

EIGHTEENTH ISSUE

DEPARTMENT OF STATISTICS, INDIA

ESTIMATES
OF
AREA AND YIELD
OF
Principal Crops in India
1915-16

Published by order of the Governor-General in Council



CALCUTTA
SUPERINTENDENT GOVERNMENT PRINTING, INDIA
1916

PRICE EIGHT ANNAS

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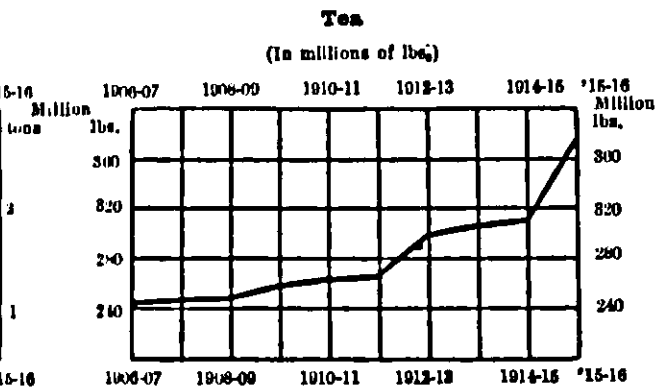
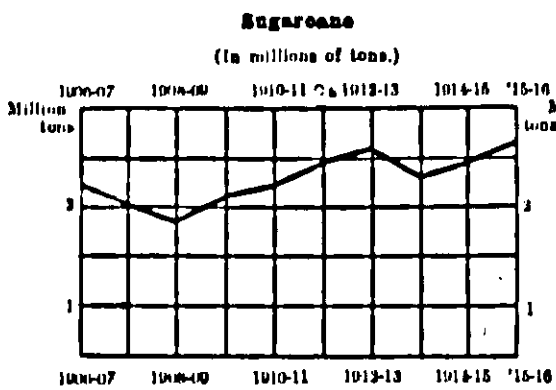
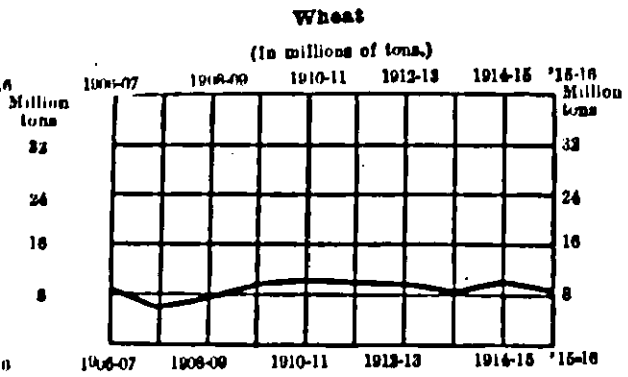
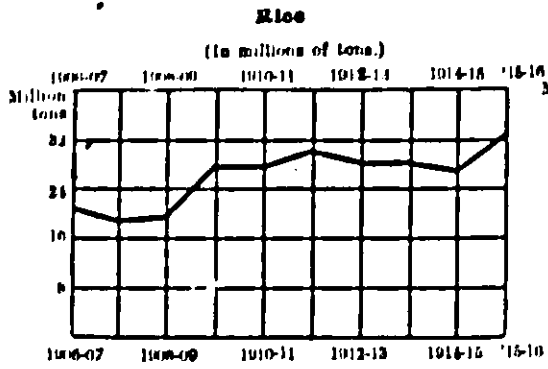
40. Wholesale and Retail Prices of cereals, pulses, oilseeds, sugar, salt, etc., in India. As. 6.
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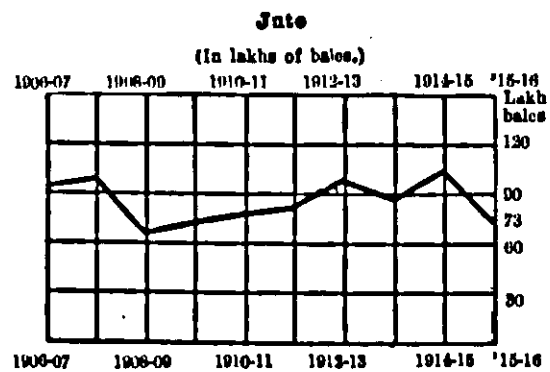
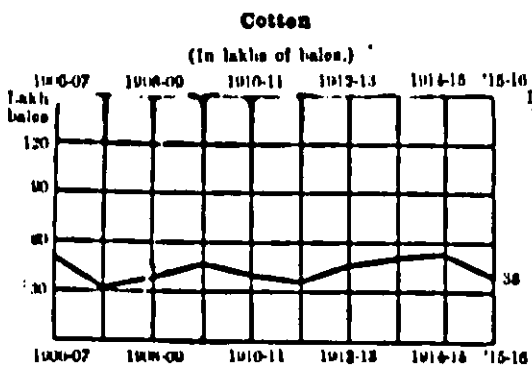
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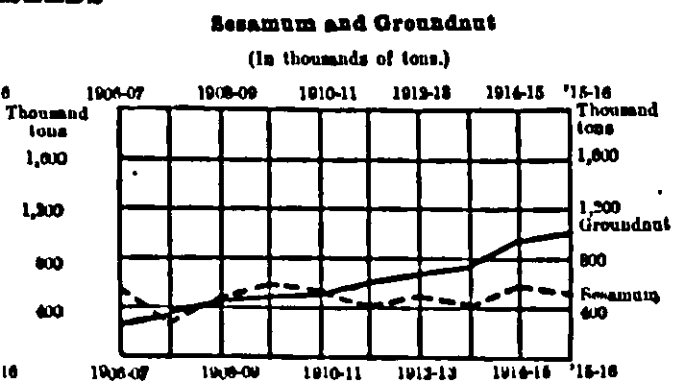
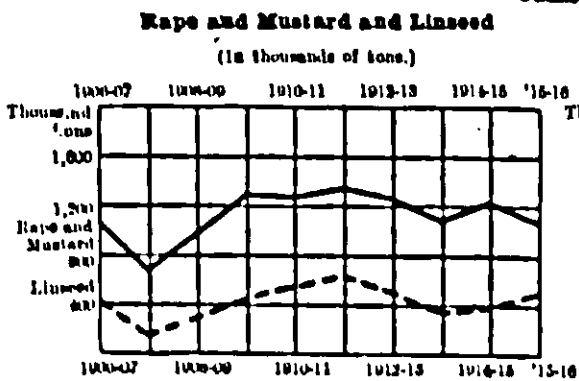
FOOD CROPS



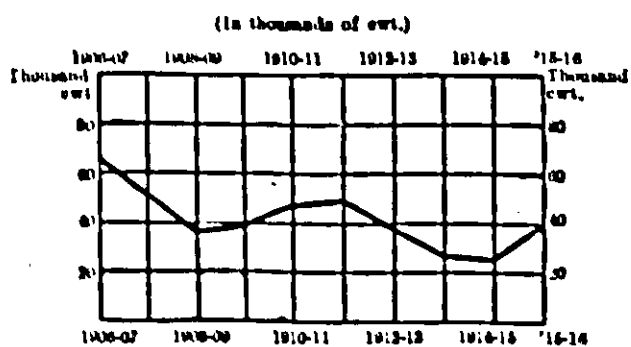
FIBRES



OILSEEDS



INDIGO (DYE)



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Estimates of Area and Yield of Principal Crops in India, 1915-16

INTRODUCTORY NOTE.

The present issue is the eighteenth of the series and relates to the area and yield of the principal crops for which estimates were made in 1915-16. It is the third of the new series that was commenced in 1913-14.

The periodical estimates or forecasts of certain crops are compiled from local returns and issued by this Department. The general practice is to issue a preliminary forecast, a second estimate, and a third or final estimate—fuller and more precise in data than the two former forecasts. The dates prescribed for the issue of the forecasts by this Department are given in Appendix III. The figures in the tables in this volume are those given in the final forecasts. They show the area sown and the estimated yield in the last ten years of: rice, wheat, sugarcane, tea, cotton, jute, linseed, rape and mustard, sesamum, groundnut, and indigo. The rates of yield per acre of these crops are shown in a separate table (No. 2, together with the normal yields in table No. 3).

Source and scope of the estimates.

The estimates for these crops did not, especially in the earlier years of forecasts in India, relate to the total producing areas, but only to those tracts where the respective crops were grown on an extensive and commercial scale. Tracts of minor importance have been added gradually, as will be seen from the tables and the footnotes thereto. It should, therefore, be remembered that, owing to this gradual development, the estimates in the forecasts for earlier years are not altogether strictly comparable with those for later years, as is the case with the agricultural statistics of British India, published in Volume I of Agricultural Statistics of India. The increase in this respect, however, between the year under report as against the two previous years is so small as to be negligible and to afford a comparison of the estimates of the year (1915-16) with the two preceding years. At present the estimates for cotton, wheat, and jute relate to all the tracts in India where these crops are grown to any extent, excluding certain unimportant outlying tracts, such as Baluchistan, Kashmir, Nepal, and Sikkim. For other crops, however, the estimates, though relating to all the British provinces where they are grown to any considerable extent (excepting Burma in the case of sesamum), still exclude the Native States, except those in the Bombay Presidency and the States of Hyderabad and Baroda in certain cases. Further details regarding the reporting tracts are given in paragraphs below, in footnotes to the tables, and in Appendix II on pages 22-24. It may be noted that, owing chiefly to these causes, the figures given in this volume do not agree in some instances with those in the Agricultural Statistics of India.

Gradual development.

Estimates, so far as available, for certain other staple crops, namely, barley, jawar, bajra, maize, and gram, have been shown in a supplementary table (No. 15), the figures being taken from the provincial Season and Crop Reports or especially obtained from local authorities.

The monsoon was not very favourable. It arrived late and was weak and irregular in the northern parts of the Bombay Presidency, especially in Gujarat, in Sind, and in large areas of the Punjab. The rainfall in the north-eastern, central, and southern India was good or excessive, causing serious, and sometimes disastrous, floods in Assam and in parts of Bengal and the United Provinces. In the western and the north-western parts, on the other hand, a continued shortage of rain threatened at one time to have very serious consequences. Fortunately opportune rainfall in September and October greatly improved the prospects of the important *rabi* crops in the Punjab, and changed

Leading features of the season.

* For the tea crop no forecast is prepared; the figures are taken from the Annual Report on the Production of Tea in India published by this Department.

the position considerably for the better elsewhere, especially in Gujarat. The winter rains in December, January, and February proved most inadequate as well as untimely in northern India, and this affected considerably the outturn of crops, such as wheat in the Punjab and elsewhere. Statistics of normal and actual rainfall are given in Table No. 16.

Rice.

