

TWENTIETH ISSUE

DEPARTMENT OF STATISTICS, INDIA

ESTIMATES
OF
AREA AND YIELD
OF
Principal Crops in India
1917-18

48750

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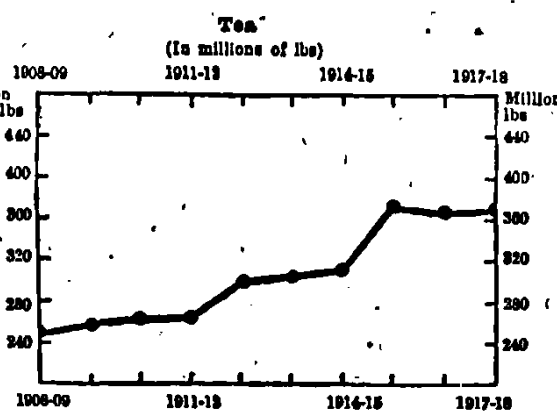
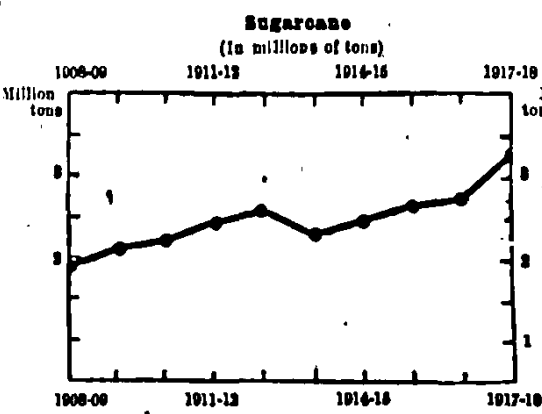
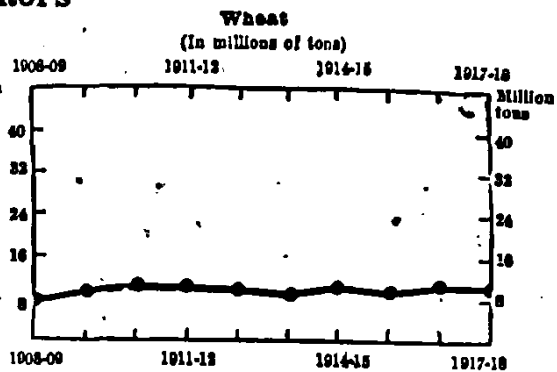
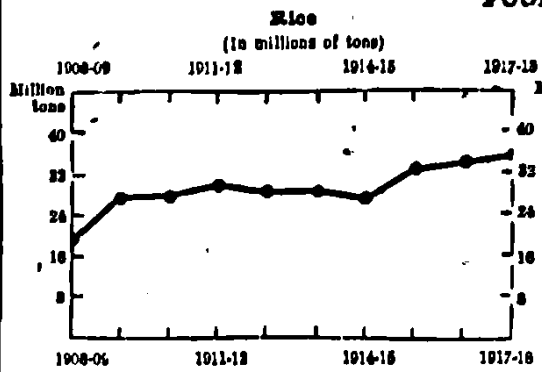
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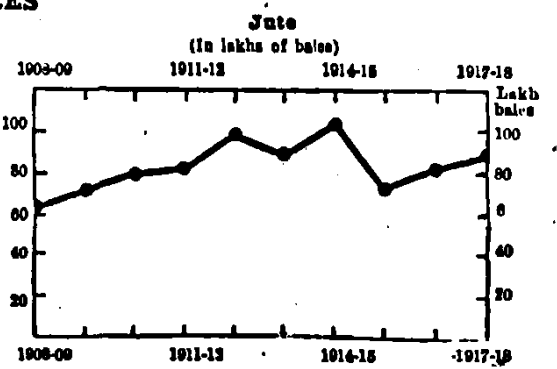
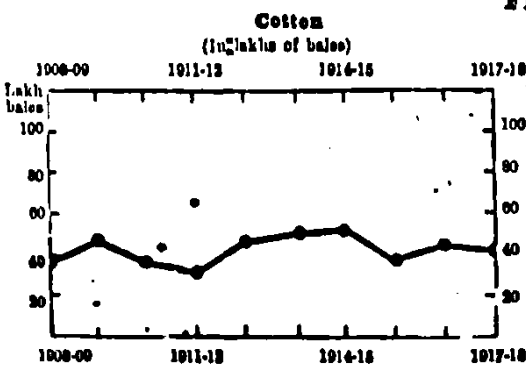
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1918

Yield of certain principal crops from 1908-09 to 1917-18.

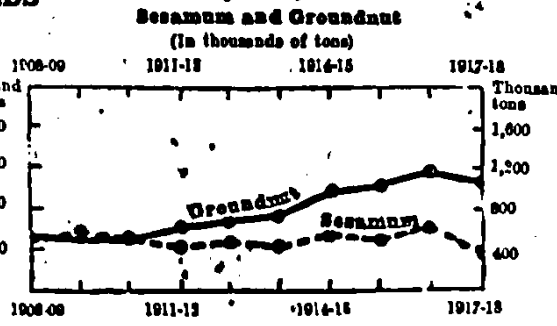
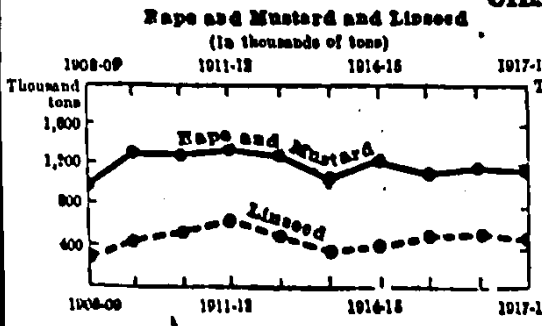
FOOD CROPS



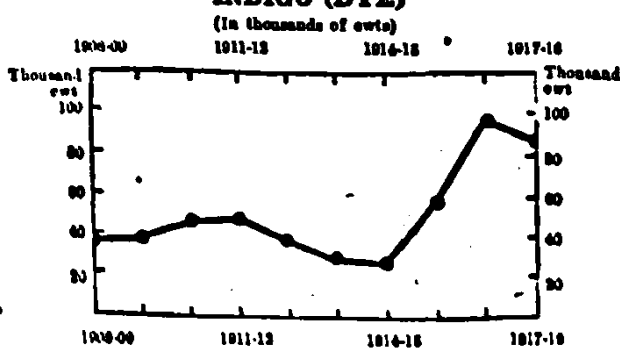
FIBRES



OILSEEDS



INDIGO (DYE)



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Estimates of Area and Yield of Principal Crops in India, 1917-18

INTRODUCTORY NOTE.

The present issue is the twentieth of the series and relates to the area and yield of the principal crops for which estimates were made in 1917-18. It is the fifth 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 for the last ten years the area sown with, and the estimated yield of, rice, wheat, sugarcane, tea,* cotton, jute, linseed, rape and mustard, sesamum, groundnut, and indigo. The rates of yield per acre of these crops in each of the last five years are shown in table No. 2, and the normal yields per acre in table No. 3.

The estimates for these crops did not, especially in the earlier years of forecasts in India, relate to all the 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, during the last four years is so small as to be negligible and to afford a comparison of the estimates of the year (1917-18) with those of the three 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 Indian 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 the paragraphs below, in footnotes to the tables, and in Appendix II on pages 25-28. It may be noted that, owing chiefly to causes already mentioned, the figures given in this volume do not agree in some instances with those in the Agricultural Statistics of India.

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 specially obtained from local authorities.

A table (No. 17) showing the reported area and yield of certain crops in foreign countries has been added in this issue, the data being collected from the publications of the International Institute of Agriculture, Rome.

The monsoon was remarkably vigorous and gave abundant rainfall throughout the country, specially in north-west India. The heavy and continuous rains while adversely affecting the growth of some of the autumn crops, such as cotton and indigo, provided a good seed-bed for those crops which are harvested in the spring. Some of the latter crops, especially winter oilseeds, however, suffered somewhat through the holding off of the winter rains. The outturn of rice, sugarcane, and jute was better than that in 1916-17 and also above the average, of the pre-war quinquennium. The outturn of other crops was less than that of the previous year. Conditions with regard to each crop are stated in the following paragraphs. Statistics of normal and actual rainfall are given in table No. 16.

* 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.

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 and June and harvested in September, and summer rice is sown in January and February and harvested in May and 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 Indian States for which estimates for rice are prepared are those in the Bombay Presidency. The total area under rice in all these tracts in 1917-18 was reported as 79,712,000 acres as compared with 80,080,000 acres in the preceding year. The season was, on the whole, favourable, especially for the winter crop, except in parts of Bombay and Sind, where the crop was adversely affected by heavy rain. The total estimated yield was 35,952,000 tons as against 34,791,000 tons in 1916-17. To this figure should be added some 345,000 tons in respect of other British provinces† (containing about 764,000 acres under rice), for which no forecasts are made. It may be noted that the estimate of yield for 1917-18 is the highest on record.

Wheat.

Wheat, which is a *rabi* (spring) crop in India, is sown from October to December and is 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 1917-18 was reported to be 35,513,000 acres, which exceeds the area of the preceding year by 2,573,000 acres or 8 per cent. Although the failure of the winter rains affected the unirrigated crop, the yield was good in Northern and Western India, particularly in the Punjab. In Central and Eastern India, however, the crop suffered more severely from drought, and its condition was not good. The total estimated yield was 10,162,000 tons, which is below the yield of 1916-17 by 72,000 tons or 7 per cent. An addition of some 150,000 tons should be made to the estimated yield in respect of other tracts‡ (containing about 440,000 acres under wheat), for which no reports are made.

Sugarcane.

The sugarcane crop is planted from February to May and is 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 Indian States in the Bombay Presidency (including the Baroda State). No report is received from any other Indian State. The total reported area (2,796,000 acres) under sugarcane in 1917-18 was 16 per cent above that of the preceding year. The season was, on the whole, favourable, and the condition of the crop was good, although excessive rain and floods affected the plants in parts of most of the important cane-growing provinces. The estimated yield (3,266,000 tons) was 20 per cent above the final figure (2,730,000 tons) of the preceding year. To this figure should be added approximately 29,000 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 1917 was reported to be 664,300 acres, which is 2 per cent greater than that in the preceding year. The total production of manufactured tea (black and green) was reported to be 370,181,000 lbs in 1917 as against 368,429,000 lbs in the preceding year.

Cotton.

The total reported area under cotton was 24,781,000 acres in 1917-18, as against 21,745,000 acres in 1916-17. The area increased almost everywhere,

* Rice is sown to a very large extent in Madras (especially in the south) from September to December and again to a fair extent in February and March.

† Punjab, North-West Frontier Province, Delhi, and Ajmer.

‡ Burma, Madras, and the Kashmir State.

