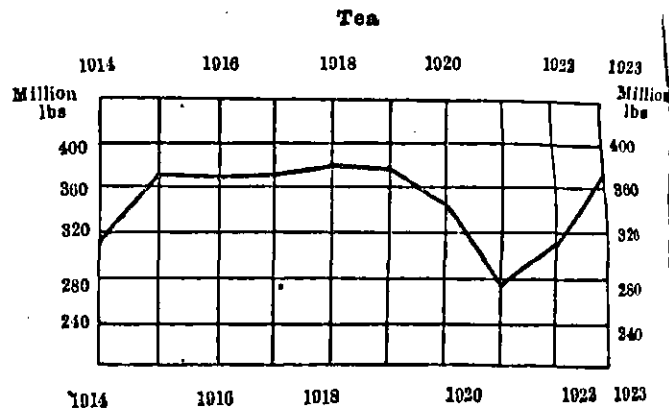
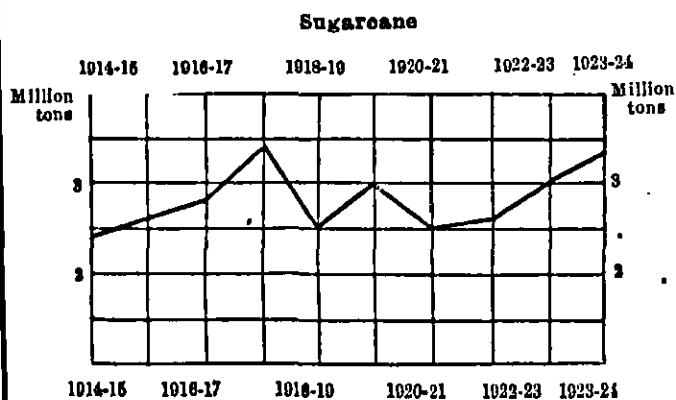
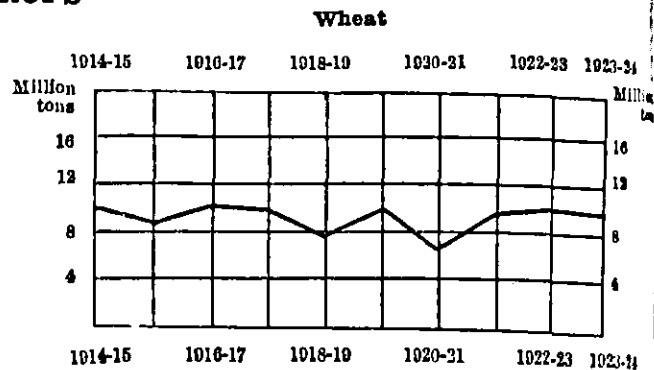
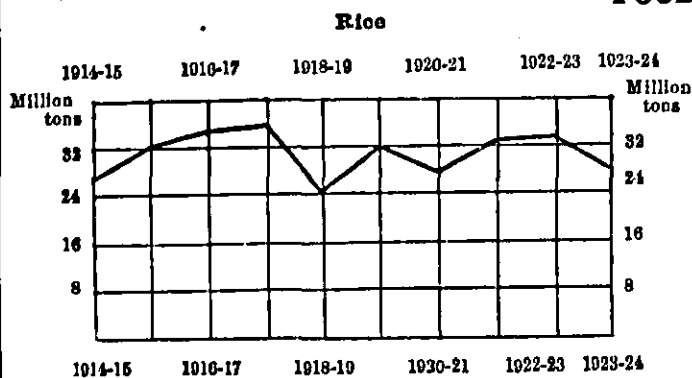
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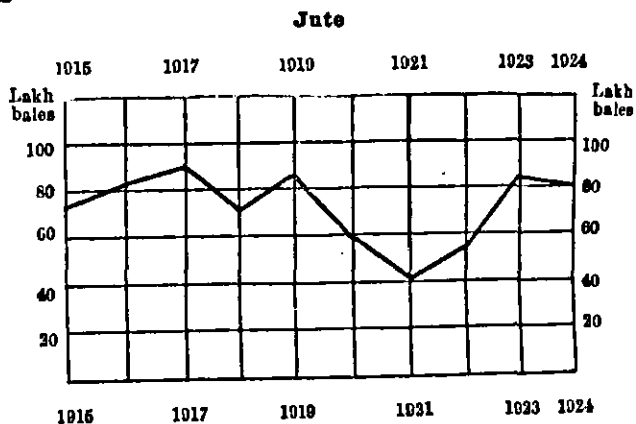
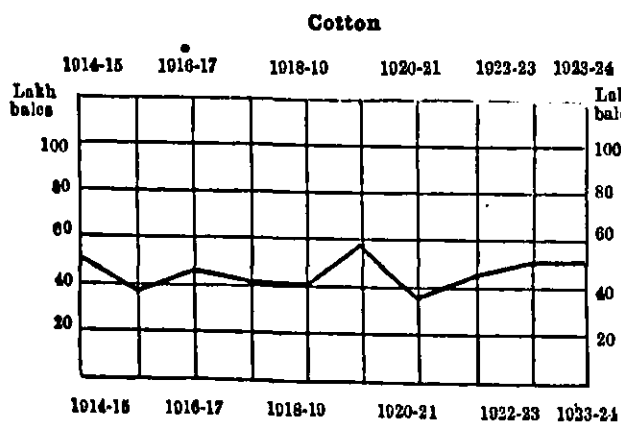
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# Yield of certain principal crops from 1914-15 to 1923-24.