Rice is generally regarded as a winter crop, being mainly harvested in December and January. It is sown in the months from May to August.* There are two other varieties of comparatively small importance, namely, autumn rice and summer rice. Autumn rice is sown in May—June and harvested in September, and summer rice is sown in January—February and harvested in May—June. The provinces to which the estimates for rice now relate are Bengal, Bihar and Orissa, Madras, Burma, the United Provinces, the Central Provinces and Berar, Assam, Bombay, Sind, and Coorg. These tracts comprise 99 per cent of the total rice area of British India. The only Native States for which estimates for rice are prepared are those in the Bombay Presidency. The total area under rice in all these tracts in 1915-16 was reported as 76,792,000 acres as compared with 76,625,000 acres in the preceding year. Some damage was caused to the crop through deficient rainfall in the Bombay Presidency and by floods in parts of Assam. Elsewhere the season was, on the whole, favourable. The total estimated yield was 32,877,000 tons as against 27,212,000 tons in 1914-15. To this figure should be added some 300,000 tons in respect of other British provinces (containing about 760,000 acres under rice) for which no estimates are made.

Wheat.

Wheat, which is a *rabi* (spring) crop in India, is sown from October to December and harvested from March to May. The provinces and states to which the estimates for this crop relate are the Punjab, the North-West Frontier Province, the United Provinces, Ajmer-Merwara, Delhi, the Central Provinces and Berar, Bombay, Sind, Bengal, Bihar and Orissa, Central India, Rajputana, Hyderabad, and Mysore. These tracts contain practically the whole of the area under wheat in India. The total area under wheat in 1915-16 was reported to be 30,143,000 acres, which falls below the area of the preceding year by 2,332,000 acres or 7 per cent. The failure of the winter rains seriously affected the crop, particularly on unirrigated areas in the Punjab, the North-West Frontier Province, Ajmer-Merwara, Rajputana, Sind, the western parts of the United Provinces, and the northern parts of the Bombay Presidency. In the Central Provinces and Berar, Bihar and Orissa, Hyderabad, Bengal, the Bombay Deccan, and in the eastern and southern parts of the United Provinces and of Central India, conditions of the crop were, on the whole, favourable. The total estimated yield was 8,518,000 tons, which is short of the final figure of 1914-15 by 1,569,000 tons or 16 per cent.

Sugarcane.

The sugarcane crop is planted from February to May and harvested from November to January. The provinces to which the reports on this crop relate are the United Provinces, Bihar and Orissa, Bengal, Assam, the Punjab, the North-West Frontier Province, Bombay (including Sind), Madras, and the Central Provinces and Berar. These tracts contain 99 per cent of the total area under sugarcane in British India. Reports are also received from the Native States in the Bombay Presidency (including the Baroda State). No report is received from any other Native State. The total reported area (2,375,000 acres) under sugarcane in 1915-16 was 3 per cent above that of the preceding year. The crop, on the whole, fared better than in the preceding year. The estimated yield (2,636,000 tons) was 7 per cent above the final figure (2,462,000 tons) of the preceding year. To this figure should be added approximately 26,000 tons in respect of other British provinces for which no separate estimates are made.

Tea.

The provinces where tea is grown are Assam, Bengal, Madras, the United Provinces, the Punjab, Bihar and Orissa, Burma, and the State of Travancore. The total area under tea in 1915 was reported to be 636,200 acres, which is 2 per cent greater than that in the preceding year. The weather during June was cold and wet. In July there were heavy floods in parts of the Assam (Brahmaputra) Valley and in Cachar and Sylhet, which, however, quickly subsided. During autumn the season was very favourable for a prolific yield.

* In parts of Southern India sowing extends to November

Unusually warm weather prevailed towards the close of the season, which had the effect of prolonging the season. The total production of manufactured tea (both black and green) was reported to be 371,836,700 lbs in 1915 as against 312,976,200 lbs in the preceding year.

The total reported area under cotton was 17,967,000 acres in 1915-16 as Cotton. against 24,595,000 acres in 1914-15. The decrease in area sown was attributed chiefly to the low prices of cotton obtained in the preceding year, and also in some provinces to the vagaries of the monsoon. The seasonal conditions were, on the whole, fair to good, except in the western Punjab, Burma, Ajmer-Merwara, Rajputana, and the northern parts of the Bombay Presidency proper. In these tracts the crop suffered severely from drought. The total estimated

	Thousand bales		
	1913-14	1914-15	1915-16
Net exports	3,647	2,118	2,359
Mill consumption	1,816	1,771	1,891
Consumption outside mills (conjectural)	450	1,060	750
Total	5,913	4,889	5,000
Estimate of yield	5,066	5,209	3,819
Excess (+) or deficit (-)	-847	+320	-1,181

outturn was 3,819,000 bales of 400 lbs each, which is 1,390,000 bales or 27 per cent less than the final figure of 1914-15. The figure for 1914-15 for outturn was the highest on record. The marginal statement compares the estimates of yield for the last three years with the sum of net exports and internal consumption (in thousands of bales). It may be noted, however, that while the statistics of exports and consumption take into account stocks carried from year to year, the estimates of yield refer to the years specified.

There are, it may be remembered, two crops of cotton grown in India, *viz.*, the early and the late. Early cotton grows principally in northern and central India, and late cotton largely in southern and western India. Taking both the crops together, the sowing season extends from March to August and the harvesting season from October to April. In parts of Southern India sowings continue till October and harvesting till July. The estimates given above relate to all the cotton-growing provinces and states in India.

Jute is sown from March to May and harvested in August and September. Jute. The provinces where it is grown are Bengal, Bihar and Orissa, and Assam. It is also grown to a small extent in the Nepal State, but no reliable information is available for that State. The total reported area under jute in 1915 (2,377,000 acres) fell short of that of the preceding year by 29 per cent, and the estimated yield (7,345,000 bales of 400 lbs each) by 30 per cent. The area was restricted, owing mainly to low prices due to the war. Although the rainfall was not on the whole ill-distributed, the crop was damaged to a considerable extent by floods in some of the important districts of Eastern Bengal and of Assam.

Linseed is a *rabi* (spring) crop, being sown from August to October Linseed. and harvested from January to April. The provinces to which the estimates for linseed relate are the United Provinces, the Central Provinces and Berar, Bengal, Bihar and Orissa, the Punjab, and Bombay. These tracts comprise 98.9 per cent of the total area under linseed in British India. Reports are also made by the States of Hyderabad and Baroda and by the States in the Bombay Presidency. No report is received from any other Native State. The total area under linseed reported by all the reporting tracts in 1915-16 was 3,317,000 acres, which is 0.2 per cent below the final figure of the preceding year. The condition of the crop was, on the whole, fairly good, except in the Punjab, where, however, the crop is not important. The total estimated yield (474,000 tons) was larger than that of the preceding year by 19.4 per cent. To this figure should be added some 4,000 tons for other British provinces for which no separate estimates are made.

Rape and mustard are also *rabi* (spring) oilseeds, being sown from August Rape and mustard. to October and harvested from January to April. The provinces from which reports are received are the Punjab, Bengal, Bihar and Orissa, Assam, the United Provinces, the North-West Frontier Province, Bombay, and Sind. These tracts contain 99.2 per cent of the total area under rape and mustard in British India. Reports are also received from the States of Hyderabad and Baroda and from the States in the Bombay Presidency. No report is received from

any other Native State. The total area under rape and mustard reported by all the reporting tracts in 1915-16 was 6,373,000 acres, which is 2 per cent below the figure for the preceding year. Owing to insufficient winter rains, conditions were not, on the whole, favourable, except in Bihar and Orissa, Bengal, and the southern parts of the United Provinces, where conditions were fair to good. The total estimated yield (1,083,000 tons) was 11 per cent below the final figure of the preceding year. To this figure should be added some 9,000 tons in respect of other British provinces for which no separate estimates are made.

Sesamum.

Sesamum is mainly a *kharif* (autumn) crop, being sown from May to July and harvested from October to December; in parts of Southern India sowing continues till September or October and harvesting till March or April. A *rabi* or summer variety is also grown in certain tracts; this is sown in January and February and harvested in May to July. The provinces to which the estimates for sesamum relate are the Central Provinces and Berar, Bombay, Sind, Madras, the United Provinces, Bengal, Bihar and Orissa, the Punjab, and Ajmer-Merwara. These tracts contain about 78 per cent of the total area under sesamum in British India. Reports are also received from the Native States of Hyderabad and Baroda and those in the Bombay Presidency. No report is received from any other Native State or from Burma. The total reported area under sesamum in 1915-16 was 5,170,000 acres against 5,565,000 acres in the preceding year. The seasonal conditions were favourable in Madras, the Central Provinces and Berar, Bihar and Orissa, Hyderabad, and in the important sesamum-growing districts of the United Provinces. Elsewhere the season was not favourable, the crop having suffered through deficient rainfall in the Punjab, Sind, Ajmer-Merwara, and in the greater part of the Bombay Presidency, and through excessive rain in Bengal, in parts of Bombay and of the United Provinces. The total estimated yield was 501,000 tons as against 551,000 tons in 1914-15—a decrease of 9 per cent. An addition of approximately 22 per cent should be made to this figure in respect of other British provinces (containing an aggregate area of about 1,131,000 acres under sesamum) for which no estimate is made.

Groundnut.

The groundnut crop is sown from May to August and is harvested from November to January. The provinces to which the estimates for this crop relate are Madras, Bombay (including Native States), and Burma, these being the provinces where groundnut is grown to a considerable extent. The total area under groundnut in these three provinces in 1915-16 was reported as 1,935,000 acres, which is 20 per cent less than the figure of the preceding year, the estimated yield (1,011,000 tons) being 7 per cent in excess of last year. The decrease in area was mainly in the Bombay and the Madras Presidencies and was due to the late commencement of rains and to low prices. The season was, on the whole, favourable.

Indigo.

The indigo crop is sown from February to July and harvested from August to November. The provinces to which the estimates for indigo relate are Bihar and Orissa, Bengal, the United Provinces, the Punjab, Madras, Bombay, and Sind. These tracts contain practically the whole area under indigo in British India. No report is received from any Native State, except the State of Khairpur in Sind. The total reported area (314,000 acres) in 1915-16 is 112 per cent greater than that of the preceding year. The increase in area was due to high prices of indigo on account of the war. In Madras the crop did very well, except in the Circars. Elsewhere the season was not, on the whole, favourable. There was a scarcity of reliable seed for sowing in the United Provinces. In Madras also much indifferent seed was sown, owing to the exceptionally high prices of seed at sowing time. The total estimated yield of dye was 40,000 cwts, which was greater than the figure of the preceding year by 58 per cent.

G. FINDLAY SHIRRAS,
Director of Statistics

DEPARTMENT OF STATISTICS, INDIA,
Calcutta, September 1, 1916.