§ Burma, Delhi, and Ajmer.

owing to the stimulus of high prices and to favourable weather conditions at sowing time. The crop was, however, seriously affected by the heavy and continuous rain of September and October, except in Madras, Sind, the North-West Frontier Province, Assam, and the States of Baroda and Mysore. The

	Thousand bales		
	1915-16	1916-17	1917-18
Net exports	2,486	2,083	1,409
Mill consumption	1,873	1,795	1,701
Consumption outside mills (conjectural)	750	750	750
Total	5,109	4,628	3,860
Estimate of yield	3,738	4,489	4,035
Excess (+) or deficit (-)	-1,371	-139	+175

total estimated outturn was 4,035,000 bales of 100 lbs each, which is 454,000 bales or 10 per cent below the final figure of 1916-17. 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 crop of the years specified.

There are, it may be remembered, two crops of cotton grown in India, namely, the early and the late. Early cotton grows principally in central and northern 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 an autumn crop, being sown from March to May and harvested in June, August and September. The provinces where it is grown are Bengal (including the Cooch Bihar State), 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 1917 (2,730,000 acres) was above that of the preceding year by 1 per cent, and the estimated yield (8,800,000 bales of 400 lbs each) rose by 7 per cent. In Northern and Eastern Bengal, cutting and steeping was delayed owing to lack of water. The sum of exports and internal consumption, both in, and outside the mills, is compared, at the bottom of table No. 9, with the estimated yield for the last nine years. The area and yield of jute in 1918 are estimated to be 2,497,200 acres and 6,945,600 bales, respectively.

Linseed is a *rabi* (spring) crop, being sown from August to October 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 State of Hyderabad and by the States in the Bombay Presidency. No report is received from any other Indian State. The total area under linseed reported by all the reporting tracts in 1917-18 was 3,738,000 acres, which is 5 per cent above the final figure of the preceding year. Conditions were favourable at the time of sowing; but the absence of winter rains adversely affected the growth of the crop in most of the important linseed growing provinces. The total estimated yield (507,000 tons) was below that of the preceding year by 4 per cent. To this figure should be added some 5,000 tons for other British provinces,* for which no reports are made.

Rape and mustard are also *rabi* (spring) oilseeds, being sown from August 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 98.8 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 Indian State. The total area under rape and mustard in all the reporting tracts in 1917-18 was 6,924,000 acres, as against 6,495,000 acres in the preceding year. Owing to the copious monsoon of 1917 conditions at sowing time were favourable; but the absence of winter rains adversely affected the growth of the crops in most of the important oilseeds growing

provinces. The total estimated yield (1,116,000 tons) was 6 per cent below the final figure of the preceding year. To this figure should be added some 12,000 tons in respect of other British provinces,* for which no reports are made.

Sesamum.

Sesamum is mainly a *kharif* (autumn) crop, being generally sown from May to July and harvested from October to December; but 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 is 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 77 per cent of the total area under sesamum in British India. Reports are also received from the States of Hyderabad and Baroda and those in the Bombay Presidency. No report is received from any other Indian State or from Burma. The total reported area under sesamum in 1917-18 was 4,342,000 acres, against 5,023,000 acres in the preceding year. The season, on the whole, was not favourable. Heavy and continuous rain in September and October adversely affected the crop in almost all the provinces. The total estimated yield was 386,000 tons as against 513,000 tons in 1916-17, a decrease of 25 per cent. An addition of approximately 89,000 tons should be made to this figure in respect of other British provinces† (containing an aggregate area of about 1,202,000 acres under sesamum), for which no reports are 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 Indian 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 1917-18 was reported as 1,894,000 acres, which is 19 per cent less than the figure of the preceding year, the estimated yield (1,042,000 tons) being 13 per cent less than that of last year. The climatic conditions were not favourable for the crop. Excessive rains damaged the crop in parts of Bombay and of Burma.

Indigo.

The indigo crop is sown from February to July and is 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 Indian State, except the State of Khairpur in Sind. The total reported area (690,600 acres) in 1917-18 was 10 per cent less than that of the preceding year. The season was not altogether favourable for the crop. Heavy rainfall and floods adversely affected the crop in Bihar and Orissa and in parts of the United Provinces. In Sind the crop suffered from low inundation in the beginning of the season. The total estimated yield of dye was 87,800 cwts, which was less than the figure of the preceding year by 8 per cent.

N. G. BASAK,

Offg. Director of Statistics.

DEPARTMENT OF STATISTICS, INDIA,
Calcutta, November 28, 1918.

* Central Provinces and Berar, Madras, Burma, Delhi, and Ajmer.
† Burma, Assam, North-West Frontier Province, and Coorg.

TABLES

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

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

Area (acres)

Crops	Average 1893-98 to 1899-1900	Average 1900-01 to 1904-05	Average 1905-08 to 1909-10	Average 1910-11 to 1914-15	1913-14	1914-15	1915-16	1916-17	1917-18
Rice . . .	50,655,000	50,067,000	54,942,000	69,318,000	75,425,000	76,625,000	78,165,000	80,080,000	79,712,000
Wheat . . .	22,649,000	25,518,000	26,565,000	30,540,000	28,475,000	32,475,000	30,320,000	32,940,000	35,513,000
Sugarcane . . .	(a)	2,253,000	2,284,000	2,376,000	2,545,500	2,311,000	2,391,000	2,416,000	2,796,000
Tea . . .	467,000	525,000	540,000	593,000	610,100	624,500	634,900	648,900	664,300
Cotton . . .	13,666,000	16,652,000	21,146,000	23,171,000	25,023,000	24,595,000	17,746,000	21,745,000	24,781,000
Jute . . .	2,035,000	2,335,000	3,264,000	3,057,000	2,911,000	3,358,700	2,375,900	2,702,700	2,736,000
Linseed . . .	2,869,000	3,547,000	3,061,000	3,852,000	3,031,000	3,325,000	3,333,000	3,564,000	3,738,000
Rape and Mustard . . .	4,541,000	5,598,000	6,056,000	6,407,000	6,266,400	6,507,000	6,437,000	6,495,000	6,924,000
Sesamum . . .	4,019,000	4,903,000	4,915,000	5,129,000	5,076,000	5,565,000	5,108,000	5,023,000	4,342,000
Groundnut . . .	(a)	431,000	827,000	1,610,000	2,105,900	2,413,000	1,673,000	2,334,000	1,894,000
Indigo . . .	1,280,000	722,000	334,000	216,000	172,600	148,400	353,100	770,000	690,600

Yield

Crops	Average 1893-98 to 1899-1900	Average 1900-01 to 1904-05	Average 1905-08 to 1909-10	Average 1910-11 to 1914-15	1913-14	1914-15	1915-16	1916-17	1917-18
Rice . . . tons	21,466,000	21,550,000	21,912,000	28,517,000	23,790,000	27,242,000	32,831,000	34,791,000	35,952,000
Wheat . . . "	6,029,000	7,676,000	8,092,000	9,657,000	8,358,000	10,087,000	8,652,000	10,234,000	10,162,000
Sugarcane . . . "	(a)	2,049,000	1,996,000	2,401,000	2,291,500	2,462,000	2,634,000	2,730,000	3,266,000
Tea . . . lbs	158,375,000	201,389,000	242,386,000	289,995,000	307,249,600	312,976,200	371,836,700	368,428,700	370,180,800
Cotton . . . bales	2,303,000	3,203,000	3,976,000	4,405,000	5,066,000	5,209,000	3,738,000	4,489,000	4,035,000
Jute . . . "	3,771,000	7,036,000	8,136,000	9,069,000	8,893,900	10,443,900	7,340,900	8,305,600	8,864,600
Linseed . . . tons	352,000	416,000	333,000	508,000	366,200	397,000	476,000	526,000	507,000
Rape and Mustard . . . "	915,000	1,011,000	993,000	1,225,000	1,087,500	1,219,200	1,102,100	1,191,200	1,116,200
Sesamum . . . "	348,000	465,000	443,000	468,000	403,500	551,000	482,000	513,000	386,200
Groundnut . . . "	(a)	(a)	338,000	695,000	743,600	947,000	1,058,000	1,196,000	1,042,000
Indigo . . . cwts	156,000	100,000	49,000	37,000	26,600	25,200	55,100	95,700	87,600

Note.—Figures for 1917-18 are subject to revision
(a) Not available

No. 2.—YIELD PER ACRE OF CROPS (tabulated in tables 4 to 14) IN EACH PROVINCE IN EACH OF THE LAST SIX YEARS—*contd.*

Province	Cotton (ginned)						Jute						Indigo (dye)					
	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs
United Provinces	148	123	128	126	104	60	...	...	...	...	...	...	15	14	14	10	10	10
Madras	78	45	46	48	64	66	...	...	...	...	...	...	27	22	21	20	14	15
Bihar and Orissa	83	88	91	96	94	89	1,063	757	840	1,306	860	...	18	13	16	18	18	13
Bombay	59	86	91	84	94	70	...	...	...	...	...	...	...	81	27	16	20	17
Sind	100	156	136	119	130	110	...	...	...	...	...	...	...	...	...	...	...	...
Bengal	165	110	161	150	110	107	1,370	1,203	1,205	1,348	1,358	...	11	9	17	14	10	8
Punjab	95	119	105	86	118	60	...	...	...	...	...	...	18	17	18	14	19	20
Central Provinces and Berar	81	81	88	109	63	82	...	...	...	...	...	...	...	...	...	...	...	...
Burma	79	74	63	58	72	68	...	...	...	...	...	...	...	...	...	...	...	...
Assam	114	146	141	128	137	150	948	941	1,103	826	1,078	...	...	...	...	...	...	...
North-West Frontier Province	83	95	98	63	80	105	...	...	...	...	...	...	...	...	...	...	...	...
Ajmer-Merwara	206	168	111	35	398	80	...	...	...	...	...	...	...	...	...	...	...	...
Delhi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Coorg	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Central India	63	77	77	86	68	53	...	...	...	...	...	...	...	...	...	...	...	...
Rajputana	127	113	126	102	163	50	...	...	...	...	...	...	...	...	...	...	...	...
Hyderabad (e)	43	44	44	61	63	53	...	...	...	...	...	...	...	...	...	...	...	...
Mysore	60	67	81	61	81	87	...	...	...	...	...	...	...	...	...	...	...	...
Travancore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Average	84	81	85	84	83	65	1,325	1,223	1,244	1,336	1,329	...	20	17	19	17	14	14

Notes.—Figures for 1917-18 are subject to revision
 (e) The question regarding the generally low output in Hyderabad is under investigation

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

Province	Rice (cleaned)	Wheat	Sugar-cane (gur)	Cotton (ginned)	Jute	Linseed	Rape and mustard	Sesamum	Groundnut (nuts in shell)	Indigo (dye)
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs
Bengal	(a) 1,016 (b) 871 (c) 1,179	698	2,903	155	1,500	443	480	304	...	12
Bihar and Orissa	(a) 1,234 (b) 823 (c) 823	(d) 951 (e) 451 (f) 661	2,401	185	1,200	491	404	350	...	20
Assam	(a) 952 (b) 700 (c) 1,008	...	2,010	159	1,320	418	504	...	...	...
United Provinces	900	1,050	2,600	170	...	500	600	280	...	18
Madras	1,385	...	3,040	18	...	...	...	299	1,120	35
Bombay	1,230	575	6,050	100	...	360	615	400	3,000	...
Sind	1,130	1,240	4,223	(j) 380	...	...	602	391	...	...
Punjab	...	791	1,033	135	...	...	429	...	...	...
Central Provinces and Berar	622	600	2,560	85	...	236	...	224	...	...
North-West Frontier Province	...	676	2,600	164	...	...	450	...	...	...
Burma	(g) 1,031 (h) 1,083	...	...	84	...	...	...	225	870	...
Ajmer-Merwara	...	...	...	170	...	...	...	...	...	...
Delhi	...	...	...	...	...	...	...	...	...	...
Coorg	1,425	...	...	...	...	...	...	...	...	...