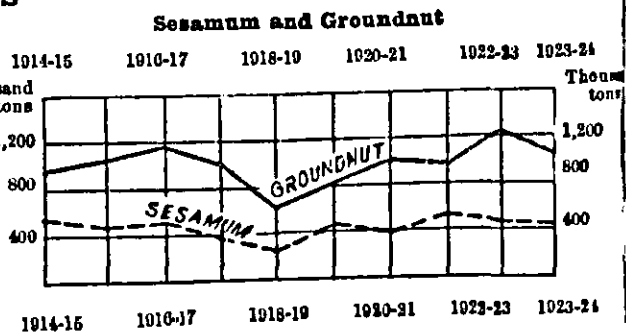
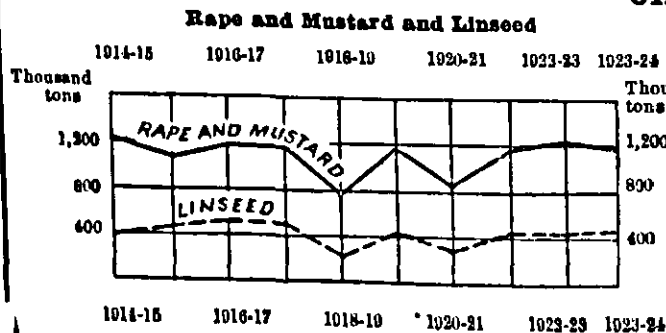
## FOOD CROPS



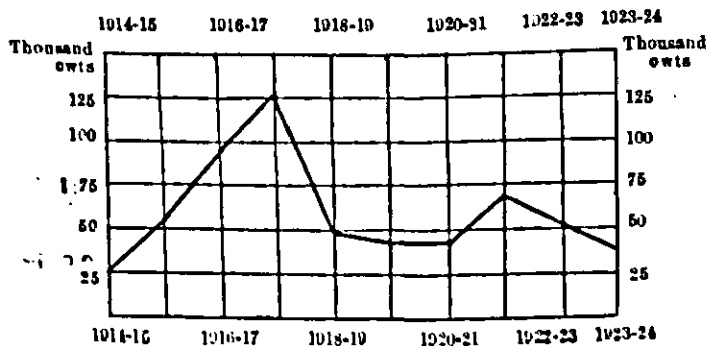
## FIBRES



## OILSEEDS



## INDIGO (DYE)



## CONTENTS

### Introductory Note.

	PAGES
Source and scope of the estimates . . . . .	1
Leading features of the season in respect of staple crops, namely, rice, wheat, sugarcane, tea, cotton, jute, linseed, rape and mustard, sesamum, groundnut, indigo, coffee, and rubber . . . . .	1—4
Chart illustrating the condition of weekly rainfall during the monsoon period from June to October 1923 . . . . .	5
Charts showing the yield of certain principal crops in the past ten years, 1914-15 to 1923-24 . . . . .	<i>frontispiece</i>

### Tables.

No.		
1.	Abstract table—Area and Yield of each crop . . . . .	8
2.	Yield per acre of each crop in each province . . . . .	9—11
3.	Standard or Normal Yields per acre of those crops for which forecasts are prepared . . . . .	12
4.	Detailed table—Area and Yield of Rice in each province . . . . .	13
5.	Ditto ditto Wheat . . . . .	14
6.	Ditto ditto Sugarcane . . . . .	15
7.	Ditto ditto Tea . . . . .	<i>ib</i>
8.	Ditto ditto Cotton . . . . .	16
9.	Ditto ditto Jute . . . . .	17
10.	Ditto ditto Linseed . . . . .	<i>ib</i>
11.	Ditto ditto Rape and Mustard . . . . .	18
12.	Ditto ditto Sesamum (til or jinjili) . . . . .	19
13.	Ditto ditto Groundnut . . . . .	20
14.	Ditto ditto Indigo . . . . .	<i>ib</i>
15.	Ditto ditto Coffee . . . . .	21
16.	Ditto ditto Rubber . . . . .	<i>ib</i>
17.	Supplementary table—Area and Yield of Barley, Jowar, Bajra, Maize, Gram and Castor seed in each province . . . . .	22—27
18.	Normal and actual rainfall in each province . . . . .	28
19.	Statement showing the reported area and yield of certain crops, namely, rice, wheat, cotton, barley, maize, linseed, rapeseed, tea, coffee, and sugarcane in foreign countries . . . . .	29—35
	Appendix I.—Method of framing estimates of crops . . . . .	39—40
	II.—Methods of collecting the statistics province by province . . . . .	41—44
	III.—Dates on or about which the All-India forecasts of crops are issued . . . . .	45
	IV.—Seasons of sowing and harvesting of the crops and the tracts where they are mainly grown . . . . .	46
	Index . . . . .	47

## APPENDIX I

## METHOD OF FRAMING ESTIMATES OF CROPS

There are three factors necessary for framing an estimate of outturn, namely, the area, the standard normal outturn per acre, and the fraction representing the relation of the crop reported on to the normal crop per acre.

As regards area, there exists in the villages of most provinces an agency capable of reporting the acreage of crops with great accuracy, wherever the fields have been mapped and surveyed. The tracts, for which statistics are ordinarily not obtainable, are yearly diminishing in extent; but owing to the absence of maps or the non-existence of trained village establishments they still represent a considerable aggregate area. These tracts consist chiefly of permanently settled estates, lands held on privileged tenure, and unsurveyed areas. For these tracts, the acreage as well as the outturn cannot be more than a rough estimate. Such estimates of areas, once framed, are liable to become stereotyped and repeated year after year without regard to the influence of exceptional seasons or changes in the economic condition of the tracts. In order to prevent this, provision has been made for the annual revision of these estimates by careful comparison with the conditions prevailing in those adjoining areas of a similar character for which accurate information is available, and by means of such special enquiries as may be possible.

