

# THE NATIONAL SAMPLE SURVEY

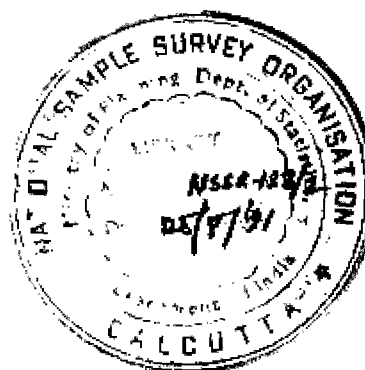
NINETEENTH ROUND : JULY 1964—JUNE 1965

NUMBER 133

## SOME RESULTS OF THE LAND UTILISATION SURVEY AND CROP-CUTTING EXPERIMENTS.



सत्यमेव जयते



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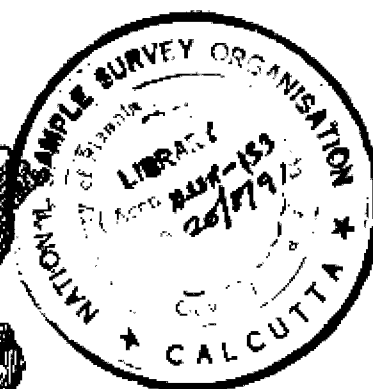
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### **ACKNOWLEDGEMENT**

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Supervision of computing and tabulation was entrusted to S. S. Bose, N. B. Chowdhury, A. K. Chowdhury and S. K. Palit.

The design of the survey was prepared by the Indian Statistical Institute.

The primary data were collected by the Directorate of the National Sample Survey, Government of India, in all the states except in West Bengal where the Indian Statistical Institute collected the data.

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# NATIONAL SAMPLE SURVEY

NINETEENTH ROUND : JULY 1964—JUNE 1965

Number 133

## Some results of the land utilisation survey and crop-cutting experiments

The report entitled 'Some results of land utilisation survey and crop-cutting experiments, 19th round, July 1964—June 1965' was prepared by the Indian Statistical Institute. The views contained in the report are not necessarily those of the Government of India.\*\*

### CHAPTER I

#### INTRODUCTION

1.1 As in earlier years the land utilisation survey and crop-cutting experiments were conducted in 1964-65 as part of the 19th round of the National Sample Survey in order to obtain an all-India estimate of production of the seven major cereal crops (rice, jowar, bajra, ragi, maize, wheat and barley) for the agricultural year 1964-65 as a whole. In this round the scope of the survey was extended so as to obtain all-India estimates of area under small millets also. It may be mentioned that since for small millets crop-cutting experiments were not planned production estimates could not be obtained for this crop. The survey in this round was also planned to obtain estimates of production of important cereal crops at state-level by pooling central and state samples.\*

1.2 *Period of survey.*—The survey started in July 1964 and ended in June 1965.

1.3 *Geographical coverage.*—The survey was carried out in the whole of rural India excluding Andaman and Nicobar Islands, Laccadive, Minicoy and Amindivi Islands, Ladakh district of Jammu and Kashmir, the North East Frontier Agency, Mao, Ukhru and Tamenlong sub-divisions of Manipur and the Union Territories of Goa, Daman, Diu and Pondicherry.

1.4 *Sample design.*—For the land utilisation survey a stratified two stage design with 4 independent sub-samples was adopted with villages as first stage units and clusters of plots as second-stage units. For yield survey a multistage design was adopted, with villages, clusters of plots, sub-plots growing specified crops and circular cuts of radius 4' as successive sampling units. In each of the four seasons, autumn, winter, spring and summer which comprise one agricultural year, 8472 sample villages were planned to be surveyed for area enumeration. The 8472 villages for area survey was in the form of 4 independent sub-samples of 2118 villages. Sub-samples 1 and 3 were surveyed by one party of investigators and 2 and 4 by another party. Crop-cutting experiments were planned in each season in one half of the villages of sub-samples 1 and 2 only; that is in a total of 2118 villages.

1.5 *Method of collection of data.*—Data on land utilisation were collected by direct physical observation of the utilisation in sample plots. Generally 4 clusters of 5 plots each were selected in each village for this purpose. In villages where crop-cutting experiments were also to be carried out, 6 clusters of 10 plots each were selected for land utilisation survey. Each sample village was visited in proper time for each season after the sowing of the crops of the particular season in the sample village was completed and when harvesting of crops of that season had not started, that is, when the crops were unmistakably identifiable. Data on yield were collected by harvesting a circular area of radius 4 feet located at random in a field when the crop was ready for harvesting. In actual practice the data were collected in two stages, first from a circle of radius 2'-3" and then from the annular portion between the circles of radius 2'-3" and 4'. The yield of crop from the smaller circle was used for driage experiments to estimate the conversion (driage) factor to be used to obtain the yield of dry crop from that of green crop.

1.6 *Scope of the report.*—This report deals with the results of the survey on the basis of the data collected in the central sample. The All India estimates of gross area and production of the seven major cereal crops and also the estimated gross area under small millets for 1964-65 are given in this report. Besides the estimates of production and gross area are also given at state-level for some selected crops and states. Chapter 2 deals with some of the concepts and definitions used in the survey. Chapter 3 contains a summary of the main results of the survey. Chapter 4 gives some of the statistical tables which include tables giving season-wise estimates of area and production at all India level and unweighted yield rates at state level of the seven cereal crops separately for pure and mixed cultivation and for irrigated and non-irrigated crops. A note on the sampling design and estimation procedure is given as Appendix I. A facsimile of the schedules of investigation forms Appendix II.

1.7 It may be mentioned that the season-wise estimates for 1964-65 were made available to the Government progressively as soon as tabulation for a particular season was completed. The estimates for the whole year 1964-65 were sent to the Government in October 1965.

\*In the NSS programme of work, most of the State Governments are participating on a matching basis. At state-level the field work in half the number of total villages designated as Central sample is done by the Directorate of NSS and in the remaining half designated as State sample by the staff of the participating State Govt. The sampling scheme, concepts, definitions and procedures followed are identical for the Central and State samples.

\*\*The draft report (No. D. 161) was first submitted by The Indian Statistical Institute, Calcutta, to the Government of India in March, 1967. It was revised subsequently and resubmitted in November, 1967.



## CHAPTER 2

### CONCEPTS AND DEFINITIONS

2.1 Some of the important concepts and definitions used in the survey are described below.

2.2 *Sample village.*—A revenue village corresponding to the selected census village (which constitutes the primary sampling unit) was taken as the sample village for land utilisation survey and crop-cutting experiments. Generally, the revenue village and census village were identical, but in some cases the two were not identical. When the selected census village was a part of a revenue village, the whole of the revenue village was surveyed. If on the other hand, the census village was formed by more than one revenue village, one of the revenue villages was chosen at random with equal probability for the purpose of the survey.

2.3 *Season.*—For each of the crops grown in a village, appropriate season was assigned on the basis of the period of harvesting of the crop in the village in a normal year. The months of harvesting in a normal year corresponding to the different seasons are given below :

season of the crop	normal months of harvesting
1	2
autumn . . . . .	August to October
winter . . . . .	November to January
spring . . . . .	February to April
summer . . . . .	May and June

NOTE :—July was taken to correspond to summer or autumn depending on the crop and region.

When harvesting of a crop in a normal year was spread over two seasons, the crop was assigned to that season which covered the greater part of the harvesting period.

2.4 *Proper time of visit for land utilisation survey and crop-cutting experiments.*—The land utilisation survey was carried out in a village in proper time with respect to cereal and pulse crops for each of the seasons autumn, winter, spring and summer. The proper time for area survey for a season was the period when the sowing of all the crops of that season had been completed but harvesting had not yet started and the crops were unmistakably identifiable. Crop-cutting experiments were carried out when the crop was ripe and ready for harvesting in the selected fields.

2.5 *Plot.*—For the purpose of the enquiry, a plot was defined as a distinct patch of land generally having a major survey number.

2.6 *Pure crop and mixed crops.*—When only one crop was grown in a patch of land, it was considered as growing pure crop. A patch of land which was growing two or more crops in intermixture was taken to be under mixed crops. In case of mixed crops, the components might be sown (or harvested) at the same time or at different times. Sometimes the components might be at different stages of growth (*e.g.* one of the components might be harvestable while others might be just sprouting up from the ground). When a crop was grown in an orchard, it was considered to be under mixed crops. Also crops grown in alternate strips, each of width less than 8' were treated as mixed crops.

2.7 *Sub-plot.*—In a plot, a distinct patch growing a crop or a particular mixed crop was treated as a sub-plot (field). A plot was considered to have as many sub-plots (fields) as there were different patches growing the crops singly or in mixture.

2.8 *Ail or bund.*—A plot is demarcated generally by a strip of raised land commonly known as ails or bunds. Besides these, there may be ails inside the plot. Some of these inside ails are more or less of a permanent nature having almost the same height as the boundary ails. These inside ails were treated in the same manner as boundary ails.

2.9 *Gross area under a crop.*—If a patch of land was under a mixed crop the total area under the mixed crop was taken to be the gross area under each of the components of the mixed crop. When a crop was grown pure in a patch of land the gross area under the crop was the same as the area under the crop.

CHAPTER 3

SUMMARY OF RESULTS

3.1 The main results of the survey—estimates of production and gross area under crops together with sample size—are given in this chapter. A comparative table giving the estimates for 1964-65 and for 1963-64 (the latter obtained from the 18th round of NSS) is also given. A comparison of the NSS estimates of production and the corresponding estimates from the non-NSS official series is also made.

3.2 Number of villages surveyed and number of crop-cutting experiments conducted.—Table (3.1) gives the number of sample villages surveyed for land utilisation survey and crop-cutting experiments and table (3.2) gives the number of crop-cutting experiments conducted on the seven major cereal crops.

TABLE (3.1) Number of villages allotted and surveyed for land utilisation survey and crop-cutting experiments.

ALL-INDIA													
season	number of villages for land utilisation survey						no. of villages for crop-cutting experiments						
	total allotted	surveyed					total allotted	surveyed					
		sub-sample 1	sub-sample 2	sub-sample 3	sub-sample 4	total		*total			not growing specified cereals		
								sub-sample 1	sub-sample 2	total	sub-sample 1	sub-sample 2	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
autumn	8472	2054	2060	2039	2039	8192	2118	1037	1004	2041	231	233	464
winter	8472	2070	2045	2077	2048	8240	2118	1037	998	2035	316	289	605
spring	8472	1994	2041	1999	2057	8091	2118	1007	1007	2014	427	412	939
summer	8472	2073	2036	2079	2039	8191	2118	1021	931	1952	926	867	1793

\*including sample villages not reporting any specified cereal.

TABLE (3.2) Number of crop-cutting experiments conducted on each of the crops

ALL-INDIA															
crop	number of experiments conducted														
	autumn			winter			spring			summer			total		
	sub-sample 1	sub-sample 2	total	sub-sample 1	sub-sample 2	total	sub-sample 1	sub-sample 2	total	sub-sample 1	sub-sample 2	total	sub-sample 1	sub-sample 2	total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
paddy	1999	2017	4016	2898	2844	5742	498	511	1009	216	190	414	5611	3570	11181
jowar	326	353	679	1906	1448	3354	619	668	1287	162	120	282	3013	2589	5602
bajra	1654	1683	3337	249	223	472	6	6	12	38	54	112	1967	1966	3933
ragi	291	510	801	197	240	437	133	212	345	36	50	86	657	1012	1669
maize	1628	1767	3395	..	..	..	14	36	50	14	24	38	1656	1827	3483
wheat	..	..	1	2	2	4	3094	9185	6279	57	30	87	3153	3217	6371
barley	..	..	..	..	..	..	1199	1266	2465	21	17	38	1220	1283	2503
total	5898	6331	12229	5252	4757	10009	5563	3884	11447	564	493	1057	17277	17465	34742

3.3 Estimates of production and gross area.—As has been mentioned in Chapter I (and explained in detail in Appendix), land utilisation survey was conducted in 4 sub-samples, while crop-cutting experiments were planned only in sub-samples 1 and 2. The villages of sub-samples 1 and 3 were surveyed by one party of investigators and those of sub-samples 2 and 4 by another party. The total sample made up of sub-samples 1 and 3 is designated as half-sample 1 and sub-samples 2 and 4 as half-sample 2. The production estimate for half-sample 1 have been obtained on the basis of the area estimates built up from sub-samples 1 and 3 and the yield rate from sub-sample 1. Similarly production figures for half-sample 2 are based on area estimates from sub-samples



2 and 4 and yield rate from sub-sample 2. The estimated production of each of the seven major cereal crops in rice, jowar, bajra, ragi, maize, wheat and barley for all India for the year 1964-65 are given below in Table (3.3).