(a) Not available
 (e) Winter Rice
 (b) Autumn Rice
 (c) Summer Rice
 (d) Bihar
 (f) Chota Nagpur
 (j) Orissa
 (g) For Upper Burma
 (h) For Lower Burma
 (i) Subject to revision

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

Area (acres)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Bengal (a)	39,158,000	42,977,000	42,793,000	20,437,000	20,639,000	19,846,000	20,450,000	20,916,000	21,120,000	20,957,000
Bihar and Orissa	(c)	(c)	(c)	17,363,000	16,196,000	16,223,000	16,130,000	16,235,000	16,254,000	15,798,000
Madras (b)	7,361,000	7,075,000	7,787,000	10,288,000	10,944,000	10,678,000	10,876,000	11,223,000	11,516,000	11,554,000
Burma (e)	7,569,000	7,467,000	7,449,000	7,373,000	9,008,000	10,056,000	9,093,000	10,403,000	10,570,000	10,702,000
United Provinces	(d)	(d)	(d)	5,220,000	6,811,000	6,062,000	6,200,000	6,376,000	7,182,000	7,451,000
Central Provinces and Berar	(d)	(d)	(d)	(d)	(d)	4,936,000	5,083,000	5,067,000	5,080,000	5,226,000
Assam	(c)	(c)	(c)	4,043,000	4,272,000	3,752,000	4,045,000	4,280,000	4,385,000	4,384,000
Bombay (including Indian States) (f)	(d)	(d)	(d)	(d)	1,624,000	2,629,000	2,650,000	2,336,000	2,590,000	2,461,000
Sind (including Indian States) (g)	(d)	(d)	(d)	(d)	1,088,000	1,112,000	1,117,000	1,194,000	1,280,000	1,086,000
Coorg	80,000	81,000	82,000	82,000	83,000	82,000	81,000	82,000	84,000	84,000
TOTAL	53,168,000	58,200,000	58,111,000	64,808,000	71,623,000	75,425,000	76,625,000	79,165,000	80,090,000	79,712,000

Yield (tons)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Bengal (a)	14,131,000	(h) 21,780,000	(h) 21,848,000	8,635,000	8,856,000	7,412,000	6,411,000	8,276,000	8,028,000	8,647,000
Bihar and Orissa	(c)	(c)	(c)	8,906,000	8,969,000	8,120,000	8,947,000	8,771,000	8,808,000	8,982,000
Madras (b)	2,185,000	2,868,000	3,174,000	5,833,000	4,435,000	4,186,000	4,247,000	4,552,000	6,017,000	5,898,000
Burma (e)	2,233,000	2,209,000	2,875,000	3,325,000	4,561,000	4,037,000	3,875,000	4,200,000	4,575,000	4,637,000
United Provinces	(d)	(d)	(d)	1,779,000	1,929,000	1,264,000	2,022,000	2,350,000	2,683,000	2,659,000
Central Provinces and Berar	(d)	(d)	(d)	(d)	(d)	828,000	1,655,000	1,702,000	1,641,000	1,647,000
Assam	(c)	(c)	(c)	1,596,000	1,948,000	1,810,000	1,420,000	1,481,000	1,461,000	1,859,000
Bombay (including Indian States) (f)	(d)	(d)	(d)	(d)	820,000	1,279,000	1,396,000	1,110,000	1,177,000	1,146,000
Sind (including Indian States) (g)	(d)	(d)	(d)	(d)	405,000	323,000	406,000	424,000	504,000	290,000
Coorg	39,000	52,000	58,000	60,000	53,000	35,000	53,000	53,000	54,000	41,000
TOTAL	19,538,000	27,909,000	27,955,000	30,114,000	28,455,000	28,790,000	27,242,000	31,231,000	34,791,000	36,923,000

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

(b) 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 Indian States have been added from 1913-14

(g) Includes Indian State from 1913-14

(h) Season very favourable

Note.—Figures for 1917-18 are subject to revision

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

Area (acres)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Punjab (including Indian States).	9,002,000	9,142,000	9,981,000	11,018,000	9,316,000	9,568,000	11,336,000	10,246,000	10,737,000	11,287,000
United Provinces	6,605,000	6,491,000	7,342,000	7,578,000	7,382,000	6,406,000	7,301,000	6,599,000	6,764,000	7,248,000
Central Provinces and Berar (a)	2,800,000	3,176,000	3,585,000	3,739,000	3,743,000	3,384,000	3,393,000	3,616,000	3,996,000	4,007,000
Central India States	2,046,000	2,313,000	2,400,000	2,563,000	3,216,000	2,695,000	3,096,000	3,949,000	3,517,000	4,382,000
Bombay (including Indian States) (b).	1,746,000	1,820,000	1,855,000	1,894,000	1,735,000	2,102,000	2,253,000	2,252,000	2,250,000	2,681,000
Bihar and Orissa	(c)	(c)	1,812,000	1,285,000	1,270,000	1,842,000	1,218,000	1,390,000	1,808,000	1,295,000
North-West Frontier Province (d)	1,010,000	1,008,000	1,033,000	1,203,000	879,000	992,000	1,183,000	869,000	1,050,000	1,143,000
Hyderabad State	1,098,000	1,097,000	1,104,000	970,000	851,000	702,000	898,000	1,045,000	1,344,000	1,202,000
Rajputana States	898,000	1,085,000	1,187,000	963,000	1,014,000	622,000	802,000	649,000	1,147,000	1,417,000
Sind (including Indian States)	548,000	471,000	660,000	691,000	487,000	490,000	706,000	588,000	629,000	696,000
Bengal (e)	1,332,000	1,500,000	143,000	143,000	146,000	144,000	134,000	134,000	129,000	124,000
Delhi	(f)	(f)	(f)	(g)	(g)	(g)	32,000	28,000	36,000	42,000
Ajuner-Merwara	(g)	(g)	(g)	(g)	(g)	5,000	19,000	12,000	28,000	22,000
Mysore State	3,000	3,000	3,000	4,000	4,000	3,000	4,000	4,000	5,000	5,000
TOTAL	36,336,000	39,106,000	39,565,000	31,141,000	30,043,000	28,475,000	32,475,000	30,320,000	32,940,000	35,513,000

Yield (tons)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Punjab (including Indian States).	3,002,000	3,434,000	3,709,000	3,809,000	2,989,000	3,189,000	3,725,000	2,481,000	2,937,000	3,667,000
United Provinces	2,124,000	2,975,000	2,919,000	3,032,000	2,938,000	2,221,000	3,042,000	2,700,000	3,061,000	2,889,000
Central Provinces and Berar (a)	721,000	992,000	973,000	904,000	1,062,000	688,000	778,000	973,000	1,168,000	788,000
Central India States	397,000	514,000	592,000	686,000	1,049,000	496,000	642,000	645,000	898,000	651,000
Bombay (including Indian States) (b)	383,000	451,000	508,000	205,000	543,000	506,000	605,000	569,000	597,000	(A) 653,000
Bihar and Orissa	(c)	(c)	570,000	557,000	529,000	593,000	347,000	591,000	598,000	495,000
North-West Frontier Province (d)	313,000	235,000	266,000	280,000	195,000	259,000	331,000	246,000	277,000	303,000
Hyderabad State	73,000	68,000	97,000	43,000	48,000	43,000	51,000	75,000	126,000	126,000
Rajputana States	199,000	260,000	263,000	204,000	244,000	123,000	217,000	116,000	264,000	274,000
Sind (including Indian States)	134,000	133,000	136,000	97,000	204,000	197,000	311,000	312,000	255,000	(A) 261,000
Bengal (e)	314,000	506,000	33,000	47,000	51,000	51,000	32,000	40,000	40,000	33,000
Delhi	(f)	(f)	(f)	(g)	(g)	(g)	(g)	11,000	11,000	12,000
Ajuner-Merwara	(g)	(g)	(g)	(g)	(g)	2,000	5,000	2,000	11,000	10,000
Mysore State	200	400	500	500	1,000	1,000	1,000	1,000	1,000	1,000
TOTAL	7,639,200	9,633,400	10,001,500	9,974,500	9,853,000	8,853,000	10,087,000	8,652,000	10,234,000	10,162,000

(a) Includes the States of Khairagarh and Nandgaon

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

(c) Included under Bengal

(d) Includes the Techi and the Kurram Agencies

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

(f) Included under Punjab

(g) Not available

(A) Revised since the issue of the Final General Memorandum on 12th August 1918

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

Area (acres)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces	1,120,100	1,037,600	1,047,100	1,310,600	1,415,400	1,379,900	1,192,000	1,261,000	1,202,000	1,297,000
Punjab (a)	365,700	403,800	387,000	284,800	307,000	410,900	363,000	347,000	414,000	502,000
Bihar and Orissa	(b)	(b)	(b)	263,000	266,100	262,800	266,000	262,000	278,000	263,000
Bengal (c)	553,000	507,800	515,000	223,300	221,500	218,300	233,000	231,000	204,000	270,000
Bombay (including Indian States)(e)	92,800	89,200	83,400	94,700	79,400	91,400	90,000	100,000	115,000	113,000
Madras	43,700	43,800	47,900	107,700	98,800	83,000	74,000	65,000	114,000	121,000
Assam	(b)	(b)	(b)	34,700	35,300	46,500	39,000	37,000	36,000	35,000
North-West Frontier Province (f)	27,500	30,600	32,700	31,500	30,000	31,700	32,000	31,000	30,000	31,000
Central Provinces and Berar	(d)	(d)	(d)	(d)	(d)	20,400	19,000	21,000	23,000	25,000
TOTAL	2,202,800	2,112,800	2,114,600	2,380,300	2,526,700	2,545,500	2,311,000	2,391,000	2,416,000	2,700,000

Yield (tons) of raw sugar (gür)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces	844,300	955,200	1,042,900	1,259,300	1,301,500	974,500	1,158,000	1,278,000	1,182,000	1,613,000
Punjab (a)	265,600	329,700	262,800	161,200	274,300	308,900	295,000	275,000	314,000	413,000
Bihar and Orissa	(b)	(b)	(b)	303,800	292,700	289,100	277,000	260,000	305,000	290,000
Bengal (c)	430,800	495,800	563,500	256,300	263,200	244,800	250,000	250,000	212,000	241,000
Bombay (including Indian States)(e)	221,200	232,300	226,000	214,600	150,000	228,000	240,000	291,000	378,000	320,000
Madras	81,000	83,000	87,100	196,000	204,500	150,000	169,000	186,000	266,000	256,000
Assam	(b)	(b)	(b)	28,000	33,100	39,400	31,000	29,000	29,000	29,000
North-West Frontier Province (f)	30,100	33,100	35,700	31,900	33,600	35,100	36,000	33,000	32,000	33,000
Central Provinces and Berar	(d)	(d)	(d)	(d)	(d)	21,700	22,000	26,000	23,000	31,000
TOTAL	1,872,900	2,127,100	2,217,800	2,451,100	2,538,600	2,291,500	2,462,000	2,634,000	2,730,000	3,266,000