In dealing with the calculation of the areas under crops, two other matters demand consideration, namely, (1) whether the area returned should be the area sown or that successfully cropped, and (2) whether, when the forecast crop is sown mixed with other crops, it is preferable that the total area covered by the mixed crops should be exhibited, or that such area only should be shown as is estimated to represent the acreage covered by the forecast crop only. As regards (1), the general rule is that the returns should exhibit the areas actually sown whether the crop comes to maturity or not, the principle underlying this rule being that the failure of crop should affect not its area but its outturn. An exception to this rule is, however, made when fields, owing to the failure of the first sowings, have been devoted to other crops. In this case the area first sown with the forecast crop may be omitted. As to (2), the areas covered by the several crops in a mixed field are estimated in various ways in the different provinces, and the estimates are based on formulae prescribed by the provincial authorities in individual cases, as it has not been found practicable to prescribe one uniform method of calculation. For purposes of the forecasts, the area to be returned must be the area covered by the forecast crop, exclusive of the area covered by the other crops with which it is mixed.

Next with regard to the standard normal outturn. A normal crop may be defined as "that crop which past experience has shown to be the most generally recurring crop in a series of years; the typical crop of the local area; the crop which the cultivator has a right (as it were) to expect, and with which he is (or should be) content, while if he gets more he has reason to rejoice, and if less he has reason to complain;" or in other words, it is the "figure which in existing circumstances might be expected to be attained in the year if the rainfall and seasons were of a character ordinary for the tract under consideration, that is, neither very favourable nor the reverse." Briefly, it is stated to be "the average yield on average soil in a year of average character." This normal or average yield will not necessarily correspond with the average of a series of years' figures, which is an arithmetical average. The Agricultural Department in each province maintains a statement of the normal or average yield per acre of land of average quality (under the two major heads of irrigated and unirrigated land) for the several crops in each district. In order to test the accuracy of these standards of normal or average yield and to revise them, if necessary, a system of crop-cutting experiments is in force in almost all the provinces. Under this system plots of land of average quality are selected and the crops grown on them are cut and weighed in the presence of responsible officers of the District staff or of the Provincial Agricultural Department. These experiments have to be carried out every year in respect of all the principal crops, and in accordance with rules specially framed by the several provincial authorities. The results of the experiments are reported to the head of the Provincial Agricultural Department, who, on a careful scrutiny of all the reports received by him and after such further investigations as he may deem necessary, revises or verifies the standards previously adopted for the districts or the province. This revision is ordinarily made once in five years.

The third factor—the fraction representing the relation of the crop reported on to the normal crop per acre—is what is known as the "anna estimate" or the "percentage estimate." In many parts of India the cultivators estimate the crop outturn in annas or sixteenths, as there are sixteen annas in a rupee. They take a certain number of annas to represent the normal outturn and estimate the outturn of the year of report as so many annas higher or lower than the normal. But in some tracts sixteen annas express a bumper crop, while in others the same term expresses a normal crop, and the number of annas taken to represent a normal outturn varies between 12 and 16. Consequently the anna estimate of one tract is not always amenable to comparison or combination with that of another tract. The percentage estimate is the American system under which 100 is taken to denote a normal crop and the estimated outturn of the year of report is stated as a percentage of that crop. In 1897 a question arose as to whether the anna notation or the American notation should be used in making crop estimates, and it was strongly urged upon the Government of India that as the cultivators and

village officers entrusted with the duty of collecting data for crop reports were mostly accustomed to the Indian system, *i.e.*, the anna notation, the adoption of any other system would tend to confuse the estimate. Local Governments and Administrations were, therefore, permitted to adopt such scale of notation as might be suited to local conditions, the object being to secure that the returns should be in terms of a normal crop. But since the anna standard thus adopted would not possess any fixed or uniform value, it was laid down that in published forecasts the anna notation should not be used, the American notation being used in its stead, *i.e.*, 100 being taken to represent a normal crop and the estimated outturn being stated as a percentage of that crop, and the conversion of the anna estimate into the percentage estimate being made either by the district officer or by the provincial authorities.

When these three factors have been determined, they are multiplied with each other to arrive at the required quantitative estimate of outturn. Thus, if the area be 60,000 acres, the standard of normal outturn 500 lbs per acre, and the percentage estimate 80, the required quantitative estimate would be  $60,000 \times 500 \times \frac{80}{100} = 24,000,000$  lbs.

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## APPENDIX II

## METHODS OF COLLECTING THE STATISTICS PROVINCE BY PROVINCE

In the Madras Presidency, the estimates relate to all the districts in which the respective crops are grown. Approximately two-thirds of the cultivated land in the Presidency are Government or *raiyatwari* land, and have been carefully surveyed. All the village officers therein are appointed and controlled by Government officials. In the ordinary course of his work the village accountant sends every month to the Revenue Inspector (the officer in charge of a group of villages varying in number) a detailed statement of the sowings in his village. For those crops for which forecasts are prepared, the Revenue Inspector, who is himself a touring officer, reports to his *Tahsildar*\* the area in his range under that crop, with his estimates of the average yield expressed in so many annas of the normal crop, when outturns are required. The *Tahsildar* consolidates all these figures and reports the total direct to the Director of Agriculture with, in the case of outturn, his estimated yield (also expressed in annas of the normal). The remaining third of the Presidency is *samindari* (consisting of large proprietary estates), of which only a part has been accurately surveyed, and for which somewhat similar returns are prepared and dealt with accordingly. In other cases where some sort of account is maintained in *Zamindari* and *whole inam*§ villages, the *Tahsildar* or Deputy *Tahsildar* estimates the area and yield, as well as he can, from his own knowledge and from reports of the estate officials. The figures for these areas are included but shown separately under estimates in the reports sent by the *Tahsildar* to the Director of Agriculture. In the remaining cases, where estates have not been surveyed and where no sort of account is maintained at all, the estimating is done in the office of the Director of Agriculture with reference to previous year's final audited figures, the character of the season, and the figures of neighbouring Government areas. The States of Pudukkottai and Banganapalle send similar reports direct to the Director for cotton only. No other State in the Presidency prepares any crop forecast. Thus, for each forecast return, separate reports (242 for cotton and 240 for other crops) are received in the Director's office, where they are scrutinized and tabulated. More accurate figures of areas cultivated are obtainable at the end of the year after all the village accounts have been checked. These figures are published later in the provincial Season and Crop Report. The figures reported by *Tahsildars* in their final forecasts are checked by a comparison with the forecast reports and the Season and Crop Reports for previous years, and thus an attempt is made to rectify obviously inaccurate reporting. Standard rates of outturn have been determined for each crop on a consideration of the latest crop-cutting experiments, of the results on the Government farms, of the local knowledge of the Director of Agriculture and his staff in comparing the yields from adjoining districts, and of the results of a comparison of the figures of yield with the figures of net export and the estimate of consumption. The Director checks the rate of yield reported by *Tahsildars* by estimates received from his subordinate officers and from non-officials interested in a particular crop.