TABLE (3.3) *Estimated production in thousand tonnes of the major cereal crops, 1964-65*

ALL-INDIA			
crop	half-sample 1 (sub-samples 1 and 3 combined)	half-sample 2 (sub-samples 2 and 4 combined)	combined
(1)	(2)	(3)	(4)
rice . . . . .	39940	37888	38913
jowar . . . . .	11401	11305	11355
bajra . . . . .	3804	4739	4270
ragi . . . . .	2070	1941	2005
maize . . . . .	4820	6066	5444
wheat . . . . .	14683	15302	14992
barley . . . . .	3242	2751	2998
total . . . . .	79960	79932	79977

The production figures for rice relate to clean rice. The factor 0.662 has been used to convert yield of dry paddy to that of clean rice.

TABLE (3.4) *Estimates of gross area (000 acres) under each cereal crop 1964-65*

ALL-INDIA								
crop	estimated gross area (000 acres)						s. s. 1 to 4 combined	gross area (000 hectares s. s. 1-4 combined)
	sub-sample 1	sub-sample 3	half-sample 1 (s. s. 1 and 3 combined)	sub-sample 2	sub-sample 4	half-sample 2 (s. s. 2 and 4 combined)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
paddy	90818	94299	92566	86725	87560	87162	89865	36368
jowar	54589	54340	54463	49888	51747	50823	52642	21304
bajra	35296	32797	34048	33656	34268	33958	34002	13761
ragi	6417	7512	6961	6081	6398	6237	6397	2670
maize	11674	12369	12018	13473	14491	13982	12999	5261
wheat	42528	45057	43791	43473	44277	44873	44332	17941
barley	10361	11248	10906	10258	10603	10426	10666	4317
total of seven crops	251883	257622	254753	245554	249344	247461	251103	101622
small millets	10553	10023	10287	12991	11431	12223	11265	4559
total	262436	267645	263040	258543	260775	259684	262368	10618

3.4 *Composition of gross area.*—The total gross area under a crop is the total of the area under the crop grown pure and the total area under all mixed crops having the crop as a component. Table (3.5) gives the contribution of pure and mixed crop to the total gross area under a crop, that is, the composition of the total gross area under a crop.

TABLE (3.5) *Composition of gross area under major cereal crops, 1964-65*

crop	estimated gross area (000 acres)	percentage area under		
		pure crop	mixed crop	total
(1)	(2)	(3)	(4)	(5)
paddy	89865	95.82	4.18	100.00
jowar	52642	23.82	76.18	100.00
bajra	34002	22.25	77.75	100.00
ragi	6397	39.08	60.92	100.00
maize	12999	45.93	54.07	100.00
wheat	44332	34.63	65.37	100.00
barley	10666	12.83	87.13	100.00
small millets	11265	54.85	45.15	100.00
	262368	49.04	50.96	100.00

3.5 Comparison of NSS crop estimates for 1964-65 and 1963-64.—The all-India estimates of production and gross area under crops for 1964-65 and 1963-64 (the latter obtained from 18th round NSS) are given below :—

TABLE (3.6) NSS estimates of production and gross area under cereal crops for the years 1964-65 and 1963-64

ALL-INDIA									
crop	production (000 tonnes)			gross area (000 acres)			gross yield rate (k. grams/acre)		
	1963-64	1964-65	% difference*	1963-64	1964-65	% difference*	1963-64	1964-65	% difference*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
rice . . . . .	38454	38913	1.2	92276	89865	-2.6	417	433	3.8
jowar . . . . .	10128	11355	12.1	50413	52642	4.4	201	216	7.5
bajra . . . . .	4027	4270	6.0	30188	34002	12.6	133	126	-5.3
ragi . . . . .	1890	2005	6.1	7158	6597	-7.8	264	304	15.2
maize . . . . .	5739	5444	-5.1	13564	12999	-4.2	423	419	-0.9
wheat . . . . .	10884	14992	37.7	40764	44332	8.8	267	338	26.1
barley . . . . .	2280	2998	31.5	11258	10666	-5.3	203	281	38.0
total . . . . .	73402	79977	9.0	245621	251103	2.2	X	X	X

\*gives the difference between the 1964-65 and 1963-64 figures expressed as a percentage of the 1963-64 figure.

Note : Since area under small millets was not estimated in 1963-64, the crop is not included in the table.

3.6 Comparison of NSS and official estimates of production.—Table (3.7) below gives the all-India production figures for the two years 1964-65 and 1963-64 from the NSS and official series.

TABLE (3.7) NSS estimates and official figures of production of major cereal crops for 1963-64 and 1964-65

ALL-INDIA						
crop	NSS estimates (000 tonnes)			official figures* (000 tonnes)		
	1963-64	1964-65	% difference col. 3—col. 2 $\frac{\text{col. 3—col. 2}}{\text{col. 2}} \times 100$	1963-64	1964-65	% difference col. 6—col. 5 $\frac{\text{col. 6—col. 5}}{\text{col. 5}} \times 100$
(1)	(2)	(3)	(4)	(5)	(6)	(7)
rice . . . . .	38454	38913	+1.2	36889	39034	+5.9
jowar . . . . .	10128	11355	+12.1	9135	9749	+6.7
bajra . . . . .	4027	4270	+6.0	3734	4454	+19.3
ragi . . . . .	1890	2005	+6.1	1962	1898	-3.3
maize . . . . .	5739	5444	-5.1	4553	4658	+2.3
wheat . . . . .	10884	14992	+37.7	9861	12290	+24.6
barley . . . . .	2280	2998	+31.5	2037	2523	+23.9
total . . . . .	73402	79977	+9.0	68171	74606	+9.4

\*Partially revised figures ; source : Agricultural Situation in India.

## CHAPTER 4

### STATISTICAL TABLES

4.1 Some statistical tables relating to the survey are given in this chapter. The number of sample villages planned and number surveyed for land utilisation survey and for crop-cutting experiments are given for each state and season. The number of crop-cutting experiments conducted on each crop separately for pure and mixed crop are given by states and seasons. Table (11) gives the all-India estimates of area and production for each season by sub-samples. The estimates of production and area at the state level are given in table (12) for some selected crops and states. Tables (13) to (19) give the unweighted yield rate of the seven crops under pure and mixed categories. The yield rates of crops separately for irrigated and non-irrigated crop are given in tables (20) to (26).

4.2 It may be mentioned that the total number of cuts on which the yield rates given in tables (13) to (26) are based does not tally with the total number of cuts on which the production estimates are based and which are given in the earlier tables. This is due to (1) data on irrigation particulars were not available in a few cases and hence they were excluded for calculation of unweighted yield rates and (2) a few schedules received late from the field, which were not included for estimating production of crops were subsequently included for calculation of unweighted yield rates.

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TABLE (1) : Number of sample villages planned and number surveyed for land utilisation survey in each season and state

state	no. of sample villages planned per sub-sample and season	autumn					winter					spring					summer				
		ss. 1	ss. 2	ss. 3	ss. 4	total	ss. 1	ss. 2	ss. 3	ss. 4	total	ss. 1	ss. 2	ss. 3	ss. 4	total	ss. 1	ss. 2	ss. 3	ss. 4	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Rajasthan . . . . .	96	95	96	96	95	382	93	94	96	95	378	96	96	93	96	381	94	96	92	96	378
Jammu & Kashmir . . . . .	90	88	90	89	90	357	89	90	87	90	356	88	87	84	88	347	88	90	88	88	354
Punjab . . . . .	90	89	86	89	88	252	86	90	89	90	355	85	84	89	88	346	88	88	89	90	355
Delhi . . . . .	6	1	6	2	6	15	6	6	6	6	24	6	6	5	6	23	6	6	6	6	24
Himachal Pradesh . . . . .	6	6	6	5	5	22	6	6	5	6	23	3	6	5	6	20	6	6	6	6	24
Uttar Pradesh . . . . .	264	264	261	262	264	1051	261	262	262	262	1047	253	261	241	262	1017	252	252	264	249	1017
Madhya Pradesh . . . . .	180	177	176	178	179	710	175	169	179	165	688	171	175	177	175	698	166	180	177	179	702
Bihar . . . . .	192	191	189	190	192	762	191	191	191	192	765	186	190	187	192	755	189	191	191	191	762
Orissa . . . . .	90	76	72	73	65	286	84	88	84	87	343	86	87	89	89	351	90	87	88	88	353
West Bengal . . . . .	138	137	138	137	137	549	136	134	137	136	543	117	129	115	134	495	130	128	128	133	519
Assam . . . . .	90	85	87	85	85	342	86	85	84	83	338	75	76	74	76	301	87	87	87	87	348
Manipur . . . . .	48	42	48	46	47	183	42	48	41	47	178	44	44	45	45	178	47	47	47	46	187
Tripura . . . . .	48	29	29	15	14	87	42	44	45	45	176	42	40	45	42	169	43	40	44	42	169
Andhra Pradesh . . . . .	168	168	167	168	165	668	167	168	168	165	668	146	149	147	149	591	157	135	168	141	601
Madras . . . . .	156	153	156	152	156	617	154	156	155	156	621	154	156	154	156	620	156	156	156	156	624
Kerala . . . . .	90	90	90	90	90	360	89	90	89	90	358	88	89	88	88	353	86	90	89	90	355
Gujarat . . . . .	90	89	90	89	90	358	90	90	84	89	353	88	90	90	90	358	82	90	87	85	344
Maharashtra . . . . .	174	173	171	172	169	685	171	132	174	143	620	169	174	171	173	687	169	165	170	164	668
Mysore . . . . .	102	101	102	101	102	406	102	102	101	101	406	97	102	100	102	401	101	102	102	102	407
All India . . . . .	2118	2054	2060	2039	2039	8192	2070	2045	2077	2048	8240	1994	2041	1999	2057	8091	2037	2036	2079	2039	8191

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NATIONAL SAMPLE SURVEY, 19th ROUND : JULY 1964—JUNE 1965

TABLE (2) : Number of sample villages planned and number surveyed for crop-cutting experiments for each season by states

state	no. of sample villages planned per sub-sample and season	autumn			winter			spring			summer		
		m.1	m.2	total	m.1	m.2	total	m.1	m.2	total	m.1	m.2	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Rajasthan	48	48	48	96	47	46	93	48	44	92	47	48	95
Jammu & Kashmir	45	45	45	90	45	45	90	45	43	88	45	32	77
Punjab	45	45	42	87	43	45	88	40	42	82	43	44	87
Delhi	3	..	3	3	3	3	6	3	3	6	3	3	6
Himachal Pradesh	3	3	3	6	3	3	6	2	5	5	3	3	6
Uttar Pradesh	132	132	131	263	130	130	260	128	130	258	125	105	230
Madhya Pradesh	90	87	86	173	88	65	153	87	87	174	86	79	165
Bihar	96	96	85	181	96	96	192	93	93	186	94	96	190
Orissa	45	41	41	82	44	41	85	44	42	86	45	43	88
West Bengal	69	69	59	128	68	66	134	61	61	122	65	63	128
Assam	45	44	33	77	43	42	85	39	41	80	44	39	83
Manipur	24	19	24	43	21	22	43	22	20	42	24	23	47
Tripura	24	20	18	38	20	23	43	21	21	42	22	20	42
Andhra Pradesh	84	84	82	166	83	82	165	74	74	148	81	54	135
Madras	78	77	78	155	76	78	154	77	78	155	78	77	155
Kerala	45	45	45	90	45	45	90	45	42	87	43	39	82
Gujarat	45	45	45	90	45	42	87	45	45	90	43	44	87
Maharashtra	87	87	85	172	86	78	164	85	87	172	84	85	169
Mysore	51	50	51	101	51	46	97	48	51	99	50	34	84
total	1959	1957	1904	2041	1937	998	2035	1007	1007	2014	1021	951	1952



NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (3.1) : Number of crop-cutting experiments conducted on paddy grown pure and mixed by seasons and states (sub-sample 1)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Kajasthan	8	3	11	..	..	..	..	..	..	..	..	..	8	3	11
Jammu & Kashmir	146	—	146	..	..	..	..	..	..	..	..	..	146	..	146
Punjab	55	1	56	..	..	..	..	..	..	..	..	..	..	..	..
Delhi	..	—	..	..	..	..	..	..	..	..	..	..	6	..	6
Himachal Pradesh	6	—	6	..	..	..	..	..	..	..	..	..	609	83	792
Uttar Pradesh	364	72	436	305	11	316	..	..	..	..	..	..	349	7	356
Madhya Pradesh	172	7	179	177	—	177	..	..	..	..	..	..	556	56	612
Bihar	94	2	96	462	54	516	—	..	..	..	..	..	299	6	305
Orissa	89	6	95	230	—	230	..	..	..	..	..	..	448	6	454
West Bengal	99	6	105	349	..	349	..	..	..	..	..	..	218	..	218
Assam	16	..	16	202	—	202	..	..	..	..	..	..	126	..	126
Manipur	6	—	6	120	—	120	..	..	..	..	..	..	147	11	158
Tripura	61	11	72	75	..	75	6	—	6	5	..	5	629	10	639
Andhra Pradesh	79	10	89	343	—	343	120	—	120	87	..	87	727	2	729
Madras	160	—	160	209	2	211	278	—	278	69	..	69	502	16	518
Kerala	209	12	221	218	4	222	69	—	69	12	..	12	67	26	93
Gujarat	61	26	87	6	..	6	..	..	..	..	..	..	229	36	265
Maharashtra	175	36	211	54	..	54	..	..	..	..	..	..	163	4	167
Mysore	33	..	33	75	2	77	23	2	25	32	..	32	..	..	..
All India	1807	192	1999	2025	73	2098	496	2	498	226	..	226	5344	267	5611

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (3.2) : Number of crop-cutting experiments conducted on paddy grown pure and mixed by seasons and states (sub-sample 2)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	6	..	6	..	..	..	..	..	..	..	..	..	6	..	6
Jammu & Kashmir	106	..	106	..	..	..	..	..	..	..	..	..	106	..	106
Punjab	70	..	70	..	..	..	..	..	..	..	..	..	70	..	70
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	5	..	5	..	..	..	..	..	..	..	..	..	5	..	5
Uttar Pradesh	358	53	411	277	5	282	..	..	..	..	..	..	635	58	693
Madhya Pradesh	192	20	212	169	..	169	..	..	..	..	..	..	361	20	381
Bihar	59	12	62	443	44	487	..	..	..	..	..	..	495	56	549
Orissa	77	1	78	210	..	210	12	..	12	..	..	..	299	1	300
West Bengal	91	8	99	334	1	335	..	..	..	..	..	..	425	9	434
Assam	38	..	38	199	..	199	..	..	..	..	..	..	237	..	237
Manipur	28	4	32	102	..	102	..	..	..	..	..	..	130	4	134
Tripura	53	16	69	99	..	99	..	..	..	3	..	3	155	16	171
Andhra Pradesh	60	17	77	359	..	359	135	..	135	60	..	60	614	17	631
Madras	182	..	182	210	5	215	271	5	276	102	..	102	765	10	775
Kerala	216	7	233	220	..	220	50	..	50	12	..	12	498	7	505
Gujarat	58	21	79	18	..	18	..	..	..	..	..	..	76	21	97
Maharashtra	211	16	227	49	..	49	..	..	..	..	..	..	260	16	276
Mysore	38	3	41	98	2	100	38	..	38	21	..	21	195	5	200
All India	1839	178	2017	2787	57	2844	506	5	511	198	..	198	5330	240	5570

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (3.3) : Number of crop-cutting experiments conducted on paddy grown pure and mixed by seasons and states (sub-samples 1 and 2 combined)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	14	3	17	..	..	..	..	..	..	..	..	..	14	3	17
Jammu & Kashmir	252	..	252	..	..	..	..	..	..	..	..	..	252	..	252
Punjab	125	1	126	..	..	..	..	..	..	..	..	..	125	1	126
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	11	..	11	..	..	..	..	..	..	..	..	..	11	..	11
Uttar Pradesh	722	125	847	582	16	598	..	..	..	..	..	..	1304	141	1445
Madhya Pradesh	364	27	391	346	..	346	..	..	..	..	..	..	710	27	737
Bihar	144	14	158	905	98	1003	..	..	..	..	..	..	1049	112	1161
Orissa	146	7	153	440	..	440	12	..	12	..	..	..	596	7	605
West Bengal	190	14	204	683	1	684	..	..	..	..	..	..	873	15	888
Assam	54	..	54	401	..	401	..	..	..	..	..	..	455	..	455
Manipur	34	4	38	222	..	222	..	..	..	..	..	..	256	4	260
Tripura	114	27	141	174	..	174	6	..	6	8	..	8	302	27	329
Andhra Pradesh	159	27	166	702	..	702	255	..	255	147	..	147	1243	27	1270
Madras	342	..	342	419	7	426	549	5	554	182	..	182	1492	12	1504
Kerala	419	19	438	438	4	442	119	..	119	24	..	24	1000	23	1023
Gujarat	119	47	166	24	..	24	..	..	..	..	..	..	143	47	190
Maharashtra	386	52	438	103	..	103	..	..	..	..	..	..	489	52	541
Mysore	71	3	74	173	4	177	61	2	63	53	..	53	358	9	367
All India	3646	370	4016	5612	130	5742	1002	7	1009	414	..	414	10674	507	11181

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (4.1) : Number of crop-cutting experiments conducted on jowar grown pure and mixed by seasons and states (sub-sample 1)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	14	26	40	24	118	142	..	..	..	..	..	..	38	144	182
Jammu & Kashmir	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Punjab	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	..	..	..	2	350	352	..	..	..	..	..	..	2	350	352
Madhya Pradesh	4	14	18	8	300	308	..	..	..	..	..	..	12	394	406
Bihar	..	..	..	14	2	16	..	..	..	..	..	..	14	2	16
Orissa	..	..	..	12	2	14	..	..	..	..	..	..	12	2	14
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	46	120	166	62	50	112	78	24	102	4	..	4	190	194	384
Karnataka	34	14	48	16	144	160	18	6	24	158	..	158	226	164	390
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	14	8	22	30	44	74	32	2	34	..	..	..	76	54	130
Maharashtra	2	10	12	48	422	470	136	186	322	..	..	..	186	618	804
Mysore	8	12	20	6	172	178	52	85	137	..	..	..	66	269	335
All India	122	204	326	222	1694	1906	316	303	619	162	..	162	822	2191	3013

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (4.2) : Number of crop-cutting experiments conducted on jowar grown pure and mixed by seasons and states (sub-sample 2)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	..	26	26	6	80	86	..	..	..	..	..	..	6	106	112
Jammu & Kashmir	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Punjab	16	..	16	..	..	..	..	..	..	..	..	..	16	..	16
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	..	..	..	2	340	342	..	..	..	..	..	..	2	340	342
Madhya Pradesh	..	11	11	18	258	276	..	..	..	..	..	..	18	269	287
Bihar	..	..	..	16	2	18	..	..	..	..	..	..	16	2	18
Orissa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	50	118	168	88	50	138	32	60	92	..	..	..	170	228	398
Madras	18	10	28	44	130	174	48	8	56	100	18	118	210	166	376
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	10	22	32	22	16	38	28	2	30	2	..	2	62	40	102
Maharashtra	..	6	6	10	222	232	148	184	332	..	..	..	158	412	570
Mysore	20	46	66	6	138	144	58	100	158	..	..	..	84	284	368
All India	114	249	353	212	1236	1448	314	354	668	102	18	120	742	1857	2589

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (4.5) : Number of crop-cutting experiments conducted on jowar grown pure and mixed by seasons and states (sub-samples 1 and 2 combined)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	14	52	66	30	198	228	..	..	..	..	..	..	44	250	294
Jammu & Kashmir	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Punjab	16	..	16	..	..	..	..	..	..	..	..	..	16	..	16
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	..	..	..	4	690	694	..	..	..	..	..	..	4	690	694
Madhya Pradesh	4	25	29	26	638	664	..	..	..	..	..	..	30	668	698
Bihar	..	..	..	30	4	34	..	..	..	..	..	..	30	4	34
Orissa	..	..	..	12	2	14	..	..	..	..	..	..	12	2	14
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	96	238	334	150	100	250	110	84	194	4	..	4	360	422	782
Madras	52	24	76	60	274	334	65	14	80	258	18	276	436	330	766
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	24	30	54	52	60	112	60	4	64	2	..	2	138	94	232
Maharashtra	2	16	18	58	644	702	284	370	654	..	..	..	344	1030	1374
Mysore	28	58	86	12	310	322	110	185	295	..	..	..	150	553	703
All India	296	443	679	434	2920	3354	680	657	1287	264	18	282	1564	4038	5602



NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (5.1) : Number of crop-cutting experiments conducted on bajra grown pure and mixed by seasons and states (sub-sample 1)

(1)	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	96	222	318	..	10	10	..	..	..	..	..	..	96	232	328
Jammu & Kashmir	18	8	26	..	..	..	..	..	..	..	..	..	18	8	26
Punjab	72	34	106	..	..	..	..	..	..	..	..	..	72	34	106
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	6	180	186	4	84	88	..	..	..	..	..	..	10	264	274
Madhya Pradesh	6	16	22	..	..	..	..	..	..	..	..	..	6	16	22
Bihar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Orissa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	120	102	222	..	10	10	..	..	..	..	..	..	120	112	232
Madras	97	86	183	16	36	52	6	..	6	6	..	6	125	122	247
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	92	143	235	..	..	..	..	..	..	52	..	52	144	143	287
Maharashtra	94	214	308	10	26	36	..	..	..	..	..	..	104	240	344
Mysore	8	40	48	4	49	53	..	..	..	..	..	..	12	89	101
All India	609	1045	1654	34	215	249	6	..	6	58	..	58	707	1260	1967

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (5.2) : Number of crop-cutting experiments conducted on bajra grown pure and mixed by seasons and states (sub-sample 2)

state (1)	autumn			winter			spring			summer			all seasons		
	pure (2)	mixed (3)	total (4)	pure (5)	mixed (6)	total (7)	pure (8)	mixed (9)	total (10)	pure (11)	mixed (12)	total (13)	pure (14)	mixed (15)	total (16)
Rajasthan	44	284	328	..	..	..	..	..	..	..	..	..	44	284	328
Jammu & Kashmir	4	16	20	..	..	..	..	..	..	..	..	..	4	16	20
Punjab	50	82	132	..	..	..	..	..	..	..	..	..	50	82	132
Delhi	12	..	12	..	..	..	..	..	..	..	..	..	12	..	12
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	14	153	167	..	110	110	..	..	..	..	..	..	..	..	..
Madhya Pradesh	2	50	52	..	2	2	..	..	..	..	..	..	..	..	..
Bihar	..	..	..	..	..	..	..	..	..	..	..	..	14	263	277
Orissa	..	..	..	..	..	..	..	..	..	..	..	..	2	52	54
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras	128	116	244	..	..	..	..	..	..	..	..	..	..	..	..
Kerala	78	76	154	14	59	73	4	2	6	6	..	..	128	116	244
Gujarat	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Maharashtra	78	162	240	..	..	..	..	..	..	..	..	..	..	..	..
Mysore	80	240	320	..	..	..	..	..	..	..	..	..	..	..	..
	2	12	14	2	36	38	..	..	..	..	..	..	..	..	..
All India	492	1191	1683	16	207	223	4	2	6	54	..	..	4	48	52
											54	566	1400	1966	

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (5.3) : Number of crop-cutting experiments conducted on bajra grown pure and mixed by seasons and states (sub-samples 1 and 2 combined)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	140	506	646	...	10	10	..	..	..	..	..	..	140	516	656
Jammu & Kashmir	22	24	46	..	..	..	..	..	..	..	..	..	22	24	46
Punjab	122	116	238	..	..	..	..	..	..	..	..	..	122	116	238
Delhi	12	..	12	..	..	..	..	..	..	..	..	..	12	..	12
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	20	393	353	4	194	198	..	..	..	..	..	..	24	527	551
Madhya Pradesh	8	66	74	..	2	2	..	..	..	..	..	..	8	68	76
Bihar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Orissa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	248	218	466	..	10	10	..	..	..	..	..	..	248	228	476
Madras	175	162	337	30	95	125	10	2	12	12	..	12	227	259	486
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	170	305	475	..	..	..	..	..	..	100	..	100	270	305	575
Maharashtra	174	454	628	10	26	36	..	..	..	..	..	..	184	480	664
Myanor	10	52	62	6	85	91	..	..	..	..	..	..	16	197	213
All India	1101	2236	3337	50	422	472	10	2	12	112	..	112	1273	2660	3933