TABLES

Note.—The rates of yield per acre of the crops tabulated in tables Nos. 4 to 14 are given in table No. 2.

ABSTRACT TABLE

No. 1.—ABSTRACT TABLE—AREA AND YIELD OF EACH CROP

Area (acres)

Crops	Average 1893-99 to 1899-1900	Average 1900-01 to 1904-05	Average 1905-06 to 1909-10	Average 1910-11 to 1914-15	1911-12	1912-13	1913-14	1914-15	1915-16
Rice . . .	50,855,000	50,067,000	54,594,000	69,286,000	64,726,000	71,623,000	75,425,000	76,625,000	76,792,000
Wheat . . .	22,619,000	25,518,000	26,565,000	30,540,000	31,141,000	30,043,000	28,475,000	32,475,000	30,143,000
Sugarcane . . .	(a)	2,258,000	2,281,000	2,376,000	2,380,300	2,526,700	2,545,500	2,311,000	2,375,000
Tea . . .	467,000	525,000	540,000	593,000	574,600	591,800	610,100	622,600	636,200
Cotton . . .	13,866,000	16,652,000	21,146,000	23,171,000	21,615,000	22,028,000	25,023,000	24,595,000	17,967,000
Jute . . .	2,055,000	2,335,000	3,264,000	3,057,000	3,106,400	2,970,500	2,911,000	3,358,700	2,377,300
Linseed . . .	2,869,000	3,547,000	3,061,000	3,852,000	5,038,000	4,124,900	3,031,000	3,325,000	3,317,000
Rape and Mustard	4,541,000	5,598,000	6,056,000	6,407,000	6,990,300	5,955,800	6,266,400	6,507,000	6,373,000
Sesamum . . .	4,019,000	4,903,000	4,915,000	5,129,000	4,808,100	4,989,500	5,076,000	5,565,000	5,170,000
Groundnut . . .	(a)	431,000	827,000	1,610,000	1,214,100	1,366,400	2,105,900	2,413,000	1,935,000
Indigo . . .	1,280,000	722,000	354,000	216,000	266,900	216,800	172,600	148,400	314,300

Yield

Crops	Average 1893-99 to 1899-1900	Average 1900-01 to 1904-05	Average 1905-06 to 1909-10	Average 1910-11 to 1914-15	1911-12	1912-13	1913-14	1914-15	1915-16
Rice . . . tons	21,466,000	21,550,000	21,882,000	23,498,000	30,074,000	28,435,000	28,790,000	27,242,000	32,877,000
Wheat . . . "	6,029,000	7,676,000	8,092,000	9,657,000	9,924,500	9,853,000	8,358,000	10,087,000	8,518,000
Sugarcane . . . "	(a)	2,049,000	1,996,000	2,401,000	2,451,100	2,583,600	2,291,500	2,462,000	2,636,000
Tea . . . lbs.	158,375,000	201,389,000	212,386,000	289,995,000	268,602,700	297,878,100	307,249,600	312,976,200	371,836,700
Cotton . . . bales	2,303,000	3,203,000	3,976,000	4,465,000	3,288,000	4,610,000	5,066,000	5,209,000	3,819,000
Jute . . . "	5,771,000	7,036,000	8,136,000	9,069,000	8,234,700	9,842,800	8,893,900	10,443,900	7,345,500
Linseed . . . tons	352,000	416,000	333,000	508,000	644,900	542,100	386,200	397,000	474,000
Rape and Mustard . . . "	915,000	1,011,000	992,000	1,225,000	1,325,700	1,241,200	1,087,500	1,219,200	1,083,100
Sesamum . . . "	348,000	465,000	443,000	468,000	397,600	474,000	403,500	551,000	501,000
Groundnut . . . "	(a)	(a)	358,000	695,000	605,700	669,900	748,800	947,000	1,011,000
Indigo . . . cwts	156,000	100,000	49,000	37,000	47,700	39,100	26,800	25,200	39,900

Note.—Figures for 1915-16 are subject to revision.
(a) Not available.

NORMAL YIELD PER ACRE

No. 3.—NORMAL YIELDS PER ACRE OF CROPS FOR WHICH FORECASTS ARE PREPARED

Province	Rice	Wheat	Sugar-cane	Cotton	Jute	Linseed	Lepe and Mustard	Sesamum	Groundnut	Indigo
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Bengal	{ (a) 987 (b) 823 (c) 1,111	864	2,021	155	1,271	404	404	350	...	12
Bihar and Orissa	{ (a) 1,234 (b) 823 (c) 823										{ (d) 984 (e) 451 (f) 861	2,461	155	1,200	491	404	350	...	20
Assam	{ (a) 1,008 (b) 872 (c) 1,012	...	1,904	154	1,320	...	504	...	...	...
United Provinces	900	1,020	2,600	160	...	500	600	280	...	18
Madras	{ (h) 1,680 (i) 887	...	5,040	{ (k) 87 (l) 65	...	...	...	300	1,120	85
Bombay	1,230	875	6,950	100	...	860	625	400	8,000	•
Sind	1,180	1,340	4,233	(j) 380	...	...	602	394	...	...
Punjab . . . . .	...	728	1,686	118	...	•	396	...	...	•
Central Provinces and Berar	624	600	2,569	86	...	• 226	...	224	...	...
North-West Frontier Province . . . . .	...	633	2,430	160	...	...	418	...	...	...
Burma	(g) 1,070	...	...	122	...	...	...	...	870	...
Ajmer-Merwara . . . . .	...	•	...	170	...	...	...	•	...	...
Delhi . . . . .	...	•	...	...	...	...	...	...	...	...
Coung	1,463	...	...	...	...	...	...	...	...	...

• Not available
 (a) Winter Rice (b) Autumn Rice (c) Summer Rice
 (d) Bihar (e) Chota Nagpur (f) Orissa
 (g) 997 lbs. for Upper Burma and 1,140 lbs. for Lower Burma
 (h) Irrigated
 (i) Unirrigated
 (j) Subject to revision

No. 4.—AREA AND YIELD OF RICE IN EACH PROVINCE

Area (acres)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Bengal (a)	40,239,000	40,210,000	38,158,000	42,977,000	42,793,000	20,437,000	20,639,000	19,846,000	20,450,000	20,916,000
Bihar and Orissa	(c)	(c)	(c)	(c)	(c)	17,363,000	16,196,000	16,223,000	16,130,000	16,249,000
Madras (b)	6,944,000	7,215,000	7,361,000	7,675,000	7,787,000	10,288,000	10,944,000	10,678,000	10,876,000	10,668,000
Burma (e)	6,974,000	7,252,000	7,569,000	7,467,000	7,449,000	7,373,000	9,966,000	10,066,000	9,993,000	10,024,000
United Provinces	(d)	(d)	(d)	(d)	(d)	5,220,000	6,811,000	6,062,000	6,200,000	6,498,000
Central Provinces and Berar	(d)	(d)	(d)	(d)	(d)	(d)	(d)	4,986,000	5,083,000	5,097,000
Assam	(c)	(c)	(c)	(c)	(c)	4,045,000	4,272,000	3,752,000	4,045,000	4,051,000
Bombay (including Native States) (f)	(d)	(d)	(d)	(d)	(d)	(d)	1,624,000	2,628,000	2,650,000	2,165,000
Sind (including Native States) (g)	(d)	(d)	(d)	(d)	(d)	(d)	1,088,000	1,112,000	1,117,000	1,042,000
Coorg	(d)	(d)	(d)	(d)	(d)	(d)	83,000	82,000	81,000	82,000
TOTAL	54,157,000	54,677,000	53,088,000	58,119,000	58,029,000	64,726,000	71,623,000	75,425,000	76,625,000	76,792,000

Yield (tons)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Bengal (a)	15,769,000	13,328,000	14,131,000	21,780,000	21,848,000	8,635,000	8,356,000	7,412,000	6,411,000	8,276,000
Bihar and Orissa	(c)	(c)	(c)	(c)	(c)	8,906,000	8,969,000	8,120,000	8,947,000	8,768,000
Madras (b)	2,522,000	2,475,000	2,195,000	2,968,000	3,174,000	5,833,000	4,435,000	4,186,000	4,247,000	4,764,000
Burma (e)	3,006,000	3,157,000	3,233,000	3,209,000	2,875,000	3,325,000	4,501,000	4,037,000	3,675,000	4,275,000
United Provinces	(d)	(d)	(d)	(d)	(d)	1,779,000	1,998,000	1,264,000	2,032,000	2,334,000
Central Provinces and Berar	(d)	(d)	(d)	(d)	(d)	(d)	(d)	825,000	1,655,000	1,693,000
Assam	(c)	(c)	(c)	(c)	(c)	1,596,000	1,948,000	1,310,000	1,420,000	1,334,000
Bombay (including Native States) (f)	(d)	(d)	(d)	(d)	(d)	(d)	820,000	1,279,000	1,395,000	1,000,000
Sind (including Native States) (g)	(d)	(d)	(d)	(d)	(d)	(d)	405,000	322,000	406,000	380,000
Coorg	(d)	(d)	(d)	(d)	(d)	(d)	53,000	35,000	53,000	53,000
TOTAL	21,387,000	18,960,000	19,549,000	27,867,000	27,897,000	30,074,000	28,485,000	28,790,000	27,242,000	32,877,000

(a) Includes Bihar and Orissa and Assam down to 1910-11

(b) The estimates for Madras for 1906-07 relate only to *raiyatswari* villages; since that year estimates for *zamindari* and *whole* *assam* villages have also been included. The estimates for years prior to 1911-12 are generally defective

(c) Included under Bengal

(d) Not available

(e) The figures down to 1911-12 relate only to the chief rice-growing districts in Lower Burma

(f) The estimates relate to all rice-growing districts. Figures for Baroda and other Native States have been added from 1913-14