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

NOTE.—Figures for 1917-18 are subject to revision

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

Area (acres)

Province	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
Assam	345,600	349,000	350,200	354,300	361,700	367,600	376,400	382,600	389,300	399,700
Bengal	141,600	143,200	145,900	146,800	150,500	156,100	159,300	161,300	164,300	167,000
Travancore State	27,100	29,300	30,400	32,000	34,100	37,400	38,400	40,900	42,400	43,300
Madras	14,600	15,700	18,100	20,600	24,400	26,300	26,900	27,100	30,400	33,000
United Provinces	3,100	8,100	7,900	7,600	7,800	8,000	8,000	7,900	8,000	8,000
Punjab	9,400	9,400	9,400	9,400	9,300	9,300	9,300	9,300	7,500	7,500
Bihar and Orissa (a)	...	...	...	2,200	2,300	2,300	2,300	2,300	2,300	2,300
Burma	1,700	1,700	1,700	1,700	1,700	3,000	3,000	2,900	2,900	2,900
TOTAL	548,100	653,300	663,600	674,200	691,800	610,100	624,200	634,900	649,200	661,200

Yield (lbs)

Province	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
Assam	166,456,900	174,851,200	175,095,100	179,081,000	199,798,300	199,722,600	209,227,100	215,245,900	242,194,600	243,714,700
Bengal	29,971,600	60,930,700	64,674,200	64,653,200	70,524,200	80,108,700	78,373,200	80,226,100	92,643,600	91,852,900
Travancore State	12,593,800	13,353,700	14,323,100	14,714,500	16,052,900	18,165,600	16,010,200	20,244,900	17,959,800	19,663,200
Madras	4,436,400	5,325,700	5,645,200	5,793,400	7,535,400	7,829,000	8,607,600	11,271,000	11,364,000	11,251,000
United Provinces	2,009,900	2,206,600	2,043,300	2,534,000	2,636,500	2,579,100	2,379,200	2,908,000	2,352,700	2,200,100
Punjab	1,437,500	1,412,700	1,418,900	1,459,200	1,931,000	2,129,800	1,941,300	1,996,600	1,530,100	1,670,200
Bihar and Orissa (a)	...	...	...	285,500	269,100	311,600	242,400	273,200	246,500	209,200
Burma	118,400	61,900	67,600	76,500	13,300	153,900	153,200	145,200	166,100	113,200
TOTAL	247,024,500	255,136,400	263,269,400	268,601,700	297,978,100	307,912,600	312,974,200	371,532,700	354,697,000	370,180,500

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

NOTE.—Figures for 1917 are subject to revision

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

Area (acres)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Bombay (including Indian States) (a)	6,241,000	6,469,000	7,331,000	5,786,000	6,820,000	7,323,000	7,796,000	5,005,000	7,037,000	8,227,000
Central Provinces and Berar	4,176,000	4,167,000	4,487,000	4,848,000	4,493,000	4,754,000	4,708,000	4,061,000	4,402,000	4,583,000
Hyderabad State	2,902,000	3,401,000	3,562,000	3,234,000	2,888,000	3,653,000	3,605,000	2,964,000	3,200,000	3,451,000
Madras (b)	1,576,000	1,569,000	1,873,000	2,878,000	2,414,000	2,725,000	2,115,000	2,061,000	2,168,000	2,592,000
Punjab (including Indian States)	1,562,000	1,436,000	1,385,000	1,582,000	1,575,000	2,053,000	1,857,000	902,000	1,163,000	1,799,000
United Provinces (c)	1,892,000	1,241,000	1,347,000	921,000	1,158,000	1,586,000	1,551,000	834,000	1,185,000	1,316,000
Central India States	978,000	1,008,000	1,349,000	1,400,000	1,314,000	1,426,000	1,519,000	999,000	1,419,000	1,454,000
Rajputana States	389,000	464,000	466,000	263,000	393,000	470,000	421,000	244,000	334,000	435,000
Sind (including Indian States)	259,000	214,000	279,000	346,000	290,000	341,000	336,000	161,000	240,000	245,000
Burma	204,000	199,000	167,000	186,000	233,000	290,000	270,000	187,000	223,000	246,000
Mysore	65,000	81,000	101,000	101,000	154,000	93,000	109,000	92,000	126,000	154,000
Bihar and Orissa	(d)	(d)	(d)	88,000	92,000	73,000	70,000	67,000	68,000	69,000
North-West Frontier Provinces (e)	54,000	32,000	33,000	50,000	56,000	59,000	60,000	26,000	28,000	38,000
Bengal (including Indian States) (f)	161,000	166,000	169,000	63,000	51,000	87,000	90,000	88,000	73,000	71,000
Ajmer-Merwara	40,000	39,000	45,000	27,000	50,000	57,000	54,000	23,000	47,000	70,000
Assam	(d)	(d)	(d)	36,000	35,000	33,000	34,000	32,000	32,000	32,000
TOTAL	19,099,000	20,545,000	22,596,000	21,615,000	22,028,000	25,023,000	24,595,000	17,746,000	21,745,000	24,781,000

Yield (bales of 400 lbs each)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Bombay (including Indian States) (a)	1,283,000	1,061,000	1,450,000	695,000	1,520,000	1,614,000	1,773,000	1,051,000	1,346,000	1,571,000
Central Provinces and Berar	760,000	1,070,000	629,000	913,000	910,000	961,000	1,097,000	1,106,000	691,000	591,000
Hyderabad State	307,000	461,000	293,000	300,000	300,000	400,000	400,000	450,000	500,000	450,000
Madras (b)	163,000	180,000	235,000	335,000	471,000	308,000	245,000	245,000	347,000	569,000
Punjab (including Indian States)	324,000	396,000	306,000	241,000	373,000	612,000	486,000	195,000	335,000	271,000
United Provinces (c)	426,000	354,000	343,000	251,000	423,000	434,000	486,000	262,000	309,000	193,000
Central India States	144,000	231,000	237,000	228,000	208,000	273,000	293,000	216,000	311,000	118,000
Rajputana States	80,000	148,000	143,000	73,000	125,000	132,000	166,000	62,000	123,000	84,000
Sind (including Indian States)	101,000	104,000	97,000	124,000	123,000	135,000	116,000	49,000	78,000	67,000
Burma	41,000	32,000	38,000	32,000	46,000	54,000	42,000	27,000	40,000	54,000
Mysore	3,000	6,000	10,000	17,000	19,000	11,000	14,000	14,000	16,000	22,000
Bihar and Orissa	(d)	(d)	(d)	19,000	19,000	17,000	16,000	16,000	16,000	17,000
North-West Frontier Provinces (e)	13,000	7,000	8,000	13,000	13,000	14,000	14,000	4,000	6,000	10,000
Bengal (including Indian States) (f)	35,000	35,000	49,000	25,000	21,000	34,000	34,000	30,000	20,000	19,000
Ajmer-Merwara	9,000	13,000	30,000	12,000	26,000	15,000	15,000	2,000	35,000	14,000
Assam	(d)	(d)	(d)	11,000	10,000	12,000	12,000	10,000	11,000	12,000
TOTAL	3,692,000	4,718,000	3,853,000	3,233,000	4,610,000	5,066,000	5,209,000	3,732,000	4,439,000	4,035,000
Net Exports and Consumption (g)	4,300,150	4,923,000	4,303,000	3,933,000	4,483,000	5,913,000	4,839,000	5,109,000	4,623,000	3,860,000

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

(b) Includes Indian States

(c) Includes the State of Rampur

(d) Included under Bengal

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

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

(g) The exports as well as the mill consumption are for the year ending September up to 1910-11; from 1911-12 to 1916-17 they are for the year ending August—1917-18 they relate to the year ending June—1918. 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, 1916-17 and 1917-18 at 750,000 bales each year by the Association.

Note.—Figures for 1917-18 are subject to revision

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

Area (acres)

Province	1909.	1910	1911	1912	1913	1914	1915	1916	1917	1918
Bengal (a)	2,773,100	2,841,600	2,737,600	2,536,900	2,456,600	2,572,600	2,186,300	2,351,500	2,376,500	2,219,200
Bihar and Orissa	(b)	(b)	258,100	294,300	314,400	330,100	188,100	224,000	221,000	151,000
Assam	83,600	82,200	90,700	95,700	97,400	111,000	74,000	93,100	100,000	100,000
Cooch Bihar State	20,000	14,000	20,000	39,600	39,000	44,400	27,600	31,800	36,200	20,800
TOTAL	2,876,800	2,937,800	3,106,400	2,970,500	2,911,000	3,058,700	2,375,900	2,702,700	2,733,700	2,497,200

Yield (bales of 400 lbs each)

Province	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Bengal (a)	8,992,500	7,735,800	7,247,600	8,698,800	7,939,900	9,308,000	6,506,100	7,429,500	7,854,000	6,314,500
Bihar and Orissa	(b)	(b)	705,500	792,900	802,100	891,200	609,800	652,000	602,800	740,800
Assam	180,500	177,800	239,600	226,800	228,300	307,500	152,000	255,700	215,800	214,200
Cooch Bihar State	83,600	18,900	42,000	124,800	122,800	135,200	72,300	66,000	100,000	42,100
TOTAL (c)	7,206,600	7,932,000	8,234,700	9,843,800	8,893,900	10,443,900	7,240,900	8,205,000	8,561,600	6,915,400
Exports and consumption (d)	9,128,000	8,143,000	9,004,000	10,027,000	9,303,000	8,459,000	9,427,000	9,018,000	7,703,000	(e)

(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

	Bales		Bales		Bales
1908	88,000	1911	57,000	1914	37,000
1909	81,000	1912	96,000	1915	92,000
1910	79,000	1913	108,000	1916	70,000
				1917	41,000

(d) The exports as well as mill consumption are for the year ending June. The mill consumption and the extra-factory consumption (the latter being 500,000 bales for each year) are the trade estimates

(e) Not yet available

Note.—The figures for 1918 are subject to revision

No. 10.—AREA AND YIELD OF LINSEED IN EACH PROVINCE

Area (acres)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Central Provinces and Berar	954,700	926,200	1,080,400	1,859,800	1,603,000	952,100	1,224,000	1,044,000	1,175,000	1,200,000
United Provinces (a)	194,700	308,400	472,800	849,500	493,500	240,600	266,000	205,000	330,000	364,000
	499,000	597,000	656,000	747,000	667,000	867,000	620,000	650,000	673,000	693,000
Bihar and Orissa	(b)	(b)	510,300	507,900	528,000	652,900	624,000	662,000	714,000	738,000
Hyderabad State	555,400	548,900	631,300	603,500	512,400	412,600	334,000	284,000	321,000	341,000
Bengal (c)	634,600	673,400	196,900	206,800	199,800	193,700	182,000	181,000	167,000	164,000
Bombay (including Indian States)	158,800	134,200	194,700	205,300	171,900	173,100	126,000	175,000	169,000	181,000
Punjab	(d)	(d)	(d)	(d)	43,300	39,000	49,000	32,000	32,000	(e) 39,000
Total (a)	2,498,000	2,591,100	3,086,400	4,291,000	3,437,900	3,664,000	3,705,000	3,643,000	3,889,000	3,613,000
	499,000	597,000	656,000	747,000	667,000	867,000	620,000	650,000	673,000	693,000
GRAND TOTAL	2,997,000	3,188,100	3,742,400	5,038,000	4,124,900	3,031,000	3,325,000	3,333,000	3,564,000	3,714,000