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (6.1) : Number of crop-cutting experiments conducted on ragi grown pure and mixed by seasons and states (sub-sample 1)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu & Kashmir	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Punjab	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	2	35	37	..	..	..	..	..	..	..	..	..	2	35	37
Madhya Pradesh	..	..	..	..	1	1	..	..	..	..	..	..	..	1	1
Bihar	44	6	50	..	..	..	..	..	..	..	..	..	44	6	50
Orissa	26	7	33	20	2	22	..	..	..	..	..	..	46	9	55
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	57	6	63	..	15	15	28	13	41	3	..	3	88	34	122
Madras	77	3	80	9	16	25	91	1	92	27	1	28	204	21	225
Kerala	..	1	1	..	..	..	..	..	..	..	..	..	..	..	1
Gujarat	1	1	2	..	..	..	..	..	..	..	..	..	1	1	2
Maharashtra	1	6	7	10	..	10	..	..	..	..	..	..	11	6	17
Mysore	1	17	18	24	100	124	..	..	..	5	..	5	30	117	147
All India	209	82	291	68	134	197	119	14	133	35	1	36	426	231	657

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (6.2) : Number of crop-cutting experiments conducted on ragi grown pure and mixed by seasons and states (sub-sample 2)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu & Kashmir	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Punjab	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	9	56	65	..	..	..	..	..	..	..	..	..	9	56	65
Madhya Pradesh	..	..	..	8	..	8	..	..	..	..	..	..	8	..	8
Bihar	96	36	132	4	..	4	..	..	..	..	..	..	100	36	136
Orissa	46	2	48	14	..	14	..	2	2	..	..	..	60	4	64
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	98	4	102	4	8	12	90	2	92	..	..	..	192	14	206
Madras	93	12	105	6	32	38	116	2	118	36	2	38	251	48	299
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	2	..	2	24	..	24	..	..	..	..	..	..	26	..	26
Maharashtra	2	..	2	26	4	30	..	..	..	..	..	..	28	4	32
Mysore	30	24	54	8	102	110	..	..	..	12	..	12	50	126	176
All India	376	194	570	94	146	240	206	6	212	48	2	50	724	288	1012

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (6.3) : Number of crop-cutting experiments conducted on ragi grown pure and mixed by seasons and states (sub-samples 1 and 2 combined)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu & Kashmir	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Punjab	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	11	91	102	..	..	..	..	..	..	..	..	..	11	91	102
Madhya Pradesh	..	..	..	8	1	9	..	..	..	..	..	..	8	1	9
Bihar	140	42	182	4	..	4	..	..	..	..	..	..	144	42	186
Orissa	72	9	81	34	2	36	..	2	2	..	..	..	106	13	119
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	155	10	165	4	23	27	118	15	133	3	..	3	280	48	328
Madras	170	15	185	15	48	63	207	3	210	63	3	66	455	69	524
Kerala	..	1	1	..	..	..	..	..	..	..	..	..	..	1	1
Gujarat	3	1	4	24	..	24	..	..	..	..	..	..	27	1	28
Maharashtra	3	6	9	36	4	40	..	..	..	..	..	..	39	10	49
Mysore	31	41	72	32	202	234	..	..	..	17	..	17	80	243	323
All India	385	216	601	157	280	437	325	20	345	83	3	86	1150	519	1669



NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (7.1) : Number of crop-cutting experiments conducted on maize grown pure and mixed by seasons and states (sub-sample 1)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan . . . . .	24	134	158	..	..	..	..	..	..	..	10	10	24	144	168
Jammu & Kashmir . . . . .	176	22	198	..	..	..	..	..	..	..	..	..	176	22	198
Punjab . . . . .	168	4	172	..	..	..	..	..	..	..	..	..	168	4	172
Delhi . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh . . . . .	14	10	24	..	..	..	..	..	..	..	..	..	14	10	24
Uttar Pradesh . . . . .	20	270	290	..	..	..	..	..	..	..	..	..	20	270	290
Madhya Pradesh . . . . .	62	146	208	..	..	..	..	..	..	..	..	..	62	146	208
Bihar . . . . .	132	268	400	..	..	..	..	..	..	..	..	..	132	268	400
Orissa . . . . .	24	8	32	..	..	..	..	..	..	..	..	..	24	8	32
West Bengal . . . . .	10	..	10	..	..	..	..	..	..	..	..	..	10	..	10
Assam . . . . .	2	..	2	..	..	..	..	..	..	..	..	..	2	..	2
Manipur . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh . . . . .	40	38	78	..	..	..	10	..	10	..	..	..	50	38	88
Madras . . . . .	4	..	4	..	..	..	..	..	..	4	..	4	8	..	8
Kerala . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat . . . . .	14	24	38	..	..	..	2	..	2	2	..	..	16	24	40
Maharashtra . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mysore . . . . .	2	12	14	..	..	..	..	2	2	..	..	..	2	14	16
All India . . . . .	692	936	1,628	..	..	..	12	2	14	6	10	14	708	948	1,656

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (7.2) : Number of crop-cutting experiments conducted on maize grown pure and mixed by seasons and states (sub-sample 2)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan . . . . .	18	143	161	..	..	..	..	..	..	..	..	..	18	143	161
Jammu & Kashmir . . . . .	228	68	296	..	..	..	..	..	..	..	..	..	228	68	296
Punjab . . . . .	142	16	158	..	..	..	..	..	..	..	..	..	142	16	158
Delhi . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh . . . . .	18	4	22	..	..	..	..	..	..	..	..	..	18	4	22
Uttar Pradesh . . . . .	30	296	326	..	..	..	..	..	..	..	..	..	30	296	326
Madhya Pradesh . . . . .	86	204	290	..	..	..	..	..	..	..	..	..	86	204	290
Bihar . . . . .	96	196	292	..	..	..	..	..	..	12	12	24	108	208	316
Orissa . . . . .	36	2	38	..	..	..	..	..	..	..	..	..	36	2	38
West Bengal . . . . .	2	6	8	..	..	..	..	..	..	..	..	..	2	6	8
Assam . . . . .	12	..	12	..	..	..	..	..	..	..	..	..	12	..	12
Manipur . . . . .	24	..	24	..	..	..	..	..	..	..	..	..	24	..	24
Tripura . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh . . . . .	40	44	84	..	..	..	22	14	36	..	..	..	62	58	120
Madras . . . . .	..	12	12	..	..	..	..	..	..	..	..	..	..	12	12
Kerala . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat . . . . .	26	12	38	..	..	..	..	..	..	..	..	..	26	12	38
Maharashtra . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mysore . . . . .	..	6	6	..	..	..	..	..	..	..	..	..	..	6	6
All India . . . . .	758	1,009	1,767	..	..	..	22	14	36	12	12	24	792	1,035	1,827

NATIONAL SAMPLE SURVEY, 19TH ROUND : July 1964—JUNE 1965

TABLE (7.3) : Number of crop-cutting experiments conducted on maize grown pure and mixed by seasons and states (sub-samples 1 and 2 combined)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	42	277	319	..	..	..	..	..	..	..	10	10	42	287	329
Jammu & Kashmir	404	90	494	..	..	..	..	..	..	..	..	..	404	90	494
Punjab	310	20	330	..	..	..	..	..	..	..	..	..	310	20	330
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	32	14	46	..	..	..	..	..	..	..	..	..	32	14	46
Uttar Pradesh	50	566	616	..	..	..	..	..	..	..	..	..	50	566	616
Madhya Pradesh	148	350	498	..	..	..	..	..	..	..	..	..	148	350	498
Bihar	228	464	692	..	..	..	..	..	..	12	12	24	240	476	716
Orissa	60	10	70	..	..	..	..	..	..	..	..	..	60	10	70
West Bengal	12	6	18	..	..	..	..	..	..	..	..	..	12	6	18
Assam	14	..	14	..	..	..	..	..	..	..	..	..	14	..	14
Manipur	24	..	24	..	..	..	..	..	..	..	..	..	24	..	24
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	80	82	162	..	..	..	32	14	46	..	..	..	112	96	208
Madras	4	12	16	..	..	..	..	..	..	4	..	4	8	12	20
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	40	36	76	..	..	..	2	..	2	..	..	..	42	36	78
Maharashtra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mysore	2	18	20	..	..	..	..	2	2	..	..	..	2	20	22
All India	1,450	1,945	3,395				34	16	50	16	22	38	1,500	1,983	3,483

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (8.1) : Number of crop-cutting experiments conducted on wheat grown pure and mixed by seasons and states (sub-sample 1)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	..	..	..	..	..	..	62	248	310	..	..	..	62	248	310
Jammu & Kashmir	..	..	..	..	..	..	60	34	94	24	..	24	84	34	118
Punjab	..	..	..	..	..	..	143	176	319	..	..	..	143	176	319
Delhi	..	..	..	..	..	..	2	14	16	..	..	..	2	14	16
Himachal Pradesh	..	..	..	..	..	..	2	..	2	..	..	..	2	..	2
Uttar Pradesh	..	..	..	..	..	..	53	1,051	1,104	11	22	33	64	1,073	1,137
Madhya Pradesh	..	..	..	..	..	..	136	265	401	..	..	..	136	265	401
Bihar	..	..	..	..	..	..	47	338	385	..	..	..	47	338	385
Orissa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Bengal	..	..	..	..	..	..	11	20	31	..	..	..	11	20	31
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	..	..	..	..	2	2	3	4	7	..	..	..	3	6	9
Madras	..	..	..	..	..	..	6	..	6	..	..	..	6	..	6
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	..	..	..	..	..	..	118	12	130	..	..	..	118	12	130
Maharashtra	..	..	..	..	..	..	128	116	244	..	..	..	128	116	244
Mysore	..	..	..	..	..	..	5	40	45	..	..	..	5	40	45
All India	..	..	..	..	2	2	776	2,318	3,094	35	22	57	811	2,342	3,153

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (B.2) : Number of crop-cutting experiments conducted on wheat grown pure and mixed by seasons and states (sub-sample 2)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	..	..	..	..	..	..	54	222	276	..	..	..	54	222	276
Jammu & Kashmir	..	..	..	..	..	..	78	12	90	22	..	22	100	12	112
Punjab	..	..	..	..	..	..	122	203	325	..	..	..	122	203	325
Delhi	..	..	..	..	..	..	9	8	17	..	..	..	9	8	17
Himachal Pradesh	..	..	..	..	..	..	15	2	17	..	..	..	15	2	17
Uttar Pradesh	..	..	..	..	..	..	37	1,047	1,084	..	8	8	37	1,055	1,092
Madhya Pradesh	..	..	..	..	..	..	136	359	495	..	..	..	136	359	495
Bihar	..	..	..	..	..	..	58	348	406	..	..	..	58	348	406
Orissa	..	..	..	..	..	..	2	4	6	..	..	..	2	4	6
West Bengal	..	..	..	..	..	..	2	18	20	..	..	..	2	18	20
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	..	..	..	..	..	..	8	6	14	..	..	..	8	6	14
Madras	..	..	..	..	..	..	2	..	2	..	..	..	2	..	2
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	..	..	..	..	..	..	124	34	158	..	..	..	124	34	158
Maharashtra	..	..	..	..	..	..	161	82	243	..	..	..	161	82	243
Mysore	..	..	..	..	2	2	4	28	32	..	..	..	4	30	34
All India	..	..	..	..	2	2	812	2,373	3,185	22	8	30	834	2383	3,217

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964--JUNE 1965

TABLE (8.3) : Number of crop-cutting experiments conducted on wheat grown pure and mixed by seasons and states (sub-samples 1 and 2 combined)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	..	..	..	..	..	..	116	470	586	..	..	..	116	470	586
Jammu & Kashmir	..	..	..	..	..	..	138	46	184	46	..	46	184	46	230
Punjab	..	..	..	..	..	..	256	379	644	..	..	..	265	379	644
Delhi	..	..	..	..	..	..	11	22	33	..	..	..	11	22	33
Himachal Pradesh	..	..	..	..	..	..	17	2	19	..	..	..	17	2	19
Uttar Pradesh	..	..	..	..	..	..	93	2,098	2,188	11	30	41	101	2,128	2,229
Madhya Pradesh	..	..	..	..	..	..	272	624	896	..	..	..	272	624	896
Bihar	..	..	..	..	..	..	105	686	791	..	..	..	105	686	791
Orissa	..	..	..	..	..	..	2	4	6	..	..	..	2	4	6
West Bengal	..	..	..	..	..	..	13	38	51	..	..	..	13	38	51
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	..	..	..	..	2	2	11	10	21	..	..	..	11	12	23
Madras	..	..	..	..	..	..	8	..	8	..	..	..	8	..	8
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	..	..	..	..	..	..	242	46	288	..	..	..	242	46	288
Maharashtra	..	..	..	..	..	..	209	198	487	..	..	..	289	198	487
Mysore	1	..	1	..	2	2	9	68	77	..	..	..	9	70	79
All India	1	..	1	..	4	4	1,588	4,691	6,279	57	30	87	1,645	4,725	6,370



NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (9.1) : Number of crop-cutting experiments conducted on barley grown pure and mixed by seasons and states (sub-sample 1)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan . . . . .	..	..	..	..	..	..	13	180	193	..	..	..	13	180	193
Jammu & Kashmir . . . . .	..	..	..	..	..	..	..	2	2	9	..	9	9	2	11
Punjab . . . . .	..	..	..	..	..	..	8	2	10	..	..	..	8	2	10
Delhi . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh . . . . .	..	..	..	..	..	..	23	614	637	..	12	12	23	626	649
Madhya Pradesh . . . . .	..	..	..	..	..	..	9	32	41	..	..	..	9	32	41
Bihar . . . . .	..	..	..	..	..	..	26	256	282	..	..	..	26	256	282
Orissa . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Bengal . . . . .	..	..	..	..	..	..	6	22	28	..	..	..	6	22	28
Assam . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kerala . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat . . . . .	..	..	..	..	..	..	3	..	3	..	..	..	3	..	3
Maharashtra . . . . .	..	..	..	..	..	..	3	..	3	..	..	..	3	..	3
Mysore . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
All India . . . . .	..	..	..	..	..	..	91	1,108	1,199	9	12	21	100	1,120	1,220



NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (9.2) : Number of crop-cutting experiments conducted on barley grown pure and mixed by seasons and states (sub-sample 2)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	..	..	..	..	..	..	6	148	154	..	..	..	6	148	154
Jammu & Kashmir	..	..	..	..	..	..	1	..	1	14	..	14	15	..	15
Punjab	..	..	..	..	..	..	6	26	32	..	..	..	6	26	32
Delhi	..	..	..	..	..	..	1	10	11	..	..	..	1	10	11
Himachal Pradesh	..	..	..	..	..	..	2	..	2	..	..	..	2	..	2
Uttar Pradesh	..	..	..	..	..	..	6	646	652	1	2	3	7	648	655
Madhya Pradesh	..	..	..	..	..	..	9	32	41	..	..	..	9	32	41
Bihar	..	..	..	..	..	..	16	306	322	..	..	..	16	306	322
Orissa	..	..	..	..	..	..	1	..	1	..	..	..	1	..	1
West Bengal	..	..	..	..	..	..	4	44	48	..	..	..	4	44	48
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	..	..	..	..	..	..	..	2	2	..	..	..	..	2	2
Maharashtra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mysore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
All India	..	..	..	..	..	..	52	1214	1266	15	2	17	67	1216	1283

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (9.3) : Number of crop-cutting experiments conducted on barley grown pure and mixed by seasons and states (sub-samples 1 and 2 combined)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	..	..	..	..	..	..	19	328	347	..	..	..	19	328	347
Jammu & Kashmir	..	..	..	..	..	..	1	2	3	23	..	23	24	2	26
Punjab	..	..	..	..	..	..	14	28	42	..	..	..	14	28	42
Delhi	..	..	..	..	..	..	1	10	11	..	..	..	1	10	11
Himachal Pradesh	..	..	..	..	..	..	2	..	2	..	..	..	2	..	2
Uttar Pradesh	..	..	..	..	..	..	29	1260	1289	1	14	15	30	1274	1304
Madhya Pradesh	..	..	..	..	..	..	18	64	82	..	..	..	18	64	82
Bihar	..	..	..	..	..	..	42	562	604	..	..	..	42	562	604
Orissa	..	..	..	..	..	..	1	..	1	..	..	..	1	..	1
West Bengal	..	..	..	..	..	..	10	66	76	..	..	..	10	66	76
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	..	..	..	..	..	..	3	2	5	..	..	..	3	2	5
Maharashtra	..	..	..	..	..	..	3	..	3	..	..	..	3	..	3
Mysore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
All India	..	..	..	..	..	..	143	2322	2465	24	14	38	167	2336	2503

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (10.1) : Number of crop-cutting experiments conducted on all crops grown pure and mixed by seasons and states (sub-sample 1)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan	142	385	527	24	128	152	75	428	503	..	10	10	241	951	1192
Jammu & Kashmir	340	30	370	..	..	..	60	36	96	33	..	33	433	66	499
Punjab	295	39	334	..	..	..	151	178	329	..	..	..	446	217	663
Delhi	..	..	..	..	..	..	2	14	16	..	..	..	2	14	16
Himachal Pradesh	20	10	30	..	..	..	2	..	2	..	..	..	22	10	32
Uttar Pradesh	392	557	949	311	445	756	76	1665	1741	11	34	45	790	2701	3491
Madhya Pradesh	244	183	427	185	381	566	145	297	442	..	..	..	574	861	1435
Bihar	270	276	546	476	56	532	73	594	667	..	..	..	819	926	1745
Orissa	119	21	140	262	4	266	..	..	..	..	..	..	381	25	406
West Bengal	109	6	115	349	..	349	17	42	59	..	..	..	475	48	523
Assam	18	..	18	202	..	202	..	..	..	..	..	..	220	..	220
Manipur	6	..	6	120	..	120	..	..	..	..	..	..	126	..	126
Tripura	61	11	72	75	..	75	6	..	6	5	..	5	147	11	158
Andhra Pradesh	342	276	618	405	77	482	239	41	280	94	..	94	1080	394	1474
Madras	372	103	475	250	193	446	399	7	406	275	1	276	1296	309	1605
Kerala	205	13	216	218	4	222	69	..	69	12	..	12	502	17	519
Gujarat	182	202	384	86	44	130	155	14	169	52	..	52	425	260	685
Maharashtra	272	266	538	122	448	570	267	302	569	..	..	..	661	1016	1677
Myore	52	81	133	109	323	432	80	129	209	37	..	37	278	533	811
All India	3459	2459	5898	3144	2108	5252	1816	3747	5563	219	45	564	8918	8359	17277

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (10.2) : Number of crop-cutting experiments conducted on all crops grown pure and mixed by seasons and states (sub-sample 2)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan . . . . .	68	453	521	6	80	86	60	370	430	..	..	..	134	903	1037
Jammu & Kashmir . . . . .	338	84	422	..	..	..	79	12	91	36	..	36	453	96	549
Punjab . . . . .	278	98	376	..	..	..	128	229	357	..	..	..	406	327	733
Delhi . . . . .	12	..	12	..	..	..	10	18	28	..	..	..	22	18	40
Himachal Pradesh . . . . .	23	4	27	..	..	..	17	2	19	..	..	..	40	6	46
Uttar Pradesh . . . . .	411	558	969	279	455	734	43	1693	1736	1	10	11	734	2716	3450
Madhya Pradesh . . . . .	280	285	565	195	260	455	145	391	536	..	..	..	620	936	1556
Bihar . . . . .	242	244	486	463	46	509	74	654	728	12	12	24	791	956	1747
Orissa . . . . .	159	5	164	224	..	224	15	6	21	..	..	..	398	11	409
West Bengal . . . . .	93	14	107	334	1	335	6	62	68	..	..	..	433	77	510
Assam . . . . .	50	..	50	199	..	199	..	..	..	..	..	..	249	..	249
Manipur . . . . .	52	4	56	102	..	102	..	..	..	..	..	..	154	4	158
Tripura . . . . .	53	16	69	99	..	99	..	..	..	3	..	3	155	16	171
Andhra Pradesh . . . . .	376	299	675	451	58	509	287	82	369	60	..	60	1174	439	1613
Madras . . . . .	371	110	481	274	226	500	441	17	458	244	20	264	1330	373	1703
Kerala . . . . .	216	7	223	220	..	220	50	..	50	12	..	12	488	7	505
Gujarat . . . . .	174	217	391	64	16	80	152	38	190	50	..	50	687	754	1441
Maharashtra . . . . .	293	262	555	85	226	311	309	266	575	..	..	..	687	754	1441
Mysore . . . . .	91	91	182	114	280	394	100	128	228	33	..	33	338	499	837
All India . . . . .	3580	2751	6331	3109	1648	4757	1916	3968	5884	514	42	493	9056	8409	17465

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (10.3) : Number of crop-cutting experiments conducted on all cereals grown pure and mixed by seasons and states (sub-samples 1 and 2 combined)

state	autumn			winter			spring			summer			all seasons		
	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total	pure	mixed	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rajasthan . . . . .	210	838	1048	30	208	238	135	798	933	..	10	10	375	1854	2229
Jammu & Kashmir . . . . .	678	114	792	..	..	..	139	48	187	69	..	69	886	162	1048
Punjab . . . . .	573	137	710	..	..	..	279	407	686	..	..	..	852	544	1396
Delhi . . . . .	12	..	12	..	..	..	12	32	44	..	..	..	24	32	56
Himachal Pradesh . . . . .	43	14	57	..	..	..	19	2	21	..	..	..	62	16	78
Uttar Pradesh . . . . .	803	1115	1918	590	900	1490	119	3358	3477	12	44	56	1524	5417	6941
Madhya Pradesh . . . . .	524	468	992	360	641	1021	290	688	978	..	..	..	1194	1797	2991
Bihar . . . . .	512	520	1032	939	102	1041	147	1248	1395	12	12	24	1610	1882	3492
Orissa . . . . .	278	26	304	486	4	490	15	6	21	..	..	..	779	36	815
West Bengal . . . . .	202	20	222	693	1	684	23	104	127	..	..	..	908	125	1033
Assam . . . . .	68	..	68	401	..	401	..	..	..	..	..	..	469	..	469
Manipur . . . . .	58	4	62	222	..	222	..	..	..	..	..	..	280	4	284
Tripura . . . . .	114	27	141	174	..	174	6	..	6	8	..	8	302	27	329
Andhra Pradesh . . . . .	718	575	1293	856	135	991	526	123	649	154	..	154	2254	833	3087
Madras . . . . .	743	213	956	524	424	948	840	24	864	519	21	540	2626	682	3308
Kerala . . . . .	419	20	439	438	4	442	119	..	119	24	..	24	1000	24	1024
Gujarat . . . . .	356	419	775	100	60	160	307	52	359	102	..	102	865	531	1396
Maharashtra . . . . .	365	528	1093	207	674	881	576	568	1144	..	..	..	1348	1770	3118
Mysore . . . . .	143	172	315	223	603	826	180	257	437	70	..	70	616	1032	1648
All India . . . . .	7019	5210	12229	6253	3756	10009	3732	7715	11447	970	87	1057	17974	16768	34742

## NATIONAL SAMPLE SURVEY : 19TH ROUND, JULY 1964—JUNE 1965

TABLE (11) : All-India estimates of production and gross area under each of the major cereal crop by seasons

season	production (000 tonnes)			gross area (000 acres)		
	half-sample 1	half-sample 2	combined	half-sample 1	half-sample 2	combined
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. rice						
autumn	7608	7704	7656	22929	22604	22464
winter	29751	27544	28647	64853	59437	62147
spring	1741	2048	1895	3726	3955	3841
summer	840	592	715	1662	1166	1419
total	39940	37888	38913	92566	87162	89865
2. jowar						
autumn	692	717	705	7685	6888	7286
winter	6811	7302	7057	31504	31921	31719
spring	3791	3155	3474	14992	11773	13361
summer	107	131	119	282	281	282
total	11401	11305	11955	54463	50823	52642
3. bajra						
autumn	3187	4061	3624	28687	29051	28868
winter	601	638	619	5267	4773	5020
spring	1	..	..	43	45	44
summer	15	40	27	51	89	70
total	3804	4739	4270	34048	33958	34002
4. ragi						
autumn	688	749	718	2213	2396	2304
winter	1047	956	1002	4076	3484	3780
spring	296	205	250	588	300	443
summer	39	31	35	84	57	70
total	2070	1941	2005	6961	6237	6597
5. maize						
autumn	4679	5865	5272	11614	13690	12652
winter	20	6	13	55	23	39
spring	96	191	145	166	100	132
summer	25	4	14	183	169	176
total	4820	6066	5444	12018	13982	12999