(g) Includes Native State from 1913-14

(h) Season very favourable

Note.—Figures for 1915-16 are subject to revision

No. 5.—AREA AND YIELD OF WHEAT IN EACH PROVINCE

Area (acres)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Punjab (a)	9,100,000	8,272,000	9,002,000	9,142,000	9,081,000	11,018,000	9,316,000	9,568,000	11,338,000	10,256,000
United Provinces	7,044,000	4,406,000	5,656,000	6,491,000	7,342,000	7,678,000	7,382,000	6,406,000	7,301,000	6,621,000
Central Provinces and Bihar (b)	3,714,000	2,801,000	2,860,000	3,176,000	3,585,000	3,739,000	3,743,000	3,384,000	3,393,000	3,616,000
Central India States	2,448,000	1,694,000	2,040,000	2,313,000	2,460,000	2,563,000	3,216,000	2,695,000	3,096,000	2,969,000
Bombay (including Native States) (c)	1,663,000	1,678,000	1,746,000	1,820,000	1,855,000	1,284,000	1,735,000	2,102,000	2,253,000	2,049,000
Bihar and Orissa	(d)	(d)	(d)	(d)	1,312,000	1,285,000	1,270,000	1,342,000	1,218,000	1,330,000
North-West Frontier Province (e)	2,140,000	978,000	1,019,000	1,008,000	1,033,000	1,203,000	879,000	992,000	1,183,000	859,000
Hyderabad State	1,040,000	933,000	1,099,000	1,097,000	1,104,000	970,000	851,000	702,000	898,000	1,045,000
Rajputana States	812,000	604,000	898,000	1,085,000	1,187,000	938,000	1,014,000	622,000	902,000	649,000
Sind (including Native States)	672,000	447,000	548,000	471,000	560,000	391,000	487,000	490,000	706,000	571,000
Bengal (f)	1,539,000	1,096,000	1,332,000	1,500,000	143,000	143,000	140,000	144,000	134,000	134,000
Delhi	(g)	(g)	(g)	(g)	(h)	(h)	(h)	(h)	32,000	28,000
Ajmer-Merwara	(h)	(h)	(h)	(h)	(h)	(h)	(h)	5,000	19,000	12,000
Mysore State	4,000	2,000	2,000	3,000	3,000	4,000	4,000	3,000	4,000	4,000
TOTAL	29,212,000	22,911,000	26,236,000	28,106,000	30,566,000	31,141,000	30,043,000	29,475,000	32,475,000	30,143,000

Yield (tons)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Punjab (a)	3,267,000	2,459,000	3,062,000	3,434,000	3,709,000	3,809,000	2,989,000	3,189,000	3,725,000	2,487,000
United Provinces	2,165,000	1,678,000	2,124,000	2,976,000	2,919,000	3,032,000	2,938,000	2,221,000	3,042,000	2,713,000
Central Provinces and Bihar (b)	904,000	507,000	721,000	992,000	973,000	904,000	1,062,000	688,000	778,000	973,000
Central India States	615,000	371,000	397,000	514,000	532,000	636,000	1,040,000	406,000	642,000	649,000
Bombay (including Native States) (c)	338,000	336,000	383,000	451,000	506,000	205,000	543,000	506,000	605,000	406,000
Bihar and Orissa	(d)	(d)	(d)	(d)	570,000	557,000	529,000	583,000	347,000	581,000
North-West Frontier Province (e)	305,000	213,000	213,000	235,000	206,000	380,000	195,000	259,000	331,000	212,000
Hyderabad State	100,000	67,000	72,000	68,000	97,000	43,000	48,000	43,000	51,000	75,000
Rajputana States	182,000	133,000	199,000	266,000	265,000	304,000	244,000	122,000	217,000	116,000
Sind (including Native States)	180,000	113,000	134,000	132,000	136,000	97,000	204,000	197,000	311,000	162,000
Bengal (f)	431,000	321,000	334,000	560,000	38,000	47,000	51,000	51,000	32,000	40,000
Delhi	(g)	(g)	(g)	(g)	(h)	(h)	(h)	(h)	(h)	11,000
Ajmer-Merwara	(h)	(h)	(h)	(h)	(h)	(h)	(h)	2,000	5,000	2,000
Mysore State	700	600	200	400	500	500	1,000	1,000	1,000	1,000
TOTAL	8,492,700	6,123,000	7,639,200	9,633,400	10,061,500	9,914,500	9,833,000	8,353,000	10,087,000	8,518,000

(a) Includes Native States from 1907-08

(b) Includes the Native States of Khatirgarh and Nandgaon from 1907-08

(c) Includes also the Native State of Barasa. Estimates for non-reporting tracts have been added from 1912-13

(d) Included under Bengal

(e) Includes the Tardi and the Kurram Agencies

(f) Includes Bihar and Orissa up to 1909-10

(g) Included under Punjab

(h) Not available

NOTE.—Figures for 1915-16 are subject to revision

No. 6.—AREA AND YIELD OF SUGARCANE IN EACH PROVINCE

Area (acres)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
United Provinces	1,386,700	1,481,700	1,120,100	1,037,000	1,047,100	1,311,600	1,433,400	1,370,800	1,192,000	1,261,000
Punjab (a)	277,700	391,800	365,700	403,800	387,900	281,500	367,000	410,900	300,000	341,000
Bihar and Orissa	(b)	(b)	(b)	(b)	(b)	201,000	206,100	222,800	200,000	200,000
Bengal (c)	606,700	607,200	553,000	507,800	515,000	221,300	211,800	218,300	203,000	200,000
Bombay (including Native States)(e)	(d)	74,300	91,800	89,200	81,400	94,700	73,400	91,000	99,000	95,000
Madras (f)	52,100	49,000	43,700	43,800	47,000	107,700	98,800	83,000	74,000	87,000
Assam	(b)	(b)	(b)	(b)	(b)	34,700	35,200	46,000	39,000	30,000
North-West Frontier Province (g)	28,600	35,200	27,500	30,600	32,700	31,500	30,000	31,700	32,000	31,900
Central Provinces and Berar	(d)	(d)	(d)	(d)	(d)	(d)	(d)	21,000	19,000	21,000
TOTAL	2,351,800	2,639,200	2,202,800	2,112,800	2,114,600	2,380,300	2,326,700	2,343,500	2,011,000	2,072,000

Yield (tons) of raw sugar (gúr)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
United Provinces	1,261,600	916,700	844,200	955,200	1,042,900	1,259,300	1,301,500	974,500	1,153,000	1,251,000
Punjab (a)	212,800	238,700	265,600	324,700	262,600	161,200	274,300	308,900	295,000	200,000
Bihar and Orissa	(b)	(b)	(b)	(b)	(b)	303,800	294,700	280,100	277,000	200,000
Bengal (c)	594,700	583,100	430,800	495,800	563,500	250,300	263,200	244,500	250,000	250,000
Bombay (including Native States)(e)	(d)	184,200	221,200	232,300	228,000	214,600	180,700	228,000	240,000	261,000
Madras (f)	100,400	91,000	81,000	82,000	87,100	106,000	204,500	150,000	158,000	148,000
Assam	(b)	(b)	(b)	(b)	(b)	28,000	33,100	30,400	31,000	29,000
North-West Frontier Province (g)	32,800	32,200	30,100	33,100	35,700	31,000	33,600	35,100	36,000	32,500
Central Provinces and Berar	(d)	(d)	(d)	(d)	(d)	(d)	(d)	21,700	22,000	25,000
TOTAL	2,205,300	2,046,900	1,872,000	2,127,100	2,217,800	2,451,100	2,553,600	2,291,500	2,462,000	2,637,000

(a) Figures for years prior to 1913-14 exclude unimportant districts

(b) Included under Bengal

(c) Includes Bihar and Orissa and Assam down to 1910-11

(d) Not available

(e) Includes also the State of Baroda. Up to 1911-12 the figures related to the chief sugarcane growing districts only; from 1912-13 those for other districts and for Sind have been added; estimates for non-reporting tracts have been added from 1909-10

(f) The estimates for Madras for 1906-07 relate only to *raiyatwari* villages; since that year estimates for *semi-factory* and *estate* farms villages have also been included

(g) Up to 1912-13 the figures related to three selected districts. From 1913-14 all the districts including the Tribal Agency have been reported on

NOTE.—Figures for 1915-16 are subject to revision

No. 7.—AREA AND YIELD OF TEA IN EACH PROVINCE

Area (acres)

Province	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Assam	339,200	312,300	345,600	344,000	350,200	354,200	361,700	367,000	376,000	382,800
Bengal	130,500	132,500	141,000	143,200	145,000	146,000	150,500	150,100	152,000	161,200
Travancore	27,500	26,000	27,100	29,200	30,600	32,000	34,100	37,400	38,000	41,700
Madras	10,100	11,000	14,600	15,700	14,100	20,600	24,400	26,000	26,000	27,000
United Provinces	8,000	8,000	8,100	8,100	7,500	7,500	7,500	8,000	8,000	7,500
Punjab	9,400	9,400	9,400	9,400	9,400	9,400	9,300	9,300	9,000	9,000
Bihar and Orissa (a)	...	...	...	...	...	...	...	...	...	...
Burma	1,500	1,700	1,700	1,700	1,700	1,700	1,700	2,000	2,000	2,000
TOTAL	532,200	537,500	548,100	555,300	563,600	574,200	591,800	610,100	(212)	622,200

Yield (lbs)

Province	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Assam	162,428,000	161,194,300	166,456,200	171,851,200	178,193,100	179,051,000	184,709,200	189,722,000	192,271,000	211,201,200
Bengal	60,584,200	60,216,000	62,971,600	60,929,700	64,674,200	64,621,000	70,232,200	69,127,000	75,732,000	82,201,100
Travancore	11,186,300	12,740,400	12,594,800	13,352,500	14,121,100	14,714,200	15,033,000	15,165,000	15,912,000	16,216,000
Madras	3,094,000	3,470,000	4,426,600	4,325,700	5,245,200	5,705,000	7,255,000	7,721,000	8,072,000	11,001,000
United Provinces	2,200,000	2,204,000	2,002,000	2,000,000	2,045,200	2,234,700	2,200,000	2,200,000	2,200,000	2,200,000
Punjab	1,237,700	1,237,700	1,237,700	1,237,700	1,237,700	1,237,700	1,237,700	1,237,700	1,237,700	1,237,700
Bihar and Orissa (a)	...	...	...	...	...	...	...	...	...	...
Burma	112,000	127,000	118,000	118,000	127,000	127,000	127,000	127,000	127,000	127,000
TOTAL	241,677,500	244,222,500	247,021,500	255,136,600	263,200,600	268,000,200	277,741,000	281,000,000	282,072,000	311,200,000