Yield (tons)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Central Provinces and Berar	90,900	90,300	124,500	139,000	141,800	70,700	60,000	83,000	99,000	92,000
United Provinces (a)	30,400	61,000	102,000	152,700	95,500	34,800	48,000	59,000	67,000	61,000
	78,000	120,000	142,000	140,000	129,000	59,000	110,000	130,000	134,000	117,000
Bihar and Orissa	(b)	(b)	112,500	125,200	104,700	163,700	102,000	136,000	115,000	170,000
Hyderabad State	17,200	18,400	30,400	26,500	17,300	16,800	9,000	13,000	16,000	19,000
Bengal (c)	72,500	121,200	30,700	39,200	37,400	34,200	26,000	28,000	25,000	21,000
Bombay (including Indian States)	8,700	12,900	20,000	15,000	17,400	14,000	17,000	25,000	23,000	22,000
Punjab	(d)	(d)	(d)	(d)	(d)	3,300	5,000	3,000	3,000	5,000
Total (a)	119,700	307,500	429,300	504,900	414,100	327,200	357,000	345,000	358,000	350,000
	78,000	120,000	142,000	140,000	128,000	59,000	110,000	130,000	134,000	117,000
GRAND TOTAL	297,700	427,500	571,300	661,500	512,100	386,200	377,000	476,000	526,000	507,000

(a) The figures in italics represent "mixed" crop, i.e., sown in the same fields with other crops. The estimates for 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 1908-10

(d) Not available

(e) Revised since the issue of the Final General Memorandum in May 1918

Note.—Figures for 1917-18 are subject to revision

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

Area (acres)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces (a)	180,400 <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>	181,000 <i>2,400,000</i>	153,000 <i>2,500,000</i>	150,000 <i>2,315,000</i>
Punjab (b)	1,158,900	1,320,000	1,089,000	1,414,100	837,500	1,002,900	1,047,000	1,129,000	1,016,000	1,171,000
Bengal (c)	1,464,900	2,278,300	1,370,700	1,317,500	1,325,400	1,312,000	1,303,000	1,322,000	1,225,000	1,154,000
Bihar and Orissa	(d)	(d)	705,700	750,100	723,300	751,900	681,000	725,000	792,000	805,000
Assam	244,300	320,100	318,100	253,100	205,000	299,200	304,000	325,000	278,000	273,000
North-West Frontier Province	226,000	91,700	85,100	94,200	75,700	141,300	114,000	110,000	163,000	134,000
Bombay (including Indian States)(e)	80,800	80,900	84,000	17,000	75,700	83,500	83,000	36,000	55,000	69,000
Sind (including Indian States)(f)	120,400	69,700	76,200	54,000	43,500	305,000	428,000	203,000	307,000	345,000
Hyderabad State	12,500	8,100	9,300	6,500	11,100	5,600	7,000	6,000	6,000	8,000
TOTAL (a)	3,875,500 <i>2,153,000</i>	4,361,000 <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>	4,037,000 <i>2,400,000</i>	3,995,000 <i>2,500,000</i>	4,109,000 <i>2,315,000</i>
GRAND TOTAL	6,023,500	6,630,000	6,315,900	6,990,300	5,955,800	6,266,400	6,507,000	6,437,000	6,495,000	6,924,000

Yield (tons)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces (a)	26,000 <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>531,000</i>	23,000 <i>327,000</i>	43,000 <i>530,000</i>	34,000 <i>460,000</i>	28,000 <i>468,000</i>	22,000 <i>405,000</i>
Punjab (b)	193,900	226,900	156,100	196,000	156,600	165,000	175,000	146,000	154,000	172,000
Bengal (c)	231,900	440,100	238,600	243,900	265,800	266,200	230,000	233,000	238,000	211,600
Bihar and Orissa	(d)	(d)	163,800	171,000	143,500	165,700	98,000	137,000	175,000	186,000
Assam	40,400	60,500	56,000	47,000	58,400	61,300	58,000	60,000	48,000	47,000
North-West Frontier Province	23,000	7,900	9,500	12,100	7,200	15,900	16,000	19,000	10,000	15,000
Bombay (including Indian States)(e)	23,300	22,000	15,400	2,600	20,000	21,300	21,000	6,000	14,000	18,000
Sind (including Indian States)(f)	23,400	10,100	11,100	4,700	4,600	42,000	48,000	17,000	46,000	40,000
Hyderabad State	200	100	300	100	200	100	200	100	200	200
TOTAL (a)	566,500 <i>423,000</i>	804,300 <i>466,000</i>	689,100 <i>561,000</i>	716,700 <i>609,000</i>	690,300 <i>531,000</i>	760,500 <i>327,000</i>	659,200 <i>530,000</i>	652,100 <i>460,000</i>	723,200 <i>468,000</i>	711,200 <i>405,000</i>
GRAND TOTAL	987,500	1,270,200	1,250,100	1,325,700	1,241,200	1,037,500	1,219,200	1,102,100	1,191,200	1,116,200

(a) The figures in italics represent "mixed" crop, i.e. seed sown in the same fields with other crops. The estimates for 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 related to chief rapeseed-growing districts; those for other districts have been added from 1912-13.

(f) Estimates for jembé (*Erucic Sativa*) grown in Sind have been added from 1913-14.

Note.—Figures for 1917-18 are subject to revision.

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

Area (acres)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces (a)	322,000 1,000,000	481,300 900,000	438,900 900,000	378,000 800,000	317,300 900,000	378,400 830,000	373,000 1,000,000	200,000 1,100,000	278,000 1,000,000	187,000 850,000
Bombay (including Indian States) (b)	979,800	1,037,400	994,800	849,900	793,300	851,300	1,065,000	820,000	903,000	773,000
Central Provinces and Berar	790,000	942,700	895,300	886,700	779,000	865,700	878,000	927,000	752,000	602,000
Madras	685,000	718,900	573,200	687,300	823,700	809,300	861,000	823,000	779,000	814,000
Hyderabad State	511,900	597,300	677,700	663,900	642,100	612,000	599,000	648,000	509,000	281,000
Bengal (c)	453,400	494,800	489,100	271,800	264,900	241,000	251,000	248,000	212,000	225,000
Bihar and Orissa	(e)	(e)	(e)	214,800	223,700	219,700	200,000	199,000	181,000	111,000
Punjab (d)	164,700	176,800	148,700	92,100	156,800	144,100	222,000	127,000	216,000	136,000
Sind (including Indian States)	80,800	67,000	88,300	83,200	72,300	91,300	86,000	17,000	86,000	39,000
Ajmer-Merwara	(f)	(f)	(f)	(f)	(f)	11,900	35,000	3,000	39,000	25,000
Assam	(f)	(f)	(e)	9,700	10,800	(g) 1,400	(i)	(h)	(i)	(i)
TOTAL (a)	3,987,900 1,000,000	4,515,000 900,000	4,306,000 900,000	4,008,100 800,000	4,089,500 900,000	4,226,000 830,000	4,565,000 1,000,000	4,008,000 1,100,000	4,023,000 1,000,000	3,402,000 630,000
GRAND TOTAL	4,987,900	5,415,000	5,206,000	4,808,100	4,989,500	5,076,000	5,565,000	5,118,000	5,023,000	4,342,000

Yield (tons)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces (a)	34,000 100,000	45,700 90,000	48,400 90,000	29,000 70,000	31,000 100,000	16,600 42,000	31,000 68,000	36,000 90,000	29,000 80,000	18,000 67,000
Bombay (including Indian States) (b)	99,500	132,400	109,400	31,700	93,300	89,700	164,000	98,000	122,000	77,000
Central Provinces and Berar	59,900	91,000	76,400	72,300	60,900	69,400	82,000	98,000	54,000	30,000
Madras	57,200	59,700	49,300	78,200	65,500	72,100	77,000	70,000	105,000	111,000
Hyderabad State	18,700	24,500	34,400	25,400	32,500	25,100	27,000	22,000	31,000	19,000
Bengal (c)	50,000	88,900	79,400	41,500	35,100	29,000	29,000	27,000	24,000	25,000
Bihar and Orissa	(e)	(e)	(e)	33,500	25,000	31,400	26,000	30,000	31,000	27,000
Punjab (d)	23,700	18,500	14,900	9,900	16,000	15,800	24,000	15,000	30,000	12,000
Sind (including Indian States)	12,300	6,800	12,000	4,900	6,900	10,700	5,000	1,000	3,000	3,000
Ajmer-Merwara	(f)	(f)	(f)	(f)	(f)	100	1,000	(h)	3,000	2,000
Assam	(f)	(f)	(e)	1,300	1,800	(g) 200	(i)	(i)	(i)	(i)
TOTAL (a)	364,300 100,000	470,800 90,000	421,800 90,000	327,600 70,000	374,000 100,000	361,600 42,000	400,000 63,000	312,000 90,000	433,000 80,000	219,000 67,000
GRAND TOTAL	464,300	560,800	511,900	397,600	474,000	402,200	551,000	482,000	513,000	296,000

- (a) The figures in italics represent "mixed" crop, *ie.*, seed sown in the same fields with other crops. The estimates for the mixed crop 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) Includes Bihar and Orissa down to 1910-11 and Assam for 1910-11.
- (d) Figures for years prior to 1913-14 exclude unimportant districts.
- (e) Included under Bengal.
- (f) Not available.
- (g) Early crop only.
- (h) Less than 100 tons.
- (i) Forecast disallowed.

Note.—Figures for 1917-18 are subject to revision.