The estimates for the Bombay Presidency include all British districts and States where the respective crops are grown to any extent. In the British districts of the Presidency proper, the area under different crops is ascertained in the first instance by village officers and recorded in village returns, which are checked by circle inspectors and other revenue officers, and compiled by the former for their circles and then for the *taluka*\*\* The *taluka* figures are totalled up for each district in the office of the Director of Agriculture of the province. For Sind, this work is done by local officers, and the Director receives district-by-district figures. The information received is for villages for which regular statistics are available, the proportion of reporting area being 91.4 per cent in the Presidency proper and 99.6 per cent in Sind. From 1909-10, however, estimates for the non-reporting areas have been made so far as possible and included in the table. In the case of Indian States the acreage is estimated on the best local data available. The approximate numerical strength of the reporting agency is 188 in the Presidency proper, 60 in Sind, and 33 in the Indian States. No standard of yield has yet been fixed. Local estimates of crop condition are converted to quantitative figures on the basis of a formula showing the average yield of crops, which has been adopted provisionally. This formula is now being revised, the revision being based on the ascertainment of actual yield in different parts of the Presidency by careful local enquiry by officers of the Provincial Agricultural Department, who are tabulating the results and comparing them for the purpose. The unit of area in the formula is the district, and irrigated and unirrigated crops are separately dealt with. Each year's estimate of the condition of crops is prepared by the *mamlatdar*† (or *mahalkaris*‡ where the *taluka* is sub-divided) from notes which they make and from reports from village accountants and circle inspectors. The estimate is sent direct to the Director of Agriculture, who, in the light of the general prospects of the season, makes the quantitative calculations. For Sind there are no formulae, and all the necessary information is obtained from the district officers in the form of estimates on the basis of twelve annas for a normal crop, together with quantitative equivalents gathered from general experience. For Indian States condition estimates are obtained, and the formulae for adjoining British districts are applied.

The estimates for Bengal relate to all the districts of the Presidency where the respective crops are grown. In the absence of any revenue agency in the province, the figures are based mainly on rough approximate estimates made by District Officers, and are more or less conjectural. The district officers obtain information from the sub-divisional officers through the agency of the police or the Circle Officers where appointed as a permanent

NOTE.—The cultivated area shown in the margin represents the average net area actually sown with all crops in each province during the three years ending 1922-23.

\* A sub-divisional officer. \*\* A sub-division of a district under the management of a *Tahsildar*.

† The chief revenue and police officer in charge of a *taluk*.

‡ A revenue or police officer in charge of a sub-division of a *taluk*.

§ Entire villages granted rent-free.

Madras  
(Total cultivated area  
23,037,000 acres)

Bombay and Sind  
(Total cultivated  
area 30,000,000  
acres)

Bengal  
(Total cultivated  
area 23,767,110  
acres.)

measure. The quantitative estimates of yield formerly given in the forecasts were based on standards provisionally adopted. The standards have now been revised on the basis of the results obtained from crop-cutting experiments conducted over a series of areas and seasons.

United Provinces  
(Total cultivated area  
35,242,000 acres)

The estimates prepared by the United Provinces include all the districts of the province except Almora and Garhwal for which the required particulars are not available as no regular village papers are kept up by *patwaris* (village accountants) in these two districts. The area is taken from the crop statements based on field-to-field inspections, which are compiled by *patwaris* and checked by higher revenue officers. The estimates of the standard yield are based on the results ascertained from crop-cutting experiments conducted annually in selected districts. The standards, which are different for irrigated and unirrigated crops, are revised every five years on a consideration of the results of the crop-cutting experiments, and are applied to the condition of the crops reported by district officers and selected landholders whose number exceeds six hundred.

Punjab  
(Total cultivated area  
204,000 acres)

The estimates for the Punjab relate to all the British districts in which the respective crops are grown. As regards Indian States of the province, reports on wheat and cotton are furnished by all the States in which these two crops are grown to any considerable extent. No estimates for any other crop are prepared by any State. The figures of area for all the British districts up to 1912-13 were based on actual measurements by the village revenue staff. Estimates of yield were recorded by district officers after personal enquiry from *tahsildars* and leading agriculturists. The total number of agriculturists consulted by the district officers and *tahsildars* amounts to several thousands. From 1913-14, however, this method is followed only in districts in which the respective crops are grown to a considerable extent. For other districts the Provincial Director of Agriculture prepares conventional forecasts based on the actual average area figures for the previous five years and an assumed average outturn as determined by him to meet the character of the harvest.

Burma  
(Total cultivated area  
15,770,000 acres)

The estimates for Burma relate to all the districts of the province in which the respective crops reported on are grown. The figures for the districts in which the crops are grown to a considerable extent are based on regular reports, furnished by District Officers, while those for the remaining districts are based on rough estimates prepared by the Commissioner of Settlements and Land Records. For the districts from which regular reports are received, the figures of area are obtained from the assessment rolls prepared by revenue surveyors. The original information about the yield is obtained from township officers, inspectors of Land Records, and from the more important of the Land Revenue subordinate officers. In this way the estimate of each district is based on the information furnished by some thirty or more persons. The figures of both area and yield are tabulated by the Superintendent of Land Records and checked by the District Officers. The Commissioner of Settlements and Land Records compares the estimated yield with a standard representing the normal yield, which was fixed after an extensive series of experimental crop-cuttings by Settlement Officers.