(a) Figures for years down to 1910 are included under Bengal

No. 8.—AREA AND YIELD OF COTTON IN EACH PROVINCE

Area (acres)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Bombay (including Native States) (a)	7,383,000	7,101,000	6,241,000	6,409,000	7,331,000	5,781,000	6,826,000	7,323,000	7,796,000	4,815,000
Central Provinces and Bihar . . .	4,678,000	4,432,000	4,176,000	4,167,000	4,487,000	4,648,000	4,493,000	4,754,000	4,708,000	4,061,000
Hyderabad State . . .	3,440,000	3,100,000	2,902,000	3,401,000	3,562,000	3,231,000	2,859,000	3,653,000	3,605,000	3,220,000
Madras (b) . . .	1,703,000	1,555,000	1,376,000	1,569,000	1,573,000	2,875,000	2,414,000	2,725,000	2,115,000	2,188,000
Punjab (including Native States) . . .	1,413,000	1,474,000	1,662,000	1,436,000	1,365,000	1,582,000	1,575,000	2,053,000	1,857,000	918,000
United Provinces (c) . . .	1,489,000	1,461,000	1,382,000	1,211,000	1,317,000	921,000	1,159,000	1,588,000	1,551,000	834,000
Central India States . . .	1,132,000	993,000	974,000	1,008,000	1,319,000	1,400,000	1,314,000	1,426,000	1,519,000	999,000
Rajputana States . . .	428,000	438,000	359,000	461,000	435,000	263,000	393,000	470,000	421,000	244,000
Sind (including Native States) . . .	259,000	259,000	259,000	214,000	279,000	349,000	296,000	841,000	336,000	169,000
Burma . . .	187,000	195,000	204,000	194,000	167,000	186,000	233,000	299,000	270,000	190,000
Mysore . . .	69,000	84,000	65,000	81,000	101,000	101,000	154,000	91,000	109,000	92,000
Bihar and Orissa . . .	(d)	(d)	(d)	(d)	(d)	68,000	92,000	73,000	70,000	68,000
North-West Frontier Province (e) . . .	61,000	49,000	54,000	32,000	33,000	56,000	56,000	59,000	60,000	26,000
Bengal (f) . . .	151,000	149,000	161,000	166,000	169,000	63,000	51,000	87,000	90,000	88,000
Ajmer-Merwara . . .	40,000	41,000	40,000	30,000	45,000	27,000	50,000	57,000	54,000	23,000
Assam . . .	(d)	(d)	(d)	(d)	(d)	36,000	35,000	33,000	34,000	32,000
TOTAL	22,484,000	21,630,000	19,999,000	20,545,000	22,596,000	21,615,000	22,026,000	25,023,000	24,595,000	17,907,000

Yield (bales of 400 lbs each)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Bombay (including Native States) (a)	1,702,000	1,039,000	1,282,000	1,061,000	1,450,000	695,000	1,520,000	1,614,000	1,773,000	1,010,000
Central Provinces and Bihar . . .	681,000	595,000	766,000	1,070,000	629,000	913,000	910,000	981,000	1,007,000	1,108,000
Hyderabad State . . .	449,000	293,000	307,000	461,000	293,000	300,000	300,000	400,000	400,000	450,000
Madras (b) . . .	157,000	198,000	102,000	180,000	215,000	335,000	471,000	308,000	245,000	357,000
Punjab (including Native States) . . .	357,000	350,000	324,000	300,000	306,000	241,000	373,000	612,000	486,000	196,000
United Provinces (c) . . .	639,000	268,000	426,000	381,000	348,000	231,000	428,000	434,000	486,000	262,000
Central India States . . .	222,000	55,000	144,000	221,000	237,000	228,000	206,000	273,000	293,000	216,000
Rajputana States . . .	201,000	91,000	80,000	149,000	143,000	73,000	125,000	132,000	166,000	66,000
Sind (including Native States) . . .	155,000	135,000	101,000	104,000	97,000	124,000	123,000	135,000	116,000	51,000
Burma . . .	30,000	29,000	41,000	32,000	28,000	32,000	46,000	54,000	42,000	27,000
Mysore . . .	10,000	6,000	8,000	6,000	10,000	17,000	19,000	11,000	14,000	14,000
Bihar and Orissa . . .	(d)	(d)	(d)	(d)	(d)	19,000	19,000	17,000	16,000	16,000
North-West Frontier Province (e) . . .	13,000	9,000	12,000	7,000	8,000	12,000	13,000	14,000	14,000	6,000
Bengal (f) . . .	31,000	38,000	35,000	35,000	49,000	25,000	21,000	24,000	34,000	30,000
Ajmer-Merwara . . .	19,000	10,000	9,000	13,000	20,000	12,000	26,000	15,000	15,000	2,000
Assam . . .	(d)	(d)	(d)	(d)	(d)	11,000	10,000	12,000	12,000	10,000
TOTAL	4,934,000	3,121,000	3,692,000	4,718,000	3,833,000	3,288,000	4,610,000	5,066,000	5,209,000	3,619,000
Net Exports and Consumption (g) . . .	4,354,579	3,782,401	4,200,150	4,928,000	4,303,000	3,953,000	4,483,000	5,213,000	4,580,000	5,000,000

(a) Includes also the State of Baroda. Estimates for non-reporting tracts have been added from 1909-10

(b) The estimates for Madras for 1906-07 relate only to *raiyatwari* villages; since that year estimates for *zamindari* and *wafis* *inam* villages and Native States have also been included

(c) Includes the Native State of Rampur

(d) Included under Bengal

(e) Includes the Tachi and Kurram Agencies from 1913-14

(f) Includes Bihar and Orissa and Assam down to 1910-11 and the Hill Tippera State from 1906-07

(g) The exports as well as the mill consumption are for the year ending the 30th September up to 1910-11; from 1911-12 to 1914-15 they are for the year ending the 31st August; for 1915-16 they relate to the year ending June 1916. No reliable information exists as to the annual consumption outside the mills, but in 1911 it was settled in consultation with the Bombay Cotton Trade Association to adopt the conventional estimate of 450,000 bales. This figure has been included in the figure for each year shown against this item up to 1913-14. The consumption for 1914-15 was estimated at 1,000,000 bales and that for 1915-16 at 700,000 bales by the Association

Note.—Figures for 1915-16 are subject to revision

No. 9.—AREA AND YIELD OF JUTE IN EACH PROVINCE

Area (acres)

Province	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bengal (a)	3,434,000	3,516,500	3,706,300	3,773,100	2,841,600	2,737,000	2,510,000	2,454,600	2,872,000	2,850,000
Bihar and Orissa (b)						254,100	208,000	318,000	330,100	188,100
Assam	48,900	95,800	68,400	81,500	82,200	10,700	97,700	97,000	111,000	75,400
Cooch Bihar State		32,000	21,000	20,000	14,000	20,000	30,000	30,000	44,000	27,500
TOTAL	3,482,900	3,674,300	2,835,700	2,876,600	2,937,800	3,106,400	2,970,500	2,911,000	3,354,700	2,972,000

Yield (bales of 400 lbs each)

Province	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bengal (a)	9,020,500	9,512,100	6,132,700	6,092,500	7,733,300	7,247,000	8,004,300	7,910,000	9,308,000	6,566,100
Bihar and Orissa (b)						705,000	792,000	602,000	621,200	600,000
Assam	106,900	221,100	138,500	180,500	177,000	239,600	226,800	228,300	307,500	157,000
Cooch Bihar State	79,000	81,600	39,600	33,600	18,000	42,000	124,800	121,600	135,200	72,300
TOTAL (c)	9,206,400	9,817,800	6,310,800	7,206,600	7,933,000	8,234,700	9,143,800	8,861,800	10,373,000	7,415,500

(a) Includes Bihar and Orissa down to 1910

(b) Included under Bengal

(c) Excluding Nepal, for which no estimate of area or yield is available. The figures of imports from Nepal are, however, stated below so far as information is available:

	Bales		Bales		Bales
1906	61,000	1909	81,000	1912	80,000
1907	83,000	1910	79,000	1913	88,000
1908	88,000	1911	67,000	1914	88,000
				1915	83,000

No. 10.—AREA AND YIELD OF LINS EED IN EACH PROVINCE

Area (acres)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Central Provinces and Berar	1,158,200	647,600	654,700	920,200	1,060,400	1,854,800	1,500,000	922,100	1,224,000	1,148,000
United Provinces (a)	315,000	57,500	194,700	308,400	471,800	848,800	493,500	240,000	200,000	303,000
Bihar and Orissa (b)	633,000	269,000	499,000	597,000	658,000	747,000	667,000	867,000	620,000	650,000
Hyderabad State	664,300	484,800	555,400	518,900	631,300	603,800	512,400	412,000	238,000	289,000
Bengal (c)	805,600	559,400	634,000	673,400	199,000	200,800	192,800	193,700	182,000	181,000
Bombay (including Native States)	167,100	151,100	158,600	134,200	194,700	205,300	171,900	178,100	180,000	147,000
Punjab (d)							43,300	80,000	49,000	35,000
Total (a)	3,110,200	1,830,400	2,498,000	2,591,100	3,056,400	4,291,000	3,427,000	2,664,000	2,705,000	2,667,000
	633,000	269,000	499,000	597,000	658,000	747,000	667,000	867,000	620,000	650,000
GRAND TOTAL	3,743,200	2,099,400	2,997,000	3,188,100	3,714,800	5,039,000	4,124,000	3,531,000	3,325,000	3,317,000

Yield (tons)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Central Provinces and Berar	106,200	23,500	90,900	90,200	124,200	139,700	141,800	70,700	80,000	81,000
United Provinces (a)	156,000	6,500	30,400	61,000	102,000	159,700	65,000	28,000	6,000	61,000
Bihar and Orissa (b)	113,000	30,000	78,000	120,000	142,000	140,000	178,000	69,000	110,000	119,000
Hyderabad State	26,000	13,600	17,200	18,400	30,400	25,800	14,700	14,700	10,000	13,000
Bengal (c)	114,600	65,000	72,500	121,200	31,700	29,200	37,400	24,200	20,000	20,000
Bombay (including Native States)	6,500	4,000	6,700	12,900	23,800	15,900	17,400	14,000	17,000	21,000
Punjab (d)								3,000	5,000	2,000
Total (a)	312,200	133,500	212,700	307,500	423,200	504,500	414,100	227,200	2,77,000	245,000
	113,000	30,000	78,000	120,000	142,000	140,000	178,000	69,000	110,000	119,000
GRAND TOTAL	425,200	163,500	297,700	427,500	571,200	644,500	542,100	296,200	2,97,000	476,000

(a) The figures in italics represent "mixed" crop, i.e., mixed area in the same fields with other crops. The estimate of the mixed crop of the United Provinces are highly conjectural; hence they have been kept separate