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

Area (acres)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Madras . . .	718,700	740,100	667,300	806,000	924,200	1,805,200	1,868,000	1,145,000	1,793,000	1,412,000
Bombay (including Indian States) (a)	133,700	162,300	185,800	269,300	242,700	254,100	278,000	268,000	276,000	234,000
Burma (b) . . .	258,000	146,300	98,800	138,800	199,500	246,000	269,000	262,000	265,000	248,000
TOTAL	1,111,000	1,048,700	951,900	1,214,100	1,366,400	2,105,900	2,413,000	1,673,000	2,334,000	1,894,000

Yield (tons) of nuts in shell

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Madras . . .	240,500	221,900	254,200	300,000	341,100	411,300	580,000	633,000	825,000	707,000
Bombay (including Indian States) (a)	120,500	172,700	207,100	248,300	239,500	249,500	279,000	309,000	260,000	233,000
Burma (b) . . .	119,700	64,700	41,000	51,400	89,300	88,000	58,000	116,000	111,000	102,000
TOTAL	480,700	459,300	502,300	600,700	669,900	748,800	917,000	1,058,000	1,196,000	1,042,000

(a) Up to 1913-14 the figures related 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

(b) The figures down to 1911-12 related to the principal groundnut-growing districts. From 1912-13 estimates for other districts also have been included

(c) Note.—Figures for 1917-18 are subject to revision

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

Area (acres)

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Bihar and Orissa (a)	135,300	107,400	117,000	100,800	90,100	63,100	38,500	60,800	80,600	86,700
Madras . . .	81,800	96,400	82,800	90,300	61,500	55,800	71,700	222,000	459,700	312,200
Punjab (b) . . .	36,200	43,400	45,400	36,600	37,300	22,400	20,400	21,400	60,300	84,100
United Provinces	30,600	41,000	31,200	20,400	26,900	24,400	12,300	43,200	159,300	190,300
Bombay and Sind (including Indian States)	(c)	(c)	(c)	(c)	(c)	6,200	4,200	4,100	7,900	10,300
Bengal . . .	(d)	(d)	(d)	1,000	1,000	1,200	1,300	1,600	2,200	7,000
TOTAL	283,900	289,100	276,400	260,900	216,800	172,600	148,400	353,100	770,000	690,600

Yield (cwts) of dye

Province	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Bihar and Orissa (a)	17,000	11,400	13,900	17,800	14,700	7,000	5,500	7,100	10,900	10,200
Madras . . .	12,400	14,400	20,100	21,200	14,300	11,500	13,600	40,500	59,100	42,900
Punjab (b) . . .	5,000	8,300	8,500	5,600	6,000	3,500	3,400	2,700	10,000	15,200
United Provinces	3,400	5,200	3,500	3,000	3,500	3,000	1,500	4,000	14,100	17,400
Bombay and Sind (including Indian States)	(c)	(c)	(c)	(c)	(c)	1,700	1,000	600	1,400	1,600
Bengal . . .	(d)	(d)	(d)	100	100	100	200	200	200	500
TOTAL	38,800	39,300	46,000	47,700	39,100	26,800	25,200	55,100	95,700	87,800

(a) Includes Bengal down to 1910-11

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

(c) No information

(d) Included under Bihar and Orissa

Note.—(1) In estimating the yield of indigo an allowance of 10 per cent of the area sown is made for seed in the United Provinces, Bombay, and Madras. In the Punjab the rate varies widely from district to district. In Bihar no deduction is made as the seed is imported from the United Provinces and the Punjab

Note.—(2) Figures for 1917-18 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						
	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces	3,163,000	4,501,000	4,376,000	4,578,000	4,020,000	5,100,000	4,092,000	1,613,000	2,180,000	2,081,000	2,413,000	2,349,000	2,612,000	1,991,000
Madras	3,000	3,000	3,000	3,000	3,000	3,000	(d)	5,166,000	5,220,000	4,790,000	4,107,000	4,512,000	4,761,000	(d)
Bihar and Orissa	1,340,000	1,261,000	1,305,000	1,287,000	1,914,000	1,203,000	1,311,000	94,000	94,000	120,000	107,000	100,000	80,000	88,000
Bombay	26,000	26,000	23,000	25,000	43,000	25,000	23,000	5,478,000	5,550,000	6,008,000	4,544,000	7,000,000	7,200,000	6,161,000
Andhra	19,000	20,000	28,000	31,000	26,000	23,000	27,000	369,000	602,000	680,000	636,000	630,000	761,000	642,000
Uttar Pradesh	95,000	95,000	94,000	95,000	94,000	99,000	97,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Punjab	1,339,000	1,007,000	970,000	1,208,000	1,040,000	1,183,000	1,475,000	854,000	1,213,000	1,348,000	1,276,000	1,001,000	1,404,000	918,000
Central Provinces and Berar	(b)23,000	(b)18,000	(b)8,000	(b)11,000	(b)19,000	(b)24,000	(b)22,000	4,044,000	3,991,000	3,910,000	4,200,000	4,064,000	4,168,000	3,461,000
Burma	—	—	—	—	—	—	—	719,000	732,000	718,000	651,000	634,000	606,000	598,000
Assam	1,000	1,000	—	—	—	—	—	—	—	—	—	—	—	—
North-West Frontier Province	206,000	216,000	201,000	423,000	316,000	248,000	267,000	83,000	86,000	103,000	120,000	40,000	107,000	88,000
Ajmer-Merwara	(d)63,000	(d)60,000	(d)46,000	(d)63,000	63,000	45,000	(d)	(d)28,000	(d)61,000	(d)60,000	(d)77,000	86,000	89,000	(d)
TOTAL	8,378,000	7,205,000	7,144,000	7,631,000	7,924,000	7,883,000	8,373,000	14,568,000	11,029,000	11,274,000	11,167,000	12,097,000	11,810,000	10,109,000

Yield (tons)

Province	Barley							Jawar						
	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces	(a)	(a)	1,670,000	2,048,000	2,250,000	2,350,000	2,786,000	254,000	506,000	227,000	630,000	661,000	613,000	771,000
Madras	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	843,000	1,093,000	1,146,000	1,298,000	1,447,000	(d)
Bihar and Orissa	870,000	839,000	857,000	436,000	463,000	549,000	602,000	(a)	(a)	(a)	(a)	33,000	26,000	33,000
Bombay	9,000	10,000	7,000	9,000	15,000	9,000	10,000	910,000	1,418,000	1,275,000	1,068,000	3,007,000	1,707,000	1,767,000
Andhra	5,000	7,000	10,000	11,000	8,000	9,000	6,000	106,000	166,000	207,000	221,000	129,000	303,000	31,000
Uttar Pradesh	(a)	(a)	(a)	(a)	20,000	21,000	22,000	(a)	(a)	(a)	(a)	1,000	1,000	1,000
Punjab	262,000	260,000	268,000	277,000	228,000	246,000	424,000	66,000	165,000	119,000	116,000	149,000	120,000	66,000
Central Provinces and Berar	(a)	(a)	(a)	(a)	(a)	(a)	(a)	996,000	966,000	918,000	1,274,000	1,242,000	81,000	167,000
Burma	—	—	—	—	—	—	—	69,000	87,000	101,000	61,000	61,000	69,000	71,000
Assam	(a)	(a)	—	—	—	—	—	—	—	—	—	—	—	—
North-West Frontier Province	(a)	24,000	180,000	190,000	126,000	80,000	80,000	(a)	15,000	16,000	19,000	9,000	17,000	16,000
Ajmer-Merwara	(a)	(a)	(a)	(a)	18,000	11,000	(d)	(a)	(a)	(a)	(a)	2,000	11,000	(d)
TOTAL (c)	973,000	878,000	3,661,000	3,661,000	3,164,000	3,271,000	3,223,000	3,673,000	4,964,000	4,040,000	4,181,000	4,030,000	5,119,000	3,779,000

(a) Not available (b) Taken from Agricultural Statistics (c) Incomplete (d) Not yet reported (e) Excludes Madras and Ajmer-Merwara (f) Excludes Ajmer-Merwara
 Note.—No forecast is prepared for the crops dealt with in this table. The figures are taken from the provincial Branch and Crop Reports or specially obtained from local authorities

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

Area (acres)

Province	BAJRA							MAIZE						
	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces	2,840,000	2,618,000	2,168,000	2,770,000	2,806,000	2,538,000	2,309,000	1,791,000	2,205,000	2,138,000	2,378,000	2,612,000	2,428,000	2,321,000
Madras	2,284,000	2,808,000	2,273,000	2,482,000	2,873,000	2,410,000	(d)	118,000	134,000	124,000	154,000	124,000	118,000	(d)
Bihar and Orissa	87,000	74,000	78,000	73,000	73,000	70,000	67,000	1,061,000	1,099,000	1,714,000	1,402,000	1,656,000	1,681,000	1,687,000
Bombay	4,262,000	5,158,000	4,900,000	5,119,000	4,992,000	4,537,000	3,142,000	163,000	162,000	159,000	156,000	173,000	176,000	167,000
Madhya Pradesh	418,000	1,141,000	1,110,000	1,000,000	558,000	1,139,000	1,019,000	2,000	2,000	2,000	1,000	2,000	2,000	2,000
Bengal	6,000	7,000	6,000	6,000	6,000	6,000	6,000	95,000	97,000	92,000	94,000	96,000	98,000	80,000
Punjab	1,155,000	2,077,000	2,820,000	2,738,000	1,007,000	2,033,000	2,543,000	955,000	1,078,000	1,082,000	1,047,000	1,184,000	1,270,000	1,319,000
Central Provinces and Berar	117,000	154,000	146,000	146,000	185,000	118,000	126,000	(e) 144,000	(e) 150,000	(e) 151,000	(e) 156,000	(e) 155,000	(e) 159,000	(e) 158,000
Burma	...	...	...	...	...	...	...	165,000	172,000	170,000	159,000	167,000	168,000	168,000
Assam	...	...	...	...	...	...	...	19,000	19,000	19,000	19,000	19,000	19,000	...
North-West Frontier Province	76,000	208,000	193,000	236,000	73,000	202,000	228,000	410,000	419,000	431,000	419,000	431,000	451,000	410,000
Ajmer-Merwara	(e) 11,000	(e) 31,000	(e) 20,000	(e) 39,000	81,000	52,000	(d)	(e) 44,000	(e) 68,000	(e) 67,000	(e) 71,000	60,000	60,000	(d)
TOTAL	12,473,000	16,671,000	14,786,000	16,702,000	14,783,000	15,105,000	9,339,000	5,567,000	6,325,000	6,146,800	6,144,000	6,679,000	6,518,000	6,274,000

Yield (tons)

Province	BAJRA							MAIZE						
	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces	801,000	611,000	368,000	612,000	620,000	489,000	407,000	703,000	930,000	721,000	1,060,000	1,184,000	953,000	1,028,000
Madras	(e)	551,000	538,000	694,000	748,000	918,000	(d)	(e)	(e)	(e)	(e)	(e)	(e)	(e)
Bihar and Orissa	(e)	(e)	(e)	(e)	27,000	23,000	23,000	510,000	630,000	641,000	808,000	480,000	523,000	612,000
Bombay	246,000	500,000	644,000	734,000	704,000	670,000	328,000	27,000	64,000	60,000	72,000	61,000	107,000	100,000
Madhya Pradesh	104,000	283,000	181,000	188,000	116,000	236,000	117,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Bengal	(e)	(e)	(e)	(e)	2,000	1,000	2,000	26,000	20,000	24,000	27,000	24,000	26,000	23,000
Punjab	27,000	215,000	201,000	246,000	170,000	514,000	312,000	268,000	413,000	441,000	283,000	464,000	461,000	319,000
Central Provinces and Berar	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)
Burma	...	...	...	...	...	...	...	63,000	73,000	68,000	81,000	70,000	35,000	37,000
Assam	...	...	...	...	...	...	...	(e)	(e)	(e)	(e)	(e)	(e)	(e)
North-West Frontier Province	(e)	32,000	37,000	48,000	12,000	64,000	26,000	184,000	184,000	228,000	203,000	237,000	219,000	200,000
Ajmer-Merwara	(e)	(e)	(e)	(e)	200	9,000	(d)	(e)	(e)	(e)	(e)	6,000	19,000	(d)
TOTAL (1)	1,144,000	2,222,000	1,879,000	2,008,000	2,279,000	2,863,000	1,317,000	1,919,000	2,311,000	2,094,000	2,682,000	2,802,000	2,344,000	2,317,000

(a) Not available (b) Incomplete (c) Taken from Agricultural Statistics (d) Not yet reported (e) Excludes Madras and Ajmer-Merwara
 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 special reports obtained from local authorities.