Bihar and Orissa  
(Total cultivated area  
25,263,000 acres)

The estimates for Bihar and Orissa relate to all the districts of the province where the respective crops are grown. Survey and Settlement operations have been completed in all the districts except two, and in these districts the settlement figures serve as a check on the estimates of acreage based on the information furnished by the police. In the absence of any revenue agency in the province, the figures are based mainly on rough approximate estimates made by district officers, and are more or less conjectural. The district officers obtain information from the sub-divisional officers through the agency of the police. In the district of Sambalpur, the acreages under crops are revised annually by the Land Records staff by field-to-field inspection. The system of making crop-cutting tests, as in other provinces, over a series of areas and seasons for the ascertainment of standards of yield has been in force in the districts of this province for some thirty-one years, but sufficiently trustworthy figures of yield have not yet been obtained from these tests to enable Government to accept them as standards. The estimates, therefore, of yield given in the forecasts are based on standards adopted provisionally by the Provincial Department of Agriculture on the basis of information obtained from other sources.

Central Provinces  
and Berar  
(Total cultivated  
area 23,352,000)

The estimates for the Central Provinces and Berar relate to all the British districts of the province in which the respective crops reported on are grown. As regards Indian States of the province, reports on wheat, rice, and linseed only are furnished by six to ten States. No information is available from the other States. The figures of acreage for cotton, sesamum, rice, and sugarcane are estimates based on reports furnished by the local officials of the Land Records staff. The figures for wheat and linseed represent the actual areas sown with these crops as disclosed by field-to-field inspection by *patwaris*.\* The reporting agency consists of 392 revenue inspectors with, on an average, 17 *patwaris* working under each inspector. Each *tahsil* † has usually 4 revenue inspectors. Standards of outturn were framed for each crop from the results of crop-cutting experiments on selected fields under the supervision of responsible and selected officials during the years 1884-85 to 1887-88. These standards have been revised from time to time on the basis of the results of crop-cutting experiments since made. In the year 1920-21 the substitution of anna estimates for American notation was introduced in accordance with the wishes of the Board of Agriculture, who, in 1919, decided that it would be better to abandon all attempts to impress on the reporting agency what is meant by the expression "normal crop," and secondly, that the use of American notation in which 100 is meant to signify a normal crop should be discontinued. The Board considered that in the long run better statistics would be obtained if the reporting agency were allowed to follow its traditional method of reporting the crop in the anna notation. All deductions based on the standards are made by the provincial Director of Land Records from the year's figures furnished by the District Officers, who are supposed to bear in mind the standards when estimating the yield of the season.

\* Village accountants.

† Sub-division of a district.



The estimates for Assam relate to all the districts in which the respective crops reported on are grown to any extent. For hill districts figures are obtained from the annual crop forecasts and the quinquennial crop statements. For plains districts the information is received from District Officers, who in their turn obtain figures from the district Land Records staffs in the case of the temporarily-settled areas, and from zamindars in the case of the permanently-settled portion of Goalpara, with the exception in the latter district of jute, the figures for which are compiled by the village *chaukidari panchayats*. In the permanently-settled part of Sylhet the figures for jute are those submitted after actual inspection by the village *chaukidari panchayats*, while for all other crops except tea, estimates have been framed by the District Officer from the actual areas in the surveyed parts being applied to the rest of the district. The figures for tea are obtained in all cases from the garden managers. The figures are checked only in the temporarily-settled tracts by the circle Sub-Deputy Collectors; in the permanently-settled districts of Sylhet and Goalpara there is no valid check at all. The estimates of outturn are based on the normal yield obtained from the results of crop-cutting experiments.

Assam  
(Total cultivated  
area 5,785,000  
acres)

The estimates for the North-West Frontier Province relate to all the districts of the province in which the respective crops reported on are grown, including the Tochi agency in the case of wheat, cotton, and sugarcane, and the Kurram agency in the case of wheat and cotton. The figures of area are based on actual measurements made by the *patwaris* in their field-to-field inspection at each harvest. They are further checked by higher revenue officers. The estimates of the standard yield are based principally on data derived from a large number of crop-cutting experiments made during the progress of settlement operations. They were framed for each assessment circle, which is the unit of area, and separately for lands irrigated by canals, by wells, for alluvial (*sailab*) lands, and for lands entirely dependent on rain. The standards are applied to the estimates of condition of crops received from the District Officers, who frame their estimates in consultation with local agriculturists. The exact number of agriculturists consulted by the district officers is not available, but it must necessarily be several hundreds.

North-West Frontier  
Province  
(Total cultivated area  
2,150,000 acres)

The estimates for Ajmer-Merwara relate to the whole of the district. So far as *khalsa*,\* *jagir*,† and minor *istamrari*‡ villages are concerned, the *patwari* is responsible for making field-to-field inspections of every village in his circle at each harvest. These inspections commence on 1st September for the autumn harvest and on 1st February for the spring harvest. The *patwari* notes down the results of his local inquiries and inspections in his field book. A certain percentage of the entries made by the *patwari* is checked and corrected, when necessary, by the *girdawar* or *kanungo*,§ who also inspects the crops at each harvest. The tahsil officers further test a certain number of entries, and the sub-divisional officer also makes a general inspection of crops at each harvest. As soon as the inspection of the harvest is complete, an abstract statement of area and outturn is compiled separately for each *girdawar's* circle and tahsil, and these statements are then consolidated for the three sub-divisions in the district office. An assumed normal outturn per acre for each crop has been fixed at settlement. Crop estimates are annually made by the revenue officers and the results recorded. These sets of figures give a useful check on the outturn estimates made by the *patwaris*. The exact area sown in the sub-divisions is obtained from the abstract statements. In the large *istamrari* estates the preparation of the field books is done by the estate officials. These field books contain fairly accurate information in regard to wheat, the outturn of which in maunds is generally appraised for the purpose of payment of the cultivators' rent; but as regards cotton and sesamum the figures are conjectural, as no crop-cutting experiments are made, the rents being charged in cash. The Government agency does not supervise the collection of figures in large *istamrari* estates.