(b) Included under Bengal

(c) Includes Bihar and Orissa down to 1909-10

(d) Not available

Note.—Figures for 1915-16 are subject to revision

No. 11.—AREA AND YIELD OF RAPE AND MUSTARD IN EACH PROVINCE

Area (acres)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
United Provinces (a)	153,400 <i>2,910,000</i>	90,800 <i>1,870,000</i>	130,800 <i>2,153,000</i>	176,900 <i>2,269,000</i>	146,200 <i>2,371,000</i>	176,200 <i>2,372,000</i>	145,000 <i>2,373,000</i>	150,400 <i>2,154,000</i>	190,000 <i>2,350,000</i>	193,000 <i>2,400,000</i>
Punjab (b)	1,402,400	812,800	1,168,900	1,329,900	1,089,000	1,414,100	887,800	1,002,900	1,047,000	1,117,000
Bengal (c)	2,026,600	1,849,100	1,854,900	2,278,300	1,370,700	1,317,500	1,325,400	1,312,600	1,303,000	1,322,000
Bihar and Orissa	(d)	(d)	(d)	(d)	765,700	780,100	723,300	751,900	691,000	725,000
Assam	222,000	261,900	284,300	320,100	318,100	258,100	295,600	299,200	304,000	316,000
North-West Frontier Province	218,800	121,000	226,900	91,700	83,100	94,200	75,700	141,300	114,000	105,000
Bombay (including Native States)(e)	61,400	40,900	80,800	80,000	84,000	17,000	75,700	83,500	83,000	36,000
Sind (including Native States)(f)	87,900	63,100	120,400	69,700	76,200	54,000	43,800	365,000	428,000	163,000
Hyderabad State	10,700	9,600	12,600	8,100	9,300	6,500	11,100	5,600	7,000	6,000
TOTAL (a)	4,183,100 <i>2,210,000</i>	3,330,200 <i>1,870,000</i>	3,875,500 <i>2,153,000</i>	4,361,600 <i>2,269,000</i>	3,944,900 <i>2,371,000</i>	4,119,300 <i>2,372,000</i>	3,582,800 <i>2,373,000</i>	4,112,400 <i>2,154,000</i>	4,157,000 <i>2,350,000</i>	3,973,000 <i>2,400,000</i>
GRAND TOTAL	6,393,100	5,200,200	6,023,500	6,630,600	6,315,900	6,990,300	5,955,800	6,266,400	6,507,000	6,373,000

Yield (tons)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
United Provinces (a)	30,000 <i>424,000</i>	11,300 <i>217,000</i>	26,900 <i>423,000</i>	36,000 <i>466,000</i>	34,400 <i>561,000</i>	37,200 <i>609,000</i>	33,900 <i>551,000</i>	23,000 <i>327,000</i>	43,000 <i>530,000</i>	34,000 <i>450,000</i>
Punjab (b)	172,300	110,000	183,000	226,900	155,100	196,600	156,000	165,000	175,000	141,000
Bengal (c)	337,000	275,600	231,900	440,100	238,800	243,900	265,800	266,200	230,000	233,000
Bihar and Orissa	(d)	(d)	(d)	(d)	168,800	171,900	143,500	165,700	95,000	133,000
Assam	43,600	43,700	40,400	60,500	56,000	47,600	58,400	61,800	58,000	50,000
North-West Frontier Province	19,400	12,800	28,600	7,900	9,500	12,100	7,200	15,900	16,000	14,000
Bombay (including Native States)(e)	14,300	12,500	23,200	22,000	15,400	2,600	20,000	21,300	21,000	6,000
Sind (including Native States)(f)	12,400	6,400	23,400	16,100	11,100	4,700	4,600	42,000	48,000	17,000
Hyderabad State	100	200	200	100	200	100	200	100	200	100
TOTAL (a)	629,100 <i>424,000</i>	471,000 <i>217,000</i>	504,500 <i>423,000</i>	801,200 <i>466,000</i>	689,100 <i>561,000</i>	716,700 <i>609,000</i>	690,200 <i>551,000</i>	760,500 <i>327,000</i>	669,200 <i>530,000</i>	633,100 <i>450,000</i>
GRAND TOTAL	1,053,100	689,000	987,500	1,270,200	1,250,100	1,325,700	1,241,200	1,087,500	1,219,200	1,083,100

(a) The figures in italics represent "mixed" crop, i.e., seed sown in the same fields with other crops. The estimates of the mixed crop of the United Provinces are highly conjectural; hence they have been kept separate

(b) Figures for years prior to 1913-14 exclude unimportant districts

(c) Includes Bihar and Orissa down to 1909-10

(d) Included under Bengal

(e) Includes also the State of Baroda; up to 1911-12 the estimates relate to chief rapeseed growing districts; those for other districts have been added from 1912-13

(f) Estimates for jambe (*Erucis Sativa*) grown in Sind have been added from 1913-14

Notes.—Figures for 1915-16 are subject to revision

No. 12.—AREA AND YIELD OF SESAMUM (*Til or Jinjili*) IN EACH PROVINCE

Area (acres)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
United Provinces (a)	309,200 775,000	322,900 900,000	322,000 1,000,000	451,300 900,000	435,900 900,000	375,000 800,000	317,200 900,000	374,400 850,000	372,000 1,000,000	304,000 1,100,000
Bombay (including Native States) (b)	1,049,500	992,700	979,500	1,037,400	994,800	548,900	793,300	851,200	1,055,000	800,000
Central Provinces and Berar	807,900	977,600	790,000	942,700	893,200	886,700	774,000	865,700	878,000	927,000
Madras (c)	556,900	647,000	655,900	718,200	673,200	847,200	823,700	809,200	861,000	800,000
Hyderabad State	493,700	510,600	511,900	597,200	677,700	663,900	643,100	612,000	709,000	546,000
Bengal (d)	406,300	419,400	453,400	491,800	489,100	271,800	264,900	211,000	251,000	244,000
Bihar and Orissa	(f)	(f)	(f)	(f)	(f)	214,600	223,700	219,700	200,000	205,000
Punjab (e)	95,500	84,100	164,700	175,600	148,700	91,100	156,500	144,100	212,000	126,000
Sind (including Native States)	55,900	55,800	50,500	67,000	89,300	53,200	72,300	91,200	80,000	15,000
Ajmer-Merwara	(g)	(g)	(g)	(g)	(g)	(g)	(g)	11,900	(h) 35,000	5,000
Assam	(g)	(g)	(g)	(g)	(f)	9,700	10,600	(i) 1,400	(j)	(j)
TOTAL (a)	3,864,000 775,000	4,016,500 900,000	3,987,900 1,000,000	4,515,000 900,000	4,200,000 900,000	4,008,100 800,000	4,083,500 900,000	4,226,000 850,000	4,565,000 1,000,000	4,170,000 1,100,000
GRAND TOTAL	4,639,900	4,016,800	4,987,900	5,415,000	5,200,000	4,819,100	4,989,500	5,076,000	5,565,000	5,170,000

Yield (tons)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
United Provinces (a)	36,200 90,000	10,000 80,000	24,000 100,000	49,700 90,000	45,400 90,000	29,000 70,000	24,000 100,000	18,000 42,000	31,000 68,000	36,000 90,000
Bombay (including Native States) (b)	186,000	61,400	99,500	132,400	109,400	31,700	96,300	69,700	164,000	95,000
Central Provinces and Berar	70,400	55,400	59,900	91,000	76,400	72,300	60,900	69,400	62,000	93,000
Madras (c)	45,800	53,100	57,200	59,700	49,300	78,200	65,200	72,100	77,000	90,000
Hyderabad State	27,300	29,600	18,700	24,500	24,400	25,400	32,500	25,200	37,000	22,000
Bengal (d)	72,200	46,800	53,000	89,500	79,400	41,500	35,100	29,000	20,000	27,000
Bihar and Orissa	(f)	(f)	(f)	(f)	(f)	33,500	25,000	31,400	26,000	31,000
Punjab (e)	8,800	4,700	23,700	18,500	14,900	9,000	16,000	15,800	24,000	15,000
Sind (including Native States)	4,200	4,200	12,300	6,500	12,000	4,800	6,900	10,700	5,000	3,000
Ajmer-Merwara	(g)	(g)	(g)	(g)	(g)	(g)	(g)	100	(h) 1,000	(j)
Assam	(g)	(g)	(g)	(g)	(f)	1,200	1,900	(i) 200	(j)	(j)
TOTAL (a)	451,000 90,000	255,700 80,000	364,300 100,000	470,300 90,000	421,800 90,000	327,500 70,000	374,000 100,000	361,500 42,000	466,000 83,000	411,000 90,000
GRAND TOTAL	541,000	295,700	464,300	600,900	511,900	397,500	474,000	463,500	551,000	501,000

- (a) The figures in italics represent "mixed" crop, *i.e.*, seed sown in the same fields with other crops. The estimates of the mixed crops of the United Provinces are highly conjectural; hence they have been kept separate.
- (b) Includes also the State of Baroda. Estimates for non-reporting tracts have been added from 1912-13.
- (c) The estimates for Madras for 1908-07 relate only to ryotwari villages; since that year estimates for zamindari and whole taluk villages have also been included.
- (d) Includes Bihar and Orissa down to 1910-11 and Assam for 1910-11.
- (e) Figures for years prior to 1913-14 exclude minor port districts.
- (f) Included under Bengal.
- (g) Not available.
- (h) Early crop only.
- (i) Less than 100 tons.
- (j) Forward discontinued.
- (k) Increase due to very good season.

Note.—Figures for 1915-16 are subject to revision.

No. 13.—AREA AND YIELD OF GROUNDNUT IN EACH PROVINCE

Area (acres)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Madras (a)	511,000	601,800	718,700	740,100	667,300	806,000	924,200	1,605,200	1,866,000	1,441,000
Bombay (including Native States) (b)	111,000	120,800	131,700	162,300	185,800	269,300	242,700	254,100	278,000	232,000
Burma (c)	(d)	137,000	258,600	146,300	98,800	138,800	199,500	246,600	260,000	262,000
TOTAL	622,000	859,600	1,111,000	1,048,700	951,900	1,214,100	1,366,400	2,105,900	2,413,000	1,935,000

Yield (tons) of nuts in shell

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Madras (a)	189,000	202,700	240,500	221,900	254,200	306,000	341,100	411,300	580,000	633,000
Bombay (including Native States) (b)	84,700	82,500	120,500	172,700	207,100	248,300	239,500	249,500	270,000	275,000
Burma (c)	(d)	67,700	119,700	64,700	41,900	51,400	80,300	88,000	88,000	103,000
TOTAL	273,700	352,900	480,700	459,300	503,200	605,700	660,900	748,800	947,000	1,011,000

(a) The estimates for Madras for 1906-07 relate only to *raiyatsari* villages; since that year estimates for *samindari* and whole *tanam* villages have also been included.

(b) Up to 1913-14 the figures relate to chief groundnut growing districts; those for other districts have been added from 1914-15. Estimates for non-reporting tracts have been added from 1909-10.

(c) The figures down to 1910-12 relate to the principal groundnut-growing districts. From 1912-13 estimates for other districts also have been included.

(d) No information.

Note.—The figures for 1915-16 are subject to revision.