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

Area (acres)

Province	GRAM						
	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces	6,873,000	6,807,000	7,007,000	5,345,000	6,008,000	6,889,000	6,307,000
Madras	135,000	138,000	166,000	134,000	180,000	178,000	(f)
Bihar and Orissa	1,032,000	818,000	1,079,000	1,200,000	1,617,000	1,268,000	1,668,000
Bombay	375,000	478,000	463,000	480,000	804,000	627,000	778,000
Sind	76,000	75,000	98,000	111,000	141,000	180,000	181,000
Bengal	177,000	184,000	198,000	182,000	177,000	180,000	188,000
Punjab	4,100,000	3,401,000	7,940,000	8,198,000	3,805,000	8,116,000	8,004,000
Central Provinces and Berar	(g) 818,000	(g) 808,000	(g) 820,000	(h) 863,000	(h) 783,000	(h) 904,000	(h) 946,000
Burma	40,000	34,000	43,000	48,000	64,000	80,000	81,000
Assam	1,000	1,000	—	—	—	—	—
North-West Frontier Province	174,000	180,000	190,000	200,000	165,000	210,000	220,000
Ajmer-Merwara	(e) 26,000	(e) 9,000	(e) 1,000	(e) 21,000	19,000	9,000	(f)
TOTAL	13,844,000	11,718,000	8,961,000	12,778,000	12,234,000	16,207,000	(e) 16,106,000

Yield (tons)

Province	GRAM						
	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
United Provinces	2,483,000	1,817,000	(d) 661,000	1,773,000	2,825,000	2,280,000	1,902,000
Madras	(e)	8,000	(e)	(e)	(e)	(e)	(e)
Bihar and Orissa	434,000	261,000	447,000	347,000	528,000	607,000	611,000
Bombay	30,000	64,000	61,000	66,000	102,000	123,000	140,000
Sind	11,000	10,000	9,000	11,000	20,000	18,000	20,000
Bengal	60,000	62,000	68,000	64,000	65,000	60,000	61,000
Punjab	1,126,000	734,000	878,000	1,280,000	614,000	946,000	1,400,000
Central Provinces and Berar	244,000	200,000	190,000	267,000	228,000	290,000	218,000
Burma	7,000	(e)	(e)	(e)	(e)	(e)	(e)
Assam	(e)	(e)	—	—	—	—	—
North-West Frontier Province	(e)	20,000	20,000	24,000	16,000	20,000	20,000
Ajmer-Merwara	(e)	(e)	(e)	(e)	2,000	1,000	(f)
TOTAL (e)	6,602,000	2,270,000	1,927,000	3,860,000	3,620,000	4,216,000	(h) 6,600,000

(e) Not available

(f) Excludes gram sown with other crops

(g) Taken from Agricultural Statistics

(h) Crop poor owing to unfavourable season

(i) Incomplete

(j) Not yet reported

(k) Excludes Madras and Ajmer-Merwara

(l) Excludes Ajmer-Merwara

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 specially 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 Inches	ACTUAL RAINFALL										Variation of 1917 rainfall from normal Inches	Per cent as varied from normal
		1908	1909	1910	1911	1912	1913	1914	1915	1916	1917		
United Provinces— United Provinces, East	39.3	29.86	42.02	41.49	41.90	33.46	30.39	38.02	53.7	47.2	46.3	+ 7.0	
United Provinces, West	37.9	37.38	42.23	42.62	33.13	34.86	23.30	39.89	37.4	47.7	50.9	+13.0	
Madras— Malabar	127.0	131.24	138.00	121.78	114.42	151.14	111.61	134.04	119.9	131.2	123.1	- 3.9	
Madras, South-East	35.3	30.64	36.15	36.35	32.24	34.51	35.89	37.93	38.8	34.0	36.8	+ 1.5	
Madras, Deccan	24.5	20.33	26.84	33.55	18.66	25.87	20.52	21.92	31.7	40.1	34.1	+ 9.6	
Madras Coast, North	39.8	36.35	38.28	49.63	36.25	40.11	36.91	43.02	61.5	52.7	54.2	+14.4	
Bombay— Gujarat	32.7	35.00	31.86	35.92	13.73	41.89	41.30	39.73	16.7	32.6	54.0	+21.3	
Konkan	109.4	109.13	111.40	99.82	81.59	110.90	103.99	137.20	93.9	123.6	136.1	+20.7	
Bombay, Deccan	30.9	26.78	28.65	34.87	21.27	31.37	28.02	39.38	34.5	40.9	35.8	+ 4.9	
Sind	6.5	12.18	6.28	9.00	1.03	5.12	18.79	6.10	1.8	11.1	14.1	+ 7.6	+11
Bihar and Orissa— Orissa	56.8	57.54	59.70	59.28	49.85	54.07	61.23	61.80	61.9	57.7	73.8	+17.0	+3
Chota Nagpur	51.9	47.69	55.07	47.89	54.53	44.81	63.24	43.11	39.3	50.1	66.4	+16.5	+
Bihar	48.7	27.63	33.67	33.09	58.94	43.41	60.43	44.30	49.5	58.7	53.7	+ 5.0	+
Bengal— Eastern	74.8	66.31	96.66	94.76	100.85	79.76	88.96	69.39	80.7	88.3	80.4	+ 5.6	
Western		52.69	69.96	59.07	65.11								
Central Provinces and Berar—													
Berar	32.1	35.07	31.23	40.59	23.78	25.93	33.93	40.75	36.5	47.2	41.7	+ 9.6	+
Central Provinces, West	45.2	46.59	39.91	47.59	40.42	40.99	39.98	44.15	50.4	57.5	60.1	+14.9	+
Central Provinces, East	52.0	59.03	50.39	56.46	55.11	54.89	47.73	54.53	55.2	54.1	64.5	+12.5	+
Punjab—													
East and North	23.3	32.41	31.85	26.37	21.63	22.30	22.71	31.89	18.3	26.8	41.8	+18.5	+
South-West	9.4	17.88	11.51	9.27	9.23	8.51	12.59	18.67	4.9	12.3	21.5	+12.1	+
Burma—													
Lower Burma	129.2	127.55	132.58	117.61	128.31	129.83	122.48	140.92	135.1	125.5	129.8	+ 0.6	
Upper Burma	43.2	44.8	47.21	48.49	43.30	43.67	43.47	49.54	46.7	49.9	48.1	+ 2.0	+
Assam	98.8	89.01	89.26	105.20	117.14	101.28	105.89	87.03	112.3	96.6	95.1	- 3.7	-
North-West Frontier Province	17.0	27.61	18.65	22.95	20.00	15.78	14.66	30.30	15.0	20.3	20.2	+ 3.2	+
Central India— Central India, West	33.7	32.64	34.08	37.85	25.50	32.71	30.22	32.94	27.0	46.9	50.3	+16.6	+
Central India, East	33.7	31.08	39.74	41.41	44.84	37.33	31.16	40.77	38.7	48.2	54.6	+15.9	+
Rajputana—													
Rajputana, West	13.3	26.32	19.29	12.36	5.84	12.53	10.10	12.54	6.9	17.2	32.0	+18.7	+
Rajputana, East	23.2	36.75	29.12	28.72	19.29	27.39	15.65	26.36	17.4	33.6	53.0	+27.8	+
Hyderabad—													
Hyderabad, North	33.0	32.87	30.03	43.24	24.94	23.39	27.10	42.70	40.8	44.4	45.9	+13.9	+
Hyderabad, South	30.5	34.15	29.02	31.33	21.21	23.03	19.76	39.71	40.2	56.9	39.9	+9.4	+
Mysore	36.0	27.43	41.14	43.83	33.94	44.03	32.40	33.59	37.7	46.6	41.3	+5.5	+

No. 17.—COMPARATIVE STATEMENT SHEWING REPORTED AREA AND YIELD OF CERTAIN CROPS IN FOREIGN COUNTRIES IN 1916 AND 1917

Area (acres)

Countries.	Rice		Wheat		Cotton	
	1916	1917	1916	1917	1916	1917
Algeria . . . . .	...	...	3,271,000	3,220,000	...	...
Argentina . . . . .	...	...	16,082,000	17,868,000	...	...
Australia . . . . .	...	...	11,523,000	9,853,000	...	...
Canada . . . . .	...	...	12,899,000	14,705,000	...	...
Denmark . . . . .	...	...	151,000	139,000	...	...
Egypt	150,000	276,000	1,447,000	1,116,000	1,718,000	1,740,000
France . . . . .	...	...	12,850,000	10,893,000	...	...
Italy	356,000	346,000	11,674,000	10,553,000	...	...
Japan	7,540,000	7,553,000	1,281,000	1,235,000	6,000	7,000
Luxemburg . . . . .	...	...	27,000	22,000	...	...
Netherlands . . . . .	...	...	134,000	(a)	...	...
New Zealand . . . . .	...	...	219,000	291,000	...	...
Norway . . . . .	...	...	(a)	14,000	...	...
Spain	100,000	106,000	10,144,000	10,130,000	...	...
Sweden . . . . .	...	...	307,000	820,000	...	...
Switzerland . . . . .	...	...	124,000	139,000	...	...
Tunis . . . . .	...	...	1,482,000	1,300,000	...	...
Union of South Africa . . . . .	...	...	755,000	924,000	...	...
United Kingdom . . . . .	...	...	2,061,000	2,007,000	...	...
United States of America	878,000	964,000	52,763,000	43,922,000	38,221,000	33,627,000
Uruguay . . . . .	...	...	779,000	1,013,000	...	...

Yield

Countries.	Rice (tons)		Wheat (tons)		Cotton (bales of 400 lbs)	
	1916	1917	1916	1917	1916	1917
Algeria . . . . .	...	...	779,000	775,000	...	...
Argentina . . . . .	...	...	1,877,000	5,844,000	...	...
Australia . . . . .	...	...	4,065,000	3,277,000	...	...
Canada . . . . .	...	...	6,890,000	6,248,000	...	...
Denmark . . . . .	...	...	161,000	118,000	...	...
Egypt	(a)	358,000	977,000	797,000	1,420,000	1,579,000
France . . . . .	...	...	8,737,000	2,843,000	...	...
Italy	511,000	503,000	4,712,000	3,742,000	...	...
Japan	1,013,000	9,690,000	757,000	621,000	8,000	(a)
Luxemburg . . . . .	...	...	12,000	10,000	...	...
Netherlands . . . . .	...	...	126,000	(a)	...	...
New Zealand . . . . .	...	...	135,000	163,000	...	...
Norway . . . . .	...	...	(a)	6,000	...	...
Spain	237,000	232,000	4,072,000	3,514,000	...	...
Sweden . . . . .	...	...	240,000	183,000	...	...
Switzerland . . . . .	...	...	115,000	122,000	...	...
Tunis . . . . .	...	...	192,000	190,000	...	...
Union of South Africa . . . . .	...	...	161,000	236,000	...	...
United Kingdom . . . . .	...	...	1,621,000	1,719,000	...	...
United States of America	842,000	727,000	17,104,000	17,397,000	14,516,000	13,668,000
Uruguay . . . . .	...	...	144,000	244,000	...	...