Ajmer-Merwara  
(Total cultivated area  
815,000 acres)

The estimates for rice furnished by Coorg are based on the results of annual crop inspections and experiments. Crop inspections are made by each *shambog*¶ for his circle under the supervision of the *parpattigar* || and the detailed particulars entered in the crop inspection registers and summarised in the crop abstracts, the totals of which are compiled in the office of the Deputy Director, Land Records and Agriculture. About 30 crop experiments are conducted annually by subordinates of the Revenue Department and *subedars*\*\* (*tahsildars*) and also a few by the Deputy Director of Land Records and Agriculture, in whose office the estimates of yield, given in the forecast, are calculated on the basis of the average for the province.

Coorg  
(Total cultivated  
area 140,000 acres)

The estimates for the Delhi province relate to all villages included within the province. The figures of area are based on actual measurements by the village revenue staff. Estimates of yield are recorded by the *tahsildar* after personal enquiry from the leading agriculturists. No crop-cutting experiments are conducted in the province.

Delhi  
(Total cultivated  
area 212,000  
acres)

The estimates for the Hyderabad State relate to all the districts of the State including non-Government area, such as *Jagirs*, etc. *Rajawari* tenure prevails in the State and with the exception of some parts of a few districts, the area is surveyed and settled. *Patwaris* or village accountants, who are hereditary office-bearers, furnish to the *taluk* office figures regarding area under principal crops. The *tahsildars* who are touring officers check these figures by a field-to-field inspection during their tours and send reports of their *talugs* to the District Collector or first *talugdar* as he is called in the State. The figures for each district after being consolidated in the District office are sent to the Director of Statistics of the State who finally checks and consolidates them. The estimates of standard yields of crops are based only on conjectures, which are generally misleading. As a result, the reported outturn is generally low. Instructions were issued by the authorities of the State for conducting crop-cutting experiments. But the experiments were not carried out so extensively as to furnish any reliable data for fixing normal yields per acre. Sixteen annas represent a normal crop.

Hyderabad  
(Total cultivated  
area 28,800,000  
acres)

\* *Khalsa* villages are those which pay full revenue to Government.

† Land granted revenue-free on condition of military service or as a charitable endowment.

‡ A tenure which, though the revenue is assigned, is charged with a permanently fixed quit rent.

§ Circle inspector.

|| A revenue officer in charge of a sub-division of a taluk.

¶ Village accountant.

\*\* Revenue officer in charge of a taluk.

Mysore  
(Total cultivated  
area 6,041,000  
acres)

The estimates furnished by the Mysore State relate to all the districts of the State in which the respective crops are grown. As regards area the information is based on the entries made by the *shanbog* (village accountant) in his crop inspection book and checked by the higher revenue officers. The outturn is noted by the *shanbog* in terms of annas (16 annas being taken for a normal or 100 per cent crop) from which the total yield is determined by reference to the standard normal outturn per acre fixed for each taluk. The figures are finally scrutinized and consolidated in the Revenue Commissioner's office.

Baroda  
(Total cultivated  
area 3,041,000  
acres)

The figures are furnished to the Director of Agriculture by the Revenue Heads of each *taluka* (*Vahivatdar*). These are prepared in villages by the village clerks (*Talatis*) from the form recording crops grown in every survey number. These entries are checked by the inspecting officers. The outturn is usually returned as so many annas in the rupee and also as so many lbs. of 40 tolas per bigha. The crop returns are finally consolidated and checked in the office of the Director of Agriculture. With regard to the standard yields per acre, these are not yet separately ascertained as pertaining to Baroda territories. Whenever a reference to these becomes necessary, those ascertained for the contiguous British territory, with which Baroda territory is closely interlaced, are utilised.

Central India.

In the Central India States, estimates are framed for wheat and cotton. The methods differ with the different States. In most States the acreage returns are prepared by *tahsils* from the field measurements of the *patwaris* and then compiled for the whole State. In some cases the outturn estimates are similarly compiled after check on the spot by the higher revenue officials in consultation with the cultivators; in others they are merely an approximation from the acreage figures; in a few States fields are selected in the different circles as bearing an average yield, the crop is cut and weighed, the outturn for the circle is calculated from the result, and the totals of the circles form the return for the State.

Rajputana.

The estimates for wheat and cotton furnished by the States in Rajputana are generally defective in consequence of the absence of figures for unsurveyed areas and privilege tenures in many cases.

## APPENDIX III

DATES ON OR ABOUT WHICH THE ALL-INDIA FORECASTS OF CROPS  
ARE ISSUED IN THE INDIAN TRADE JOURNAL BY THE DEPARTMENT  
OF COMMERCIAL INTELLIGENCE AND STATISTICS, INDIA.