No. 14.—AREA AND YIELD OF INDIGO IN EACH PROVINCE

Area (acres)

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Bihar and Orissa (a)	137,800	140,800	135,300	107,400	117,000	109,600	90,100	63,100	38,500	60,800
Madras	180,700	141,900	81,800	90,400	82,800	90,300	61,500	55,300	71,700	182,800
Punjab (b)	62,300	57,000	36,200	43,400	45,400	36,600	37,300	22,400	20,400	20,800
United Provinces (c)	40,400	47,300	30,600	41,000	31,200	20,400	26,900	24,400	12,300	42,300
Bombay and Sind (including Native States)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	6,200	4,200	6,200
Bengal	(e)	(e)	(e)	(e)	(e)	1,000	1,000	1,200	1,800	1,600
TOTAL	421,200	383,900	283,900	289,100	276,400	266,900	216,800	172,600	148,400	314,300

Yield (cwts) of dye

Province	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16
Bihar and Orissa (a)	17,500	17,500	17,000	11,400	13,900	17,800	14,700	7,000	5,500	7,100
Madras	32,500	20,000	12,400	11,400	20,100	21,200	14,800	11,500	13,000	24,700
Punjab (b)	11,000	9,000	5,600	8,300	8,500	5,000	6,000	3,500	3,400	3,000
United Provinces (c)	5,100	5,600	3,800	5,200	3,500	3,000	3,500	3,000	1,500	4,000
Bombay and Sind (including Native States)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	1,700	1,000	900
Bengal	(e)	(e)	(e)	(e)	(e)	100	100	100	200	200
TOTAL	65,500	52,300	38,800	39,300	46,000	47,700	39,100	26,800	23,200	39,900

(a) Includes Bengal down to 1910-11.

(b) Figures for years prior to 1913-14 exclude unimportant districts.

(c) In estimating the yield in the United Provinces it is assumed that one-tenth of the whole area is annually set aside for seed.

(d) No information.

(e) Included under Bihar and Orissa.

Note.—The figures for 1915-16 are subject to revision.

No. 15.—SUPPLEMENTARY TABLE—AREA AND YIELD OF BARLEY, JAWAR, BAJRA, MAIZE, AND GRAM IN EACH PROVINCE

Area (acres)

Province	Barley					Jawar					Bajra				
	1911-12	1912-13	1913-14	1914-15	1915-16	1911-12	1912-13	1913-14	1914-15	1915-16	1911-12	1912-13	1913-14	1914-15	1915-16
United Provinces	5,163,000	4,591,000	4,376,000	4,576,000	5,030,000	1,633,000	2,160,000	2,063,000	2,413,000	2,546,000	2,800,000	2,618,000	2,188,000	2,770,000	2,806,000
Madras	3,000	3,000	3,000	3,000	(d)	5,166,000	5,220,000	5,700,000	5,102,000	(d)	3,364,000	3,006,000	3,273,000	3,482,000	(d)
Bihar and Orissa	1,340,000	1,261,000	1,305,000	1,287,000	1,314,000	95,000	94,000	120,000	107,000	108,000	67,000	74,000	75,000	70,000	73,000
Bombay	36,000	28,000	23,000	25,000	(a)	5,878,000	6,860,000	6,606,000	6,504,000	(d)	4,302,000	5,128,000	4,006,000	5,119,000	(d)
Sind	19,000	20,000	28,000	31,000	(d)	380,000	602,000	680,000	636,000	(d)	415,000	1,141,000	1,110,000	1,060,000	(d)
Bengal	95,000	95,000	94,000	95,000	94,000	2,000	3,000	2,000	2,000	3,000	6,000	7,000	6,000	6,000	6,000
Punjab	1,339,000	1,007,000	970,000	1,308,000	1,040,000	554,000	1,212,000	1,248,000	1,276,000	1,001,000	1,155,000	2,077,000	2,829,000	2,738,000	1,907,000
C. P. and Berar	(b)23,000	(b)16,000	(b)8,000	(b)11,000	(d)	4,048,000	3,091,000	3,919,000	4,239,000	4,954,000	117,000	154,000	140,000	146,000	184,000
Burma	...	...	...	...	...	472,000	492,000	531,000	479,000	462,000	247,000	240,000	225,000	172,000	194,000
Assam	1,000	1,000	...	...	...	...	...	...	...	...	...	...	...	...	...
North-West Frontier Province	206,000	214,000	201,000	422,000	314,000	83,000	95,000	103,000	120,000	40,000	70,000	205,000	190,000	239,000	72,000
Ajmer-Merwara	(b)63,000	(b)59,000	(b)46,000	(b)63,000	82,000	(b)28,000	(b)61,000	(b)60,000	(b)77,000	86,000	(b)11,000	(b)31,000	(b)30,000	(b)39,000	31,000
TOTAL	8,315,000	7,236,000	7,008,000	7,758,000	...	18,200,000	20,728,000	21,080,000	20,938,000	...	12,700,000	15,880,000	14,951,000	15,835,000	...

Yield (tons)

Province	Barley					Jawar					Bajra				
	1911-12	1912-13	1913-14	1914-15	1915-16	1911-12	1912-13	1913-14	1914-15	1915-16	1911-12	1912-13	1913-14	1914-15	1915-16
United Provinces	(a)	(a)	1,679,000	2,048,000	2,359,000	355,000	598,000	227,000	630,000	663,000	601,000	611,000	269,000	612,000	620,000
Madras	(a)	(a)	(a)	(a)	(d)	(a)	903,000	1,082,000	960,000	(d)	(a)	551,000	535,000	587,000	(d)
Bihar and Orissa	579,000	523,000	557,000	426,000	482,000	(a)	(a)	(a)	(a)	33,000	(a)	(a)	(a)	(a)	27,000
Bombay	9,000	10,000	7,000	9,000	(d)	910,000	1,418,000	1,375,000	1,693,000	(d)	340,000	500,000	655,000	734,000	(d)
Sind	5,000	7,000	10,000	11,000	(d)	105,000	196,000	202,000	221,000	(d)	106,000	250,000	181,000	169,000	(d)
Bengal	(a)	(a)	(a)	(a)	29,000	(a)	(a)	(a)	(a)	1,000	(a)	(a)	(a)	(a)	2,000
Punjab	362,000	280,000	298,000	377,000	229,000	68,000	163,000	119,000	118,000	109,000	97,000	315,000	302,000	346,000	180,000
C. P. and Berar	(a)	(a)	(a)	(a)	(a)	986,000	980,000	918,000	1,274,000	1,645,000	(a)	(a)	(a)	(a)	(a)
Burma	...	...	...	...	...	35,000	65,000	66,000	46,000	49,000	14,000	27,000	32,000	10,000	10,000
Assam	(a)	(a)	...	...	...	...	...	...	...	...	...	...	...	...	...
North-West Frontier Province	(a)	56,000	140,000	190,000	126,000	(a)	15,000	16,000	19,000	9,000	(a)	32,000	37,000	60,000	12,000
Ajmer-Merwara	(a)	(a)	(a)	(a)	18,000	(a)	(a)	(a)	(a)	2,000	(a)	(a)	(a)	(a)	200
TOTAL (a)	875,000	878,000	2,681,000	3,081,000	...	2,619,000	4,368,000	4,907,000	4,906,000	...	1,156,000	2,200,000	2,012,000	2,518,000	...

(a) Not available

(b) Taken from Agricultural Statistics

(c) Incomplete

(d) Not yet reported

Note.—No forecast is prepared for the crops dealt with in this table. The figures are taken from the provincial Season and Crop Reports or especially obtained from local authorities

[Continued on next page

No. 15.—SUPPLEMENTARY TABLE—AREA AND YIELD OF BARLEY, JAWAR, BAJRA, MAIZE, AND GRAM IN EACH PROVINCE—*contd.*

Area (acres)

Province	Maize					Gram				
	1911-12	1912-13	1913-14	1914-15	1915-16	1911-12	1912-13	1913-14	1914-15	1915-16
United Provinces	1,191,000	2,205,000	2,136,000	2,378,000	2,012,000	6,573,000	6,507,000	8,037,000	5,342,000	6,063,000
Madras	118,000	131,000	124,000	164,000	(f)	135,000	138,000	166,000	134,000	(f)
Bihar and Orissa	1,001,000	1,000,000	1,714,000	1,402,000	1,656,000	1,052,000	915,000	1,079,000	1,208,000	1,402,000
Bombay	168,000	162,000	150,000	156,000	(f)	372,000	475,000	453,000	486,000	(f)
Rind	2,000	3,000	2,000	1,000	(f)	76,000	75,000	98,000	111,000	(f)
Bengal	95,000	97,000	92,000	95,000	96,000	177,000	184,000	198,000	182,000	177,000
Punjab	965,000	1,006,000	1,082,000	1,047,000	1,184,000	4,103,000	3,511,000	3,849,000	5,103,000	3,665,000
C. P. and Berar	(d) 144,000	(d) 160,000	(d) 161,000	(d) 156,000	(f)	(e) 818,000	(e) 808,000	(e) 823,000	(e) 852,000	(e) 783,000
Burma	165,000	173,000	170,000	188,000	167,000	40,000	84,000	43,000	43,000	64,000
Assam	10,000	10,000	18,000	10,000	19,000	1,000	1,000	—	—	—
North-West Frontier Province	410,000	419,000	421,000	419,000	431,000	174,000	169,000	199,000	203,000	143,000
Ajmer-Merwara	(d) 60,000	(d) 68,000	(d) 67,000	(d) 71,000	80,000	(d) 26,000	(d) 8,000	(d) 1,000	(d) 31,000	19,000
TOTAL	5,523,000	6,167,000	6,079,000	6,073,000	—	15,818,000	11,707,000	8,980,000	13,757,000	—

Yield (tons)

Province	Maize					Gram				
	1911-12	1912-13	1913-14	1914-15	1915-16	1911-12	1912-13	1913-14	1914-15	1915-16
United Provinces	703,000	920,000	721,000	1,050,000	1,184,000	2,483,000	1,817,000	(e) 551,000	1,773,000	2,626,000
Madras	(e)	(e)	(e)	(e)	(f)	(e)	8,000	(e)	(e)	(f)
Bihar and Orissa	540,000	530,000	541,000	516,000	480,000	436,000	361,000	447,000	357,000	526,000
Bombay	27,000	24,000	30,000	22,000	(f)	39,000	84,000	61,000	66,000	(f)
Rind	1,000	1,000	1,000	1,000	(f)	1,000	10,000	9,000	11,000	(f)
Bengal	(e)	(e)	(e)	(e)	28,000	(e)	(e)	(e)	(e)	45,000
Punjab	366,000	413,000	441,000	283,000	464,000	1,128,000	736,000	578,000	1,289,000	654,000
C. P. and Berar	(e)	(e)	(e)	(e)	(e)	244,000	280,000	180,000	247,000	238,000
Burma	63,000	71,000	61,000	81,000	70,000	7,000	(e)	(e)	(e)	(e)
Assam	(e)	(e)	(e)	(e)	(e)	(e)	(e)	—	—	—
North-West Frontier Province	184,000	186,000	224,000	203,000	237,000	(e)	29,000	26,000	34,000	16,000
Ajmer-Merwara	(e)	(e)	(e)	(e)	8,000	(e)	(e)	(e)	(e)	2,000
TOTAL (1)	1,820,000	2,161,000	2,000,000	2,026,000	—	4,386,000	3,234,000	1,873,000	2,727,000	—

(a) Not available
 (b) Incomplete
 (c) Included gram sown with other crops
 (d) Taken from Agricultural Statistics
 (e) Crop poor owing to unfavourable season
 (f) Not yet reported

Note.—No forecast is prepared for the crops dealt with in this table. The figures are taken from the provincial Season and Crop Reports or especially obtained from local authorities.