(a) Not available

No. 17.—COMPARATIVE STATEMENT SHEWING REPORTED AREA AND YIELD OF CERTAIN CROPS IN FOREIGN COUNTRIES IN 1916 AND 1917—*contd.*

Area (acres)

Countries.	Barley		Maize		Linseed	
	1916	1917	1916	1917	1916	1917
Algeria	3,008,000	2,838,000	...	...	...	...
Argentina	888,000	(a)	8,965,000	(a)	...	...
Australia	180,000	(a)	...	...	...	...
Canada	1,661,000	2,403,000	173,000	284,000	605,000	917,000
Denmark	632,000	594,000	...	...	...	...
Egypt	439,000	445,000	(a)	1,734,000	...	...
France	1,517,000	1,474,000	812,000	887,000	13,000	20,000
Italy	595,000	469,000	3,829,000	3,873,000	44,000	44,000
Japan	3,108,000	2,737,000	157,000	142,000	39,000	61,000
Luxemburg	561,000	(a)	...	...	...	...
Netherlands	60,000	(a)	...	...	37,000	30,000
New Zealand	30,000	31,000	6,000	8,000	...	...
Norway	98,000	(a)	...	...	...	...
Spain	3,884,000	3,837,000	1,154,000	1,175,000	3,000	4,000
Sweden	421,000	437,000	...	...	...	...
Switzerland	18,000	19,000	4,000	5,000	...	...
Tunis	1,232,000	1,037,000	...	...	...	...
Union of South Africa	57,000	58,000	2,607,000	(a)	...	...
United Kingdom	1,651,000	1,795,000	...	...	91,000	110,000
United States of America	7,671,000	8,331,000	168,575,000	119,705,000	1,604,000	1,808,000
Uruguay	...	...	...	...	...	...

Yield (tons)

Countries.	Barley		Maize		Linseed	
	1916	1917	1916	1917	1916	1917
Algeria	709,000	673,000	...	...	...	...
Argentina	48,000	(a)	1,469,000	(a)	...	...
Australia	90,000	(a)	...	...	...	...
Canada	884,000	1,177,000	157,000	194,000	206,000	148,000
Denmark	523,000	387,000	...	...	...	...
Egypt	283,000	291,000	(a)	1,958,000	...	...
France	843,000	846,000	(a)	405,000	3,000	3,000
Italy	316,000	189,000	1,961,000	2,161,000	9,000	7,000
Japan	(a)	2,047,000	103,000	93,000	7,000	(a)
Luxemburg	3,000	(a)	...	...	...	...
Netherlands	51,000	(a)	...	...	9,000	6,000
New Zealand	16,000	13,000	7,000	11,000	...	...
Norway	65,000	(a)	...	...	...	...
Spain	1,857,000	1,667,000	715,000	733,000	(a)	1,000
Sweden	313,000	331,000	...	...	...	...
Switzerland	13,000	15,000	4,000	6,000	...	...
Tunis	147,000	177,000	...	...	...	...
Union of South Africa	31,000	(a)	573,000	(a)	...	...
United Kingdom	1,178,000	1,281,000	...	...	(a)	(a)
United States of America	3,509,000	4,469,000	64,445,000	78,821,000	386,000	211,000
Uruguay	...	...	...	...	...	...

(a) Not available

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;" or in other words, it is the "figure which in existing circumstances might be expected to be attained in the year if the rainfall and seasons were of a character ordinary for the tract under consideration, that is, neither very favourable nor the reverse." Briefly, it is stated to be "the average yield on average soil in a year of average character." This normal or average yield will not necessarily correspond with the average of a series of years' figures, which is an arithmetical average. The Agricultural Department in each province maintains a statement of the normal or average yield per acre of land of average quality (under the two major heads of irrigated and unirrigated land) for the several crops in each district. In order to test the accuracy of these standards of normal or average yield and to revise them, if necessary, a system of crop-cutting experiments is in force in 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 estimate. Local Governments and Administrations were, therefore, permitted to adopt such scale of notation as might be suited to local conditions, the object being to secure that the returns should be in terms of a normal crop. But since the anna standard thus adopted would not possess any fixed or uniform value, it was laid down that in published forecasts the anna notation should not be used, the American notation being used in its stead, *i.e.*, 100 being taken to represent a normal crop and the estimated outturn being stated as a percentage of that crop, and the conversion of the anna estimate into the percentage estimate being made either by the district officer or by the provincial authorities.

When these three factors have been determined, they are multiplied 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 per acre, and the percentage estimate 80, the required quantitative estimate would be $60,000 \times 500 \times \frac{80}{100} = 24,000,000$ lbs.

The question of improving the method of framing estimates of outturn is now under the consideration of the Government of India.

APPENDIX II

METHODS OF COLLECTING THE STATISTICS PROVINCE BY PROVINCE

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.

United Provinces.
(Total cultivated area
36,321,000 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 *samindari* (consisting of large proprietary estates), of which only a part has been accurately surveyed, and for which somewhat similar returns are prepared and dealt with accordingly. In other cases 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 *samindari* areas are included but shown separately in the reports sent by the *Tahsildars* to the Provincial Director of Agriculture. The States of Pudukkottai and Banganapalle send similar reports direct to the Director for cotton only. No other Indian 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 *samindari* 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 his subordinate officers and from non-officials interested in a particular crop.

Madras.
(Total cultivated area
34,490,000 acres.)

The estimates for the Bombay Presidency include all British districts and Indian States where the respective crops are grown to any extent. In the British districts of the Presidency proper the area under different crops is ascertained in the first instance by village officers and recorded in village returns, which are checked by circle inspectors and other revenue officers, and compiled by the former for their circles and then for the *taluka*. The *taluka* figures are totalled up for each district in the office of the Director of Agriculture of the province. For Sind this work is done by local officers, and the Director receives district-by-district figures. The information received is for villages for which regular statistics are available, the proportion of reporting area being 91.4 per cent in the Presidency proper and 99.6 per cent in Sind. From 1909-10, however, estimates for the non-reporting areas have been made so far as possible and included in the table. In the case of Indian States the acreage is estimated on the best local data available. The approximate numerical strength of the reporting agency is 168 in the Presidency proper, 60 in Sind, and 33 in the Indian States. No standard of yield has yet been fixed. Local estimates of crop condition are converted to quantitative figures on the basis of a formula showing the average yield of crops, which has been adopted provisionally. This formula is now being revised, the revision being based on the ascertainment of actual yield in different parts of the Presidency by careful local enquiry by officers of the provincial Agricultural Department, who are tabulating the results and comparing them for the purpose. The unit of area in the formula is the district, and dry and irrigated crops are separately dealt with. Each year's estimate of the condition of crops is prepared by the *wamildars* (or *mahalkaris* where the *taluka* is sub-divided) from notes which they make and from reports from village accountants and circle inspectors. The estimate is sent direct to the Director of Agriculture, who, in the light of the general prospects of the season, makes the quantitative calculations. For Sind there are no formulae, and all the necessary information is obtained from the district officers in the form of estimates on the basis of twelve

Bombay and Sind
(Total cultivated
area 30,873,000
acres.)

Note.—The cultivated area shown in the margin represents the average net area actually sown with all crops in each province during the three years ending 1916-17.

annas for a normal crop, together with quantitative equivalents gathered from general experience. For Indian States condition estimates are obtained, and the formulæ for adjoining British districts are applied.

Bihar and Orissa.
(Total cultivated area
26,956,000 acres.)

The estimates for Bihar and Orissa relate to all the districts of the province where the respective crops are grown. Survey and settlement operations have been completed in all the districts except 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-five 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.

Punjab.
(Total cultivated area
25,814,000 acres.)

The estimates for the Punjab relate to all the British districts in which the respective crops are grown. As regards Indian States of the province, reports on wheat and cotton are furnished by all the States in which the two crops are grown to any considerable extent. No estimates for any other crop are prepared by any State. The figures of area for all the British districts up to 1912-13 were based on actual measurements by the village revenue staff. Estimates of yield were recorded by district officers after personal enquiry from *tahsildars* and leading agriculturists. The total number of agriculturists consulted by the district officers and *tahsildars* 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.

Central Provinces
and Berar.
(Total cultivated area
26,274,000 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 Indian 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 285 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, 18·3 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.

Bengal.
(Total cultivated area
24,776,000 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 quantitative estimates of yield hitherto given in the forecasts are based on standards provisionally adopted. The standards have now been revised on the basis of the results obtained from crop-cutting experiments conducted over a series of areas and seasons.

Burma.
(Total cultivated area
14,373,000 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.

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 the district Land Records staffs in the case of the temporarily-settled areas and from zamindars in the case of the permanently-settled portion of Goalpara, with the exception in the latter district of jute the estimate for which is compiled by the village *choukidari panchayats*. In the permanently settled part of Sylhet the figures for jute are those submitted after actual inspection by the village *choukidari panchayats*, and for tea those reported by the garden managers, while for all other crops estimates have been framed by the district officer from the actual areas in the surveyed parts, applied to the rest of the district. The figures are checked only in the temporarily settled tracts by the circle Sub-Deputy Collectors; in the permanently settled districts of Sylhet and Goalpara there is no valid check at all. The estimates of outturn are based on the normal yield obtained from the results of crop-cutting experiments.

Assam.
(Total cultivated area) 8,263,000

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

North-West Frontier Province.
(Total cultivated area) 2,327,000 acres.)

The estimates for Ajmer-Merwara relate to the whole of the district. So far as *Khalas*,^{*} *jagir*, and minor *istamaris* 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 *istamaris* 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 *istamaris* estates.

Ajmer-Merwara.
(Total cultivated area) 802,000 acres.)

The estimates for rice furnished by Coorg are based on the results of annual crop inspections and experiments. Crop inspections are made by each *shambog* for his circle under the supervision of the *parpattigar* and the detailed particulars entered in the crop inspection registers and summarised in the crop abstracts, the totals of which are compiled in the office of the Deputy Director, Land Records and Agriculture. About 50 crop experiments are conducted annually by subordinates of the Revenue Department and *subedars* (*tahsildars*) and also a few by the Deputy Director of Land Records and Agriculture, in whose office the estimates of yield, given in the forecast, are calculated on the basis of the average for the province.

Coorg.
(Total cultivated area) 140,000 acres.)

In the Central India States 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.

Central India.

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.

Rajputana.

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

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.

The estimates furnished by the Mysore State relate to all the districts of the State cultivated in which the respective crops are grown. As regards area the information is based on the entries made by the *shambo*, (village accountant) in his crop inspection book and checked by the higher revenue officers. The outturn is noted by the *shambog* 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.

Mysore-
(Total
area
acres.)
6,378,000

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	January	31
2nd „	March	15
3rd „	May	30
Final „	August	10

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	20

GROUNDNUT—

1st forecast	October	20
Final „	February	15

INDIGO—

1st forecast	October	15
Final „	December	20

SUGARCANE—

1st forecast	August	20
2nd „	October	20
Final „	February	15

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