TABLE (11) contd. : All-India estimates of production and gross area under each of the major cereal crop by seasons

season	production (000 tonnes)			gross area (000 acres)		
	half-sample 1	half-sample 2	combined	half-sample 1	half-sample 2	combined
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>6. wheat</i>						
autumn . . . . .	..	..	..	..	2	1
winter . . . . .	1	5	3	4	56	31
spring . . . . .	14618	15146	14882	43592	44940	43966
summer . . . . .	64	151	107	195	473	3334
total . . . . .	14683	15302	14992	43791	44873	44332
<i>7. barley</i>						
autumn . . . . .	..	..	..	2	..	1
winter . . . . .	..	..	..	..	..	..
spring . . . . .	3222	2742	2983	10855	10406	10630
summer . . . . .	20	9	15	49	20	35
total . . . . .	3242	2751	2998	10906	10426	10666
<i>B. total of seven crops</i>						
autumn . . . . .	16854	19096	17975	..	..	..
winter . . . . .	38231	36451	37341	..	..	..
spring . . . . .	23765	23487	23629	..	..	..
summer . . . . .	1110	958	1032	..	..	..
total . . . . .	79960	79992	79977	..	..	..
<i>9. small millets</i>						
autumn . . . . .	X	X	X	5512	61418	5966
winter . . . . .	X	X	X	4560	5452	5006
spring . . . . .	X	X	X	94	177	135
summer . . . . .	X	X	X	121	171	145
total . . . . .	X	X	X	10287	12218	11344





NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (13) : Unweighted gross yield rate (kgm/acre) of crop grown pure and mixed by sub-samples and states (crop : rice)

state	un-weighted yield rate in kilograms per acre of gross area																	
	pure crop						mixed crop						pure and mixed					
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan	8	324	9	159	17	237	3	303	..	..	3	303	11	318	9	159	20	246
Punjab	55	484	70	485	125	485	1	712	..	..	1	712	56	488	70	485	126	486
Jammu & Kashmir	146	627	100	643	246	631	..	..	..	..	..	..	146	622	100	643	246	631
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	6	574	5	242	11	423	..	..	..	..	..	..	6	574	5	242	11	423
Uttar Pradesh	669	322	635	274	1304	299	83	237	58	175	141	211	752	313	693	265	1445	290
Madhya Pradesh	349	283	361	292	710	288	7	66	20	183	27	153	356	278	381	286	737	282
Bihar	557	402	493	375	1050	389	55	341	56	384	111	363	612	397	549	376	1161	387
Orissa	299	394	299	376	598	385	6	282	1	85	7	254	305	393	300	375	605	384
West Bengal	448	502	425	508	873	505	6	164	9	350	15	276	454	497	434	504	888	500
Assam	218	489	237	513	455	502	..	..	..	..	..	..	218	489	237	513	455	502
Manipur	126	576	130	623	256	600	..	..	4	483	4	483	126	576	134	619	260	598
Tripura	147	375	155	451	302	414	11	294	16	348	27	326	158	369	171	441	329	407
Andhra Pradesh	633	540	614	529	1247	535	10	358	17	142	27	222	643	537	631	519	1274	528
Madras	727	579	765	585	1492	582	2	0	10	372	12	310	729	577	775	582	1504	580
Kerala	502	475	504	475	1006	475	16	396	7	291	23	364	518	458	511	473	1029	465
Gujarat	67	381	76	473	143	430	26	287	21	308	47	296	93	354	97	438	190	397
Maharashtra	229	345	260	350	489	348	36	238	16	528	52	266	265	335	276	349	541	342
Mysore	163	439	195	466	358	454	4	318	5	273	9	293	167	436	200	461	367	450
All India	5349	452	5333	449	10682	451	266	277	240	280	506	278	5615	443	5573	442	11188	443

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2.

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (14) : Unweighted gross yield rate (kgm/acre) of crop grown pure and mixed by sub-samples and states (crop : jowar)

state	un-weighted yield rate in kilograms per acre of gross area																	
	pure crop						mixed crop						pure and mixed					
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan	38	23	6	87	44	32	144	119	106	188	250	148	182	99	112	183	294	131
Punjab	..	..	16	6	16	6	..	..	..	..	..	..	..	..	16	6	16	6
Jammu & Kashmir	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	2	148	2	225	4	186	350	209	340	207	690	208	352	209	342	207	694	208
Madhya Pradesh	12	130	18	224	30	186	394	175	269	251	663	206	406	174	287	250	693	206
Bihar	14	614	16	585	30	599	2	307	2	699	4	503	16	576	18	598	34	588
Orissa	12	373	..	..	12	373	2	105	..	..	2	105	14	334	..	..	14	334
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	196	186	170	246	366	214	212	122	228	141	440	132	408	152	398	185	806	168
Madras	226	363	210	174	436	416	164	126	166	164	330	145	390	263	376	305	766	284
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	76	404	62	309	138	361	34	373	40	200	94	299	130	391	102	266	232	336
Maharashtra	188	414	158	362	344	390	618	238	412	216	1030	229	804	278	570	257	1374	269
Mysore	66	152	84	183	150	169	169	340	296	179	465	237	235	214	380	180	615	193
All India	828	304	742	334	1570	318	2109	205	1859	198	3968	202	2937	227	2601	233	5538	230

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2.

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (15) : Unweighted gross yield rate (kgm/acre) of crop grown pure and mixed by sub-samples and states (crop : bajra)

state	un-weighted yield rate in kilograms per acre of gross area																	
	pure crop						mixed crop						pure and mixed					
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan	95	85	44	80	140	83	232	92	284	91	516	91	328	91	328	90	656	90
Punjab	72	175	50	156	122	167	34	156	82	94	116	112	106	168	132	117	238	140
Jammu & Kashmir	18	284	4	126	22	255	8	170	16	86	24	114	26	248	20	94	46	181
Delhi	..	..	12	186	12	186	..	..	..	..	..	..	..	..	12	186	12	186
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	10	113	14	147	24	133	264	209	263	258	527	233	274	204	277	252	551	228
Madhya Pradesh	6	42	2	64	8	48	16	242	52	159	68	179	22	188	54	155	76	165
Bihar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Orissa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	120	272	128	337	248	306	112	98	116	158	228	129	232	188	244	252	476	221
Madras	125	130	102	206	227	164	122	105	137	93	259	99	247	120	239	141	486	130
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	144	357	126	248	270	306	143	260	162	271	305	266	287	309	288	261	575	285
Maharashtra	104	111	80	121	184	115	240	87	240	130	480	168	344	95	320	128	664	111
Mysore	12	60	4	37	16	54	89	59	48	36	137	51	101	60	52	37	153	52
All India	707	198	566	215	1273	206	1260	138	1400	156	2660	147	1967	160	1966	173	3933	166

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2.

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (16) : Unweighted gross yield rate (kgm/acre) of crop grown pure and mixed by sub-samples and states (crop : ragi)

state	un-weighted yield rate in kilograms per acre of gross area																	
	pure crop						mixed crop						pure and mixed					
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Punjab	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu & Kashmir	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	2	418	9	855	11	776	35	356	56	236	91	282	137	360	65	322	102	396
Madhya Pradesh	..	..	8	458	8	458	1	187	..	..	1	187	1	187	8	458	9	428
Bihar	44	208	100	340	144	300	6	231	36	394	42	371	50	211	136	354	186	316
Orissa	46	265	60	213	106	236	9	225	4	88	13	183	55	251	64	205	119	226
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	88	282½	192	479	280	417	34	301	14	215	46	276	122	287	206	461	328	336
Madras	204	467	251	572	455	525	21	481	48	246	69	318	225	468	299	520	524	497
Kerala	..	..	..	..	..	..	1	39	..	..	1	39	1	39	..	..	1	39
Gujarat	1	124	26	372	27	363	1	135	..	..	1	135	2	130	26	372	28	355
Maharashtra	11	255	28	405	39	363	6	294	4	270	10	284	17	269	32	388	49	347
Mysore	30	189	50	403	80	323	117	307	126	200	243	252	147	288	176	257	323	271
All India	426	354	724	466	1,150	424	231	321	288	239	519	275	657	342	1,012	400	1,669	377

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4·2.

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964--JUNE 1965

TABLE (17) : Unweighted gross yield rate (kgm/acre) of crop grown pure and mixed by sub-samples and states (crop : maize)

state	un-weighted yield rate in kilograms per acre of gross area																	
	pure crop						mixed crop						pure and mixed					
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan	24	337	18	388	42	359	144	437	143	470	287	453	168	424	161	460	329	442
Punjab	168	425	142	628	310	518	4	254	16	378	20	353	172	420	158	603	330	508
Jammu & Kashmir	176	739	228	552	404	633	22	450	68	411	90	421	198	707	296	520	494	595
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh	14	578	18	380	32	467	10	489	4	113	14	382	24	541	22	331	46	441
Uttar Pradesh	20	499	30	494	50	496	270	228	296	368	566	301	290	247	326	380	616	317
Madhya Pradesh	62	289	86	284	148	286	146	223	204	246	350	236	208	243	290	257	498	251
Bihar	182	256	100	307	240	279	268	311	208	341	476	324	400	293	316	330	716	309
Orissa	24	185	36	251	60	225	8	302	2	77	10	257	32	226	38	242	70	235
West Bengal	10	405	2	696	12	454	..	..	6	161	6	161	10	405	8	295	18	356
Assam	2	264	12	653	14	597	..	..	..	..	..	..	2	264	12	653	14	597
Manipur	..	..	24	1,967	24	1,967	..	..	..	..	..	..	..	..	24	1,967	24	1,967
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	50	810	62	717	112	759	38	849	58	497	96	636	88	827	120	610	208	702
Madras	8	277	..	..	8	277	..	..	12	428	12	428	8	277	12	428	20	368
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	16	543	26	694	42	636	24	290	12	514	36	364	40	391	38	637	78	511
Maharashtra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mysore	2	279	..	..	2	279	14	666	6	410	20	589	16	618	6	410	22	561
All India	708	481	792	542	1,500	513	948	325	1,035	363	1,963	345	1,656	391	1,827	441	3,483	417

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2.

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (19) : Unweighted gross yield rate (kgm./acre) of crop grown pure and mixed by sub-samples and states (crop : wheat)

state	un-weighted rate in kilograms per acre of gross area																	
	pure crop						mixed crop						pure and mixed					
	Sub-sample 1		Sub-sample 2		combined		Sub-sample 1		Sub-sample 2		combined		Sub-sample 1		Sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan	62	543	54	488	116	517	248	309	222	286	470	290	310	356	276	326	586	342
Punjab	143	545	122	568	265	556	176	389	203	370	379	379	319	459	325	444	644	451
Jammu & Kashmir	84	355	100	324	184	338	34	359	12	311	46	346	118	356	112	323	230	340
Delhi	2	600	9	341	11	388	14	277	8	445	22	338	16	317	17	390	33	355
Himachal Pradesh	2	0	15	240	17	212	..	..	2	222	2	222	2	0	17	238	19	213
Uttar Pradesh	64	375	37	385	101	379	1,073	373	1,055	362	2,128	368	1,137	373	1,092	363	2,229	368
Madhya Pradesh	136	302	136	275	272	268	265	205	359	218	624	212	401	238	495	233	896	235
Bihar	47	229	58	316	105	277	338	175	348	220	686	198	395	182	406	234	791	209
Orissa	..	..	2	435	2	435	..	..	4	236	4	236	..	..	6	302	6	302
West Bengal	11	202	2	218	13	204	20	76	18	43	38	60	31	121	20	61	51	97
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	3	509	8	214	11	294	6	332	6	43	12	188	9	391	14	141	23	239
Madras	6	146	2	184	8	156	..	..	..	..	..	..	6	146	2	184	8	156
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	118	390	124	497	242	542	12	696	34	354	46	443	130	399	158	466	288	526
Maharashtra	128	378	161	346	289	360	116	213	82	204	198	209	244	299	243	298	487	299
Mysore	5	220	5	196	10	208	40	180	30	152	70	168	45	184	35	158	80	173
All India	811	422	835	391	1,646	406	2,342	307	2,383	301	4,725	304	9,153	336	3,218	324	6,371	330

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2



NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964--JUNE 1965

TABLE (19) : Unweighted gross yield rate (kgm./acre) of crop grown pure and mixed by sub-samples and states (crop : barley)

state	un-weighted yield rate in kilograms per acre of gross area																	
	pure crop						mixed crop						pure and mixed					
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan	13	665	6	579	19	638	180	279	148	293	328	285	193	306	154	304	347	305
Punjab	8	925	6	539	14	760	2	227	26	235	28	234	10	785	32	292	42	409
Jammu & Kashmir	9	452	15	503	24	484	2	110	..	..	2	110	11	390	15	503	26	455
Delhi	..	..	1	887	1	887	..	..	10	294	10	294	..	..	11	348	11	348
Himachal Pradesh	..	..	2	296	2	296	..	..	..	..	..	..	..	..	2	296	2	296
Uttar Pradesh	23	441	7	513	30	458	626	271	648	276	1,274	274	649	279	655	278	1,304	278
Madhya Pradesh	9	311	9	263	18	287	32	141	32	129	64	135	41	178	41	158	82	168
Bihar	26	151	16	280	42	200	256	140	306	143	562	143	282	141	322	150	604	145
Orissa	..	..	1	10	1	10	..	..	..	..	..	..	..	..	1	10	1	10
West Bengal	6	359	4	206	10	298	22	75	14	85	66	82	28	135	48	95	76	110
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	3	669	..	..	3	669	..	..	2	56	2	56	3	669	2	56	5	424
Maharashtra	3	111	..	..	3	111	..	..	..	..	..	..	3	111	..	..	3	111
Mysore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
All India	100	415	67	403	167	410	1,120	296	1,216	233	2,336	234	1,220	250	1,283	240	2,503	24

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2.