## RICE—

1st forecast	. . . . .	October	20
2nd „	. . . . .	December	20
Final „	. . . . .	February	20

## WHEAT—

1st forecast	. . . . .	January	31
2nd „	. . . . .	March	15
3rd „	. . . . .	April	20
4th „	. . . . .	May	30
Final „	. . . . .	August	10

## COTTON—

1st forecast	. . . . .	August	15
2nd „	. . . . .	October	15
3rd „	. . . . .	December	15
Final „	. . . . .	February	15
Supplementary forecast	. . . . .	April	15

## LINSEED, RAPE AND MUSTARD—

1st forecast	. . . . .	January	1
2nd „	. . . . .	March	15
Final „	. . . . .	June	1

SESAMUM (*til* or *jinjili*)—

1st forecast	. . . . .	September	1
2nd „	. . . . .	October	20
Final „	. . . . .	January	15
Supplementary forecast	. . . . .	April	20

## GROUNDNUT—

1st forecast	. . . . .	October	20
Final „	. . . . .	February	15

## INDIGO—

1st forecast	. . . . .	October	15
Final „	. . . . .	December	20

## SUGARCANE—

1st forecast	. . . . .	August	20
2nd „	. . . . .	October	20
Final „	. . . . .	February	5

## JUTE—

Preliminary forecast	. . . . .	July	7—15
Final „	. . . . .	September	21

## APPENDIX IV

## SEASONS OF SOWING AND HARVESTING OF THE CROPS AND THE TRACTS WHERE THEY ARE MAINLY GROWN

CROP	SEASON OF		WHERE MAINLY GROWN	
	Sowing	Harvesting	British Provinces	Indian States
Rice—				
Winter (a) . . .	May to August	December and January	Bengal, Madras, Bombay including Sind, United Provinces, Bihar and Orissa, Punjab, Burma, Central Provinces and Berar, Assam, North-West Frontier Province and Coorg.	Mysore, Madras Central India Punjab States, Hyderabad, Bombay States, Central Provinces and States.
Autumn . . .	May and June	September		Mysore, Central States, Rajputana Punjab States, Hyderabad, Central Provinces Bombay State Gwalior.
Summer . . .	January and February	May and June		
Wheat - (Rabi or spring crop)	October to December	March to May	Bengal, Madras, Bombay including Sind, United Provinces, Bihar and Orissa, Punjab, Burma, Central Provinces and Berar, North-West Frontier Province, Ajmer-Merwara and Manpur Pargana and Delhi.	Mysore, Central States, Rajputana Punjab States, Hyderabad, Central Provinces Bombay State Gwalior.
Sugarcane (b) . . .	February to May	November to January	Bengal, Madras, Bombay including Sind, United Provinces, Bihar and Orissa, Punjab, Burma, Central Provinces and Berar, Assam, North-West Frontier Province and Delhi.	Mysore, Madras Central India Rajputana States, Kashmir, Hyderabad, States, Gwalior United Provinces Travancore (Madras Tripura (Bengal).
Tea . . .	Seeds sown between November and March and seedlings transplanted when at least 6 months old.	May to December in Northern India and January to December in South India.	Bengal, Madras, United Provinces, Bihar and Orissa, Punjab, Burma, and Assam.	Travancore (Madras Tripura (Bengal).
Cotton (c)—				
Early . . .	March to August	October to April	Bengal, Madras, Bombay including Sind, United Provinces, Bihar and Orissa, Punjab, Burma, Central Provinces and Berar, Assam, North-West Frontier Province, Ajmer-Merwara and Delhi.	Mysore, Madras Central India Rajputana States, Kashmir, Hyderabad, Baroda, United Provinces State (Raj Bengal State (Bombay States Gwalior.
Late . . .				
Jute— (Autumn crop)	March to May	August and September	Bengal, Bihar and Orissa and Assam.	Bengal State (Bihar).
Linseed— (Rabi or spring crop)	August to October	January to April	Bengal, Madras, Bombay, United Provinces, Bihar and Orissa, Punjab, Central Provinces and Berar, and Assam.	Central India States, Rajputana States, Punjab States, Kashmir, Hyderabad, Bombay Central Provinces Gwalior and United Provinces States.
Rape and Mustard— (Rabi or spring crop)	Ditto	Ditto	Bengal, Madras, Bombay including Sind, United Provinces, Bihar and Orissa, Punjab, Burma, Central Provinces and Berar, Assam, North-West Frontier Province and Delhi.	Mysore, Central States, Rajputana States, Punjab States, Kashmir, Hyderabad, Baroda, Bombay States and Gwalior.
Sesamum—				
Kharif or autumn crop (d) . . .	May to July	October to December	Bengal, Madras, Bombay including Sind, United Provinces, Bihar and Orissa, Punjab, Burma, Central Provinces and Berar, Assam, and Ajmer-Merwara.	Mysore, Madras Central India Rajputana States, Punjab States, and Kashmir, Baroda, Hyderabad, Bombay States and Gwalior.
Rabi or summer . . .	January and February	May to July		
Groundnut (e) . . .	May to August	November to January	Madras, Bombay, United Provinces, Burma, Central Provinces and Berar.	Mysore, Madras (Banganapalli), Central India States, Hyderabad, Bombay States, Rajputana States Gwalior.
Indigo (f) . . .	February to July	August to November	Bengal, Madras, Bombay including Sind, United Provinces, Bihar and Orissa, Punjab and Burma.	Rajputana, Punjab Hyderabad and Berar State (Khairpur) Madras States.
Coffee . . .	Rainy season	October to January	Madras and Coorg . . .	Mysore, Madras (Travancore and Coorg)
Rubber . . .	.....	.....	Burma, Madras, Assam, Coorg and Bengal.	Mysore, Madras (Travancore and Coorg)

\* Incomplete.

(a) In Madras, the seasons vary greatly. The first crop is sown between April and October and the second crop between September and March. The first crop is harvested between September and March and the second crop between January and May.

(b) In Madras, the harvest takes place between December and May.

(c) In parts of Southern India, sowing continues till December and harvesting till July.

(d) In parts of Southern India, sowing continues till September or October and harvesting till March or April.

(e) A Summer variety is also grown in Madras forming about 5 per cent of the total area under the crop; this variety is sown February-March and harvested in July-August.

(f) In Madras about 20 per cent of the area under the crop is irrigated being grown as a second crop on wet lands after paddy is sown in December-January and harvested in March-April.