No. 16.—NORMAL AND ACTUAL RAINFALL (IN INCHES) IN EACH PROVINCE AND METEOROLOGICAL SUBDIVISION IN INDIA.

Provinces and Subdivisions	Normal rainfall	ACTUAL RAINFALL										Variation of 1915 rainfall from normal	Percentage variation from normal
		1907	1908	1909	1910	1911	1912	1913	1914	1915			
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Per cent	
United Provinces—													
United Provinces, East	39.5	25.73	29.83	42.02	41.49	41.98	33.45	30.39	58.02	53.7	+14.2	+36	
United Provinces, West	37.9	25.77	37.39	42.23	42.62	33.13	31.83	23.30	39.89	37.4	-0.5	-1	
Madras—													
Malabar	129.9	156.60	131.24	139.00	121.78	114.42	151.14	111.61	134.4	119.9	-10.0	-8	
Madras, South-East	39.7	47.38	30.64	36.15	36.33	32.24	31.51	35.89	37.93	38.9	-0.9	-2	
Madras, Deccan	24.6	19.31	20.33	26.84	33.55	18.66	25.87	20.32	21.92	31.7	+7.1	+29	
Madras Coast, North	43.3	35.64	36.35	39.28	49.63	36.25	40.11	36.91	43.02	61.5	+19.2	+43	
Bihar and Orissa—													
Orissa	58.4	58.02	57.54	59.70	59.29	49.85	54.07	61.23	61.89	61.9	+3.5	+6	
Chota Nagpur	52.5	56.60	47.69	55.07	47.88	54.53	41.81	63.24	43.11	39.3	-13.2	-25	
Bihar	49.0	42.77	27.63	53.67	53.09	58.94	43.41	60.43	44.30	49.5	+0.3	+1	
Bombay—													
Gujarat	32.4	33.75	35.00	31.86	35.82	13.73	41.89	41.30	39.73	16.7	-15.7	-49	
Konkan	109.8	112.19	109.13	111.40	99.82	81.50	110.90	103.99	137.20	93.9	-15.4	-14	
Bombay, Deccan	31.0	31.07	26.78	29.65	34.87	21.27	31.37	28.02	39.39	34.5	+3.5	+11	
Sind	6.5	7.90	12.18	6.28	9.00	1.63	5.12	19.79	6.10	1.8	-4.7	-72	
Bengal—													
Eastern	75.2	75.19	66.31	96.66	94.76	100.65	79.76	89.94	69.39	80.7	+5.3	+7	
Western		52.07	52.69	69.06	59.07	65.11							
Punjab—													
East and North	23.3	21.38	32.41	31.85	26.37	31.63	22.30	21.71	34.89	18.3	-5.0	-21	
South-West	9.3	9.62	17.89	11.51	9.27	9.25	8.31	12.59	18.67	4.9	-4.6	-49	
Central Provinces and Berar—													
Berar	32.8	30.32	35.07	31.23	40.69	23.78	25.93	33.93	49.75	39.5	+8.7	+21	
Central Provinces, West	45.7	38.69	46.59	39.91	47.59	40.42	40.09	39.99	44.15	50.4	+4.7	+10	
Central Provinces, East	53.4	48.39	59.93	50.39	56.44	55.11	54.89	47.72	54.53	55.2	+2.8	+5	
Burma—													
Lower Burma	131.0	137.68	127.55	132.68	117.61	129.31	129.63	122.44	149.92	133.1	+6.1	+3	
Upper Burma	44.8	33.69	41.48	47.21	44.42	43.30	43.67	43.47	49.54	49.7	+1.9	+4	
Assam	97.9	96.81	89.01	89.26	105.29	117.14	101.28	105.89	87.03	112.3	+14.4	+15	
North-West Frontier Province	16.2	18.51	27.61	18.65	23.95	20.00	13.78	14.66	30.30	15.9	-1.2	-7	
Central India—													
Central India, West	33.7	26.41	32.64	34.08	37.85	25.89	32.71	30.22	32.94	27.0	-6.7	-20	
Central India, East	39.6	33.97	51.08	39.74	41.41	44.84	37.33	31.16	47.77	35.7	-0.9	-2	
Rajputana—													
Rajputana, West	13.2	15.27	26.32	18.29	12.25	5.54	12.53	19.19	12.34	6.9	-6.3	-46	
Rajputana, East	24.9	21.51	36.75	22.12	29.72	15.29	27.39	15.65	29.26	17.4	-7.5	-30	
Hyderabad—													
Hyderabad, North	34.2	27.83	32.87	20.72	43.24	24.94	23.39	27.10	42.79	41.8	+6.6	+19	
Hyderabad, South	29.2	27.39	34.15	23.02	31.25	21.11	25.65	19.76	29.71	49.2	+19.0	+65	
Mysore	26.5	26.23	27.49	41.14	43.63	33.94	44.62	22.49	23.29	27.7	+1.2	+3	

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 area 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." 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 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 that 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 estimates. 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 into 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, and the percentage estimate 80, the required quantitative estimate would be $60,000 \times 500 \times \frac{80}{100} = 24,000,000$ lbs.

APPENDIX II

METHODS OF COLLECTING THE STATISTICS PROVINCE BY PROVINCE

United Provinces.
(Total cultivated area
36,134,000 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 separate for irrigated and unirrigated crops, are revised every five years on a consideration of the results of crop-cutting experiments, and are applied to the condition of the crops reported by district officers and selected land-holders whose number exceeds six hundred.

Madras.
(Total cultivated area
34,413,000 acres.)

In the Madras Presidency, the estimates relate to all districts in which the respective crops are grown. Approximately two-thirds of the cultivated land in the Presidency is Government or *raiyatwari* land, and has 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 *zamindari* (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 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 zamindari areas are included but shown separately in the reports sent by the Tahsildars to the Provincial Director of Agriculture. The Native States of Pudukkottai and Banganapalle send similar reports direct to the Director for cotton only. No other Native State in the Presidency prepares any crop forecast. Thus for each forecast return 232 separate reports 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—particularly those from zamindari areas—are checked by a comparison with the forecast reports and the season and crop reports of previous years and the returns from neighbouring Government areas, 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 and of the results on the Government farms. The Director checks the rate of yield reported by Tahsildars by estimates received from non-officials interested in a particular crop.

Bombay and Sind.
(Total cultivated area
20,096,000 acres.)

The estimates for the Bombay Presidency include all British districts and Native 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 circle 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 Native 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 Native 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 dry and irrigated crops are separately dealt with. Each year's estimate of the condition of crops is prepared by the mamlatdars (or mahalkaris where the taluk 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 the Native States condition estimates are obtained, and the formulae for adjoining British districts are applied.

Note.—The cultivated area shown in the margin represents the average area actually sown with all crops in each province.

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 districts except three, 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 twenty-two 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.

Bihar and Orissa.
(Total cultivated area
28,366,000 acres.)

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. The system of making crop-cutting experiments, as in other provinces, over a series of areas and seasons for the ascertainment of standards of yield has been in force in Bengal for the last twenty-one years, but sufficiently trustworthy figures of yield have not yet been obtained from these cuttings to enable Government to accept them as standards. The quantitative estimates, therefore, of yield given in the forecasts are based on standards adopted provisionally on the basis of information obtained from other sources.

Bengal.
(Total cultivated area
25,144,000 acres.)

The estimates for the Punjab relate to all the British districts in which the respective crops are grown. As regards the Native States of the province, reports on wheat and cotton are furnished by all the States in which the two crops are grown to any considerable extent. No estimates for any other crop are prepared by any Native 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 must amount 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 Land Records 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.

Punjab.
(Total cultivated area
25,000,000 acres.)

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 the Native States of the province, reports on wheat only are furnished by the two States of Khairagarh and Nandgaon. No information is available for any other State. 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 235 revenue inspectors with, on an average, 22 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, the last revision having been made in 1912. The yield expressed by the people in terms of annas in the rupee is converted into percentages, 13.3 annas, or a normal crop, being taken to be equal to 100. A full crop or 16 annas is denoted by 120, and a bumper crop or 20 annas by 150. All deductions based on the standards are made by the provincial Director of Land Records and Settlements 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.

Central Provinces and Berar.
(Total cultivated area
24,738,000 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 officer. 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.

Burma.
(Total cultivated area
14,211,000 acres.)

- Assam.** (Total area 3,872,000 acres.) The estimates for Assam relate to all the districts in which the respective crops reported on are grown to any extent, excluding some of the unimportant hill districts in certain cases. The information is received from district officers, who in their turn obtain figures from mandals (headmen) in the case of the temporarily-settled areas and from zamindars in the case of the permanently-settled tracts. These figures are said to be checked by the sub-divisional and district officers, but, except where the district officer is himself able to do it, there is no valid check at all, and sometimes figures returned by the district officers are more or less inaccurate and inconsistent.
- North-West Frontier Province.** (Total cultivated area 2,384,000 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 in 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.
- Ajmer-Merwara.** (Total cultivated area 334,000 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.
- Central India.** Estimates are framed for wheat and cotton. The methods differ with 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. Finally, each Political Agent compiles the returns of the States in his political charge into an Agency return, each of which is shown separately in the return for Central India.
- 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 privileged tenures in many cases.
- Hyderabad.** The estimates for wheat, cotton, and oilseeds furnished by the Hyderabad State excluded until 1902-03 jagir and other revenue-free lands or privileged tenures; since then estimates for these areas have been procured as far as possible and included in the statement.
- Mysore.** (Total area 6,207,000 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 *shasbog* (village accountant) in his crop inspection book and checked by the higher revenue officers. The outturn is noted by the *shasbog* 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.

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

APPENDIX III

DATES PRESCRIBED FOR THE ISSUE OF THE ALL-INDIA FORECASTS OF
CROPS BY THE DEPARTMENT OF STATISTICS, INDIA

RICE—

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

WHEAT—

1st forecast	.	.	.	.	.	.	.	.	.	. December	30
2nd „	.	.	.	.	.	.	.	.	.	. March	15
Final „	.	.	.	.	.	.	.	.	.	. May	30

COTTON—

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

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	15

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EIGHTEENTH ISSUE

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1915-16

Published by order of the Governor-General in Council



CALCUTTA
SUPERINTENDENT GOVERNMENT PRINTING, INDIA
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PRICE EIGHT ANNAS