## INDEX

	Pages		Pages
American notation . . . . .	39, 40	Methods of collecting statistics . . . . .	41-44
Area estimate . . . . .	ib.	Mixed crop, treatment of— . . . . .	39
Area under—		Mustard (see Rape and Mustard)	
Bajra ( <i>Pennisetum typhoides</i> ) . . . . .	24	Normal crop, definition of— . . . . .	39
Barley ( <i>Hordeum vulgare</i> ) . . . . .	22, 32	Normal yield per acre . . . . .	12
Castor seed ( <i>Ricinus communis</i> ) . . . . .	27	Percentage estimate . . . . .	39, 40
Coffee ( <i>Coffea Arabica</i> ) . . . . .	4, 8, 21, 37	Rainfall—	
Cotton ( <i>Gossypium sp.</i> ) . . . . .	2, 3, 5, 16, 33	Normal and actual . . . . .	25
Gram ( <i>Cicer arcticum</i> ) . . . . .	26	Monsoon . . . . .	5
Groundnut ( <i>Arachis hypogaea</i> ) . . . . .	4, 8, 20	Rape and Mustard—	
Indigo ( <i>Indigofera Sumatrana and I. arrecta</i> ) . . . . .	ib.	Area . . . . .	3, 4, 8, 18, 35
Jowar ( <i>Sorghum vulgare</i> ) . . . . .	23	Yield . . . . .	ib.
Jute ( <i>Corchorus sp.</i> ) . . . . .	3, 8, 17	Rice—	
Linseed ( <i>Linum usitatissimum</i> ) . . . . .	3, 8, 17, 34	Area . . . . .	2, 8, 13, 29
Maize ( <i>Zea mays</i> ) . . . . .	25, 31	Yield . . . . .	ib.
Rape and Mustard ( <i>Brassica sp.</i> ) . . . . .	3, 4, 8, 18, 35	Rubber—	
Rice ( <i>Oryza sativa</i> ) . . . . .	2, 8, 13, 29	Area . . . . .	4, 8, 21
Rubber ( <i>Hevea brasiliensis</i> ) . . . . .	4, 8, 21	Yield . . . . .	ib.
Sesamum ( <i>Sesamum indicum</i> ) . . . . .	4, 8, 19	Season, leading features of— . . . . .	1-4
Sugarcane ( <i>Saccharum officinarum</i> ) . . . . .	2, 8, 15, 38	Seasons of harvesting of crops . . . . .	46
Tea ( <i>Camellia thea</i> ) . . . . .	2, 8, 15, 36	“ of sowing of crops . . . . .	ib.
Wheat ( <i>Triticum sativum</i> ) . . . . .	2, 8, 14, 30	Sesamum—	
Area of crops, how ascertained . . . . .	39, 41-44	Area . . . . .	4, 8, 19
Bajra—		Yield . . . . .	ib.
Area . . . . .	24	Source and scope of the estimates . . . . .	1
Yield . . . . .	ib.	Standard normal outturn . . . . .	39
Barley—		Sugarcane—	
Area . . . . .	22, 32	Area . . . . .	2, 8, 15, 38
Yield . . . . .	ib.	Yield . . . . .	2, 8, 15, 38
Castor seed—		Tea—	
Area . . . . .	27	Area . . . . .	2, 8, 15, 36
Yield . . . . .	ib.	Yield . . . . .	ib.
Chart showing the condition of monsoon rainfall . . . . .	5	Wheat—	
Charts illustrating the growth of production of crops . . . . .	frontispiece	Area . . . . .	2, 8, 14, 30
Coffee—		Yield . . . . .	ib.
Area . . . . .	4, 8, 21, 37	Yield—	
Yield . . . . .	4, 8, 21, 37	Bajra . . . . .	24
Cotton—		Barley . . . . .	22, 32
Area . . . . .	2, 3, 5, 16, 33	Castor seed . . . . .	27
Consumption . . . . .	3, 16	Coffee . . . . .	4, 8, 21, 37
Net exports . . . . .	ib.	Cotton . . . . .	3, 5, 16, 33
Yield . . . . .	3, 8, 16, 33	Gram . . . . .	26
Crops—where mainly grown . . . . .	46	Groundnut . . . . .	4, 8, 20
Crop-cutting experiments . . . . .	39	Indigo . . . . .	ib.
Dates of publication of forecasts . . . . .	45	Jowar . . . . .	23
Development of the estimates . . . . .	1	Jute . . . . .	3, 8, 17
Gram—		Linseed . . . . .	3, 8, 17, 34
Area . . . . .	26	Maize . . . . .	25, 31
Yield . . . . .	ib.	Rape and mustard . . . . .	3, 4, 8, 18, 35
Groundnut—		Rice . . . . .	2, 8, 13, 29
Area . . . . .	4, 8, 20	Rubber . . . . .	4, 8, 21
Yield . . . . .	ib.	Sesamum . . . . .	4, 8, 19
Indian notation . . . . .	39, 40	Sugarcane . . . . .	2, 8, 15, 38
Indigo—		Tea . . . . .	2, 8, 15, 36
Area . . . . .	4, 8, 30	Wheat . . . . .	2, 8, 14, 30
Yield . . . . .	ib.	Yield per acre—	
Jowar—		Coffee . . . . .	11
Area . . . . .	23	Cotton . . . . .	ib.
Yield . . . . .	ib.	Groundnut . . . . .	10
Jute—		Indigo . . . . .	11
Area . . . . .	3, 8, 17	Jute . . . . .	ib.
Consumption and exports . . . . .	17	Linseed . . . . .	10
Yield . . . . .	3, 8, 17	Normal . . . . .	12
Linseed—		Rape and mustard . . . . .	10
Area . . . . .	3, 8, 17, 34	Rice . . . . .	9
Yield . . . . .	ib.	Rubber . . . . .	11
Maize—		Sesamum . . . . .	10
Area . . . . .	25, 31	Sugarcane . . . . .	6
Yield . . . . .	ib.	Tea . . . . .	ib.
Method of framing estimates of crops . . . . .	39, 40	Wheat . . . . .	ib.

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[TWENTY-SIXTH ISSUE]

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INDIA

ESTIMATES  
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OF  
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1923-24

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