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964--JUNE 1965

TABLE (20) : Unweighted gross yield rate (kgm/acre) of irrigated and non-irrigated crop by sub-samples and states (crop : rice)

state	un-weighted yield rate in kilograms per acre of gross area																		
	irrigated						non-irrigated						irrigated and non-irrigated						
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
Lajasthan	..	..	..	..	..	..	11	318	9	159	20	246	11	318	9	159	20	246	
Punjab	49	520	60	504	109	511	7	268	10	367	17	326	56	486	70	485	126	486	
Uttar Pradesh & Kashmir	140	632	84	715	224	663	6	391	16	265	22	299	146	622	100	643	246	631	
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Himachal Pradesh	6	574	..	..	6	574	..	..	5	242	5	242	6	574	5	242	11	423	
Uttar Pradesh	193	395	109	402	302	398	559	285	584	240	1143	262	752	313	693	265	1445	290	
Madhya Pradesh	37	438	41	454	78	446	319	260	340	225	659	242	356	278	381	286	737	282	
Bihar	144	461	162	439	306	449	468	368	387	348	855	359	612	397	549	376	1161	387	
Orissa	82	451	76	469	158	460	223	373	224	343	447	358	305	393	300	375	605	384	
West Bengal	35	624	106	518	141	544	119	486	328	500	747	492	454	497	434	504	888	500	
Assam	6	601	12	360	18	440	212	486	225	521	437	504	218	489	237	513	455	502	
Manipur	33	522	56	572	89	553	93	585	78	658	171	616	126	576	194	619	260	596	
Tripura	2	583	9	381	11	418	156	367	162	445	318	407	158	369	171	441	329	407	
Andhra Pradesh	589	559	506	537	1175	548	54	399	45	289	99	349	643	537	631	519	1274	528	
Madras	707	586	740	588	1447	587	22	300	35	178	57	225	729	577	775	582	1504	580	
Kerala	171	526	166	545	337	535	347	419	345	438	692	428	518	458	511	473	1029	465	
Gujarat	26	389	23	502	49	442	67	341	74	418	141	381	93	354	97	438	190	397	
Maharashtra	38	418	35	515	73	465	227	322	241	324	468	323	265	335	276	349	541	342	
Mysore	111	419	128	490	239	457	56	449	72	411	128	436	167	436	200	461	367	450	
All India	2,369	533	2,393	538	4,762	536	3,246	375	3,180	362	6,426	369	5,615	443	5,573	442	11,188	443	

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2.

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (21) : Unweighted gross yield rate (kgm/acre) of irrigated and non-irrigated crop by sub-samples and states (crop : jowar)

State	un-weighted yield rate in kilograms per acre of gross area																		
	irrigated						non-irrigated						irrigated and non-irrigated						
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
Assam	..	..	..	..	..	..	182	99	112	183	294	131	182	99	112	183	294	131	
Punjab	..	..	..	..	..	..	..	..	16	6	16	6	..	..	16	6	16	6	
Jammu & Kashmir	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Uttar Pradesh	..	..	4	63	4	63	352	209	338	209	690	209	352	209	342	207	694	208	
Madhya Pradesh	..	..	2	129	2	129	406	174	285	251	691	206	406	174	287	250	693	205	
Bihar	..	..	..	..	..	..	16	576	18	598	34	588	16	576	18	598	34	588	
Orissa	..	..	..	..	..	..	14	334	..	..	14	334	14	334	..	..	14	334	
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Andhra Pradesh	..	42	303	14	371	56	320	366	126	384	179	750	153	408	152	398	185	806	168
Madras	..	226	367	180	524	406	437	164	104	196	105	360	105	390	263	376	305	766	284
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Gujarat	..	34	378	2	784	36	401	96	396	100	256	196	325	130	391	102	266	232	336
Maharashtra	..	48	597	72	574	120	583	756	259	498	211	1254	240	804	278	570	257	1374	269
Mysore	..	4	636	..	..	4	636	231	207	380	180	611	190	235	214	380	180	615	193
All India	..	354	395	274	522	628	450	2583	202	2327	199	4910	201	2937	227	2601	233	5530	230

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (22) : Unweighted gross yield rate (kgm/acre) of irrigated and non-irrigated crop by sub-samples and states (crop : bajra)

state	un-weighted yield rate in kilograms per acre of gross area																	
	irrigated				non-irrigated						irrigated and non-irrigated							
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan	6	250	10	156	16	191	322	88	318	87	640	88	328	91	328	90	656	90
Punjab	13	233	24	95	37	144	93	159	108	122	201	139	106	168	132	117	238	140
Jammu & Kashmir	..	..	..	..	..	..	26	248	20	94	46	181	26	248	20	94	46	181
Delhi	..	..	..	..	..	..	..	..	12	186	12	186	..	..	12	186	12	186
Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh	..	..	..	..	..	..	274	204	277	252	551	228	274	204	277	252	551	228
Madhya Pradesh	..	..	..	..	..	..	22	188	54	155	76	165	22	188	54	155	76	165
Bihar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Orissa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Bengal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	..	..	34	395	34	395	232	188	210	219	442	207	232	188	244	252	476	221
Madras	72	194	85	207	158	201	175	84	153	104	328	93	247	120	239	141	486	130
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	88	473	48	296	136	411	199	236	240	254	153	246	287	369	288	261	575	285
Maharashtra	2	111	2	242	4	176	342	76	318	127	660	101	344	95	320	128	664	111
Mysore	..	..	..	..	..	..	101	60	52	37	153	52	101	60	52	37	153	52
All India	181	333	204	244	385	286	1786	124	1762	165	3548	144	1967	160	1966	173	3935	166

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2.

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (23) : Unweighted gross yield rate (kgm/acre) of irrigated and non-irrigated crop by sub-samples and states (crop : ragi)

state	un-weighted yield rate in kilograms per acre of gross area																	
	irrigated						non-irrigated						irrigated and non-irrigated					
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Punjab . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu & Kashmir . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delhi . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh . . . . .	..	..	..	..	..	..	37	360	65	322	102	336	37	360	65	322	102	336
Madhya Pradesh . . . . .	..	..	..	..	..	..	1	187	8	458	9	428	1	187	8	458	9	428
Bihar . . . . .	5	63	18	121	23	108	45	227	118	390	163	345	50	211	136	354	186	316
Orissa . . . . .	..	..	..	..	..	..	55	251	64	205	119	226	55	251	64	205	119	226
West Bengal . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh . . . . .	72	328	168	499	240	448	50	227	38	293	88	256	122	287	206	461	328	396
Madras . . . . .	177	469	253	582	430	534	48	466	46	179	94	326	225	468	299	520	524	497
Kerala . . . . .	..	..	..	..	..	..	1	39	..	..	1	39	1	39	..	..	1	39
Gujarat . . . . .	..	..	..	..	..	..	2	130	26	372	28	355	2	130	26	372	28	355
Maharashtra . . . . .	..	..	..	..	..	..	17	269	32	388	49	347	17	269	32	388	49	347
Mysore . . . . .	9	607	50	368	59	404	138	267	126	212	264	241	147	288	176	257	323	271
All India . . . . .	263	426	489	515	752	484	394	287	523	290	917	289	657	342	1012	400	1669	377

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2.



NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (24) : Unweighted gross yield rate (kgm/acre) of irrigated and non-irrigated crop by sub-samples and states (crop : maize)

state	un-weighted yield rate in kilograms per acre of gross area																	
	irrigated						non-irrigated						irrigated and non-irrigated					
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan . . . . .	26	479	36	217	62	327	142	413	125	530	267	468	168	424	161	460	329	442
Punjab . . . . .	44	580	78	741	122	683	128	366	80	468	208	405	172	420	158	603	330	508
Jammu & Kashmir . . . . .	6	347	26	666	32	606	192	718	270	506	462	594	198	707	296	520	494	595
Delhi . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh . . . . .	..	..	..	..	..	..	24	541	22	331	46	441	24	541	222	331	46	441
Uttar Pradesh . . . . .	10	335	26	550	36	490	280	244	300	365	580	307	290	247	326	380	616	317
Madhya Pradesh . . . . .	..	..	4	201	4	201	208	243	286	258	494	252	208	243	290	257	498	251
Bihar . . . . .	18	362	26	140	44	231	382	290	290	346	672	314	400	293	316	330	716	309
Orissa . . . . .	..	..	..	..	..	..	32	226	38	242	70	235	32	226	38	242	70	235
West Bengal . . . . .	..	..	..	..	..	..	10	405	8	295	18	356	10	405	8	295	18	356
Assam . . . . .	..	..	..	..	..	..	2	264	12	653	14	597	2	264	12	653	14	597
Manipur . . . . .	..	..	..	..	..	..	..	..	24	1967	24	1967	..	..	24	1967	24	1967
Tripura . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh . . . . .	28	693	58	896	86	830	60	889	62	343	122	612	88	827	120	610	208	702
Madras . . . . .	4	..	12	428	16	321	4	554	..	..	4	554	8	277	12	428	20	368
Kerala . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat . . . . .	2	1258	2	475	4	866	38	345	36	646	74	491	40	391	38	637	78	511
Maharashtra . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mysore . . . . .	14	666	6	410	20	649	2	279	..	..	2	279	16	618	6	410	22	561
All India . . . . .	152	534	274	592	426	574	1504	377	1553	414	3057	396	1656	391	1827	441	3483	417

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2.

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (25) : Unweighted gross yield rate (kgm/acre) of irrigated and non-irrigated crop by sub-samples and states (crop : wheat)

state	un-weighted yield rate in kilogr. ms per acre of gross area																	
	irrigated						non-irrigated						irrigated and non-irrigated					
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan	222	402	196	377	418	390	88	242	80	199	168	222	310	356	276	326	586	312
Punjab	191	541	138	624	329	576	128	337	187	311	315	322	319	459	325	444	644	451
Jammu & Kashmir	13	316	..	..	13	316	105	360	112	323	217	341	118	356	112	323	230	340
Delhi	10	337	3	451	13	363	6	286	14	377	20	350	16	317	17	390	33	355
Himachal Pradesh	..	..	..	..	..	..	2	0	17	238	19	213	2	0	17	238	19	213
Uttar Pradesh	739	421	700	389	1439	405	398	285	392	317	790	301	1137	373	1092	363	2229	358
Madhya Pradesh	64	375	53	439	117	404	337	212	442	208	779	210	401	238	493	233	896	235
Bihar	77	288	133	296	210	293	308	156	273	203	581	178	385	182	405	234	791	209
Orissa	..	..	..	..	..	..	..	..	6	302	6	302	..	..	6	302	6	302
West Bengal	6	187	..	..	6	187	25	105	20	61	45	85	31	121	20	61	51	97
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	5	306	6	139	11	215	4	498	8	143	12	261	9	391	14	141	23	239
Madras	..	..	..	..	..	..	6	146	2	184	8	156	6	146	2	184	8	156
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	130	599	111	580	241	590	..	..	47	196	47	196	130	599	158	466	288	526
Maharashtra	75	456	84	460	159	458	169	230	159	214	328	222	244	299	243	298	487	299
Mysore	4	201	6	249	10	230	41	182	29	139	70	164	45	184	35	158	80	173
All India	1536	438	1430	421	2966	430	1617	241	1788	248	3405	245	3153	336	3218	325	6371	330

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4-2.



## NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (26) : Unweighted gross yield rate (kg/acre) of irrigated and non-irrigated crop by sub-samples and states (crop : barley)

state	un-weighted yield rate in kilograms per acre of gross area																	
	irrigated						non-irrigated						irrigated and non-irrigated					
	sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined		sub-sample 1		sub-sample 2		combined	
	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate	no. of cuts	yield rate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Rajasthan	155	354	110	355	265	354	38	107	44	176	82	144	193	306	154	304	347	305
Punjab	7	922	9	564	16	721	3	466	23	183	26	217	10	785	32	292	42	409
Jammu & Kashmir	..	..	..	..	..	..	11	390	15	503	26	455	11	390	15	503	26	455
Delhi	..	..	..	..	..	..	..	..	11	348	11	348	..	..	11	348	11	348
Himachal Pradesh	..	..	..	..	..	..	..	..	2	296	2	296	..	..	2	296	2	296
Uttar Pradesh	440	307	418	291	858	299	209	217	237	254	416	237	649	279	635	278	1304	278
Madhya Pradesh	14	379	10	255	24	327	27	74	31	127	58	102	41	178	41	158	82	168
Bihar	25	157	43	159	68	158	257	139	279	149	536	144	282	141	322	150	604	145
Orissa	..	..	..	..	11	..	..	..	1	10	1	10	..	..	1	10	1	10
West Bengal	..	..	11	97	..	97	28	135	37	95	65	112	28	135	48	95	76	110
Assam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mizoram	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kerala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat	3	669	2	56	5	424	..	..	..	..	..	..	3	669	2	56	5	424
Maharashtra	3	111	..	..	3	111	..	..	..	..	..	..	3	111	..	..	3	111
Mysore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
All India	647	321	603	292	1250	307	573	169	680	196	1253	184	1220	250	1283	240	2503	245

The number of cuts given here may not tally with that on which the production estimates are based for reasons indicated in para 4.2.

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (27) : Ratio of dry weight to green weight of cereal crops of autumn season

state	paddy		jowar		bajra		ragi		maize		wheat		barley	
	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Rajasthan	0.8132	0.6414	0.4112	0.3801	0.4419	0.4328	..	..	0.5145	0.5044	..	..	..	..
Punjab	0.8701	0.8047	..	..	0.4486	0.4015	..	..	0.4670	0.4936	..	..	..	..
Jammu & Kashmir	0.7889	0.7880	..	..	0.5183	0.3841	..	..	0.5552	0.5579	..	..	..	..
Delhi	..	..	..	..	..	0.3608	..	..	..	..	..	..	..	..
Himachal Pradesh	0.9322	0.5603	..	..	..	..	..	..	0.5265	0.5186	..	..	..	..
Uttar Pradesh	0.8347	0.8266	..	..	0.4838	0.5076	0.4197	0.4205	0.4452	0.4635	..	..	..	..
Madhya Pradesh	0.8411	0.8631	0.2524	0.4632	0.4516	0.5071	..	..	0.4243	0.4761	..	..	..	..
Bihar	0.8691	0.8267	..	..	..	..	0.4756	0.5410	0.5012	0.4324	..	..	..	..
Orissa	0.8898	0.8657	..	..	..	..	0.4759	0.6162	0.2859	0.3501	..	..	..	..
West Bengal	0.8580	0.8892	..	..	..	..	..	..	0.4422	0.5002	..	..	..	..
Assam	0.8562	0.8956	..	..	..	..	..	..	0.4545	0.5714	..	..	..	..
Manipur	0.8276	0.8003	..	..	..	..	..	..	..	0.6176	..	..	..	..
Tripura	0.8229	0.8872	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh	0.8932	0.8575	0.4957	0.5369	0.5061	0.5665	0.4286	0.4493	0.5184	0.5369	..	..	..	..
Madras	0.8931	0.8884	0.5630	0.5599	0.4946	0.4543	0.8727	0.4696	0.4327	0.3957	..	..	..	..
Kerala	0.9029	0.8762	..	..	..	..	0.4524	..	..	..	..	..	..	..
Gujarat	0.8600	0.9292	0.2655	0.5587	0.5320	0.5550	0.6210	0.8012	0.5976	0.5572	..	..	..	..
Maharashtra	0.8681	0.8679	0.3571	0.5385	0.4232	0.5178	0.5922	..	..	..	..	..	..	..
Mysore	0.9247	0.8935	0.6396	0.6217	0.6512	0.2530	0.6882	0.4942	0.5820	0.4823	..	0.7586	..	..

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (28) : Ratio of dry weight to green weight of cereal crops of winter season

State	paddy		jowar		bajra		ragi		maize		wheat		barley	
	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Rajasthan . . . . .	..	0.7290	0.4539	0.4777	0.4607	..	..	..	0.5722	..	..	..	..	..
Punjab . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu & Kashmir . . . . .	..	..	..	..	..	..	..	..	0.4005	..	..	..	..	..
Delhi . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh . . . . .	0.8669	0.8652	0.5767	0.5274	0.5930	0.5483	..	..	0.4895	..	..	..	..	..
Madhya Pradesh . . . . .	0.7766	0.8846	0.5036	0.5194	..	..	0.7390	0.8480	..	..	..	..	..	..
Bihar . . . . .	0.9041	0.8670	0.6118	0.6239	..	..	..	0.4067	..	..	..	..	..	..
Orissa . . . . .	0.8798	0.9013	0.6737	..	..	..	0.5378	0.4390	..	..	..	..	..	..
West Bengal . . . . .	0.9332	0.9133	..	..	..	..	..	..	..	..	..	..	..	..
Assam . . . . .	0.9349	0.9106	..	..	..	..	..	..	..	..	..	..	..	..
Manipur . . . . .	0.9097	0.8925	..	..	..	..	..	..	..	..	..	..	..	..
Tripura . . . . .	0.8939	0.8702	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh . . . . .	0.8685	0.8932	0.5403	0.5015	..	..	0.5143	0.6592	..	..	0.8786	..	..	..
Madras . . . . .	0.8781	0.9077	0.5905	0.5465	0.4991	0.5140	0.7184	0.3895	..	..	..	..	..	..
Kerala . . . . .	0.8833	0.8932	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat . . . . .	0.6394	0.7492	0.6790	0.7170	..	..	..	0.6638	..	..	..	..	..	..
Maharashtra . . . . .	0.8650	0.8637	0.6088	0.5730	0.5168	..	0.6700	0.7488	..	..	..	..	..	..
Mysore . . . . .	0.8257	0.9172	0.6060	0.6008	0.6126	0.4106	0.6205	0.5614	..	..	0.3091	..	..	..



## NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (29) : Ratio of dry weight to green weight of cereal crops of spring season

state	paddy		jowar		bajra		ragi		maize		wheat		barley	
	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Rajasthan . . . . .	..	..	..	..	..	..	..	..	..	..	0.5401	0.5599	0.7004	0.6108
Punjab . . . . .	..	..	..	..	..	..	..	..	..	..	0.5813	0.5748	0.6129	0.6362
Jammu & Kashmir . . . . .	..	..	..	..	..	..	..	..	..	..	0.5551	0.5173	0.5169	0.2316
Delhi . . . . .	..	..	..	..	..	..	..	..	..	..	0.5716	0.5972	..	0.5831
Himachal Pradesh . . . . .	..	..	..	..	..	..	..	..	..	..	..	0.5638	..	..
Uttar Pradesh . . . . .	..	..	..	..	..	..	..	..	..	..	0.6044	0.6037	0.7454	0.7517
Madhya Pradesh . . . . .	..	..	..	..	..	..	..	..	..	..	0.5789	0.5660	0.5903	0.5741
Bihar . . . . .	..	..	..	..	..	..	..	..	..	..	0.5679	0.6299	0.6453	0.6859
Orissa . . . . .	..	0.8822	..	..	..	..	..	0.2222	..	..	..	0.4204	..	0.1538
West Bengal . . . . .	..	..	..	..	..	..	..	..	..	..	0.5012	0.6738	0.6660	0.6827
Assam . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh . . . . .	0.8385	0.8865	0.4761	0.5690	..	..	0.4855	0.4810	0.5089	0.5137	0.7162	0.4629	..	..
Madras . . . . .	0.9158	0.9100	0.3769	0.7191	0.1271	0.5714	0.3070	0.4326	..	..	0.6358	0.4509	..	..
Kerala . . . . .	0.9232	0.8302	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat . . . . .	..	..	0.6242	0.6400	..	..	..	..	0.5875	..	0.6085	0.5829	0.9218	0.6623
Maharashtra . . . . .	0.8827	..	0.5713	0.5847	..	..	..	..	..	..	0.6411	0.5790	..	..
Mysore . . . . .	0.9024	0.8744	0.5990	0.5824	..	..	..	..	..	..	0.5360	0.5749	..	..

NATIONAL SAMPLE SURVEY, 19TH ROUND : JULY 1964—JUNE 1965

TABLE (30) : Ratio of dry weight to green weight of cereal crops of summer season

state	paddy		jowar		bajra		ragi		maize		wheat		barley	
	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2	sub-sample 1	sub-sample 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Rajasthan . . . . .	..	..	..	..	..	..	..	..	0.4525	..	..	..	..	..
Punjab . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu & Kashmir . . . . .	..	..	..	..	..	..	..	..	..	..	0.6351	..	0.6031	..
Delhi . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uttar Pradesh . . . . .	..	..	..	..	..	..	..	..	..	..	0.4682	..	0.6884	..
Madhya Pradesh . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bihar . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Orissa . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Bengal . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assam . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manipur . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tripura . . . . .	0.9310	0.8293	..	..	..	..	..	..	..	..	..	..	..	..
Andhra Pradesh . . . . .	0.8755	0.8866	..	..	..	..	0.8158	..	..	..	..	..	..	..
Madras . . . . .	0.8876	0.9223	0.4896	0.5496	..	0.4484	0.4479	0.4892	..	..	..	..	..	..
Kerala . . . . .	0.9383	..	..	..	..	..	..	..	..	..	..	..	..	..
Gujarat . . . . .	..	..	..	..	0.4787	..	..	..	..	..	..	..	..	..
Maharashtra . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mysore . . . . .	0.9171	..	..	..	..	..	0.6011	..	..	..	..	..	..	..



## APPENDIX 1

### SAMPLING DESIGN AND ESTIMATION PROCEDURE

The sample design was a stratified two-stage one for the land utilisation survey, villages being the first stage units and clusters of plots\*, the second stage units. For yield survey, the design was a four-stage one with villages, clusters of plots, sub-plots\*\* growing specified crops and circular cuts of radius 4 feet as the first, second, third and fourth stage units respectively. The first stage units were selected in the form of 4 independent sub-samples. Sub-samples 1 and 3 were surveyed by one party of investigators and sub-samples 2 & 4 by another party of investigators. The first stage units for yield survey were a sub-sample of the villages chosen for the land utilisation survey.

2. Within a state, contiguous tehsils or parts of contiguous tehsils fairly homogeneous with respect to population density and crop-pattern were grouped together to form compact strata as far as possible such that the sum of the sizes of the villages in each stratum was exactly equal, the size of a village being the ratio of its population to the average population of a village in the population class 0-499 in the state rounded off to an integer. In the whole of India 353 strata were formed.

3. The allocation of the total sample size to the various states was done on a joint consideration of the rural population, area under cereal crops and the investigator strength. The allocation was modified to ensure a minimum sample size of 360 villages in each state and about 200 sample villages in each of the Union Territories, Manipur and Tripura. The allocation was rounded off to 24 or multiple of 24 to facilitate having 4 sub-samples of 6 villages each per stratum.

4. The frame used for selection of villages was the list of villages as per the 1961 census. Within each stratum the tehsils were arranged in a serpentine order and four independent interpenetrating sub-samples of 12 villages each were selected circular systematically with probability proportional to size. In each sub-sample of a stratum the 6 villages with odd orders of selection formed the central sample and the remaining 6 villages formed the State sample.

5. The land utilisation survey was conducted in all the 6 villages in each of the four sub-samples for autumn, winter, spring and summer seasons. The crop-cutting experiments were conducted in villages 1, 3 and 6 of sub-samples 1 and 2 only of each stratum in each of the four seasons.

6. In sample villages meant only for land utilisation survey a circular systematic sample of 4 clusters of 5 plots each were selected per village while in sample villages meant for both land utilisation survey and crop-cutting experiments a circular systematic sample of 6 clusters of 10 plots each were selected. This selection procedure was adopted where cadastral maps for the villages were available and also in case of villages without maps where a list of plots was available. The sample clusters were formed through basic plots (equal to the number of clusters), selected circular systematically with equal probability. If the number of plots in a village was less than 20 (for a village where only land utilisation survey was to be conducted) or less than 60 (for a village where yield survey also to be conducted) then all the plots in the village were completely enumerated. If neither the cadastral map nor the list of plots was available, a circular systematic sample of 4 or 6 households (depending on whether the village was meant to be surveyed only for land utilisation survey or both land utilisation survey and crop-cutting experiments) was selected and all the plots possessed by the selected households and situated within a radius of 5 miles from the sample village were surveyed. If the number of households in the village was less than 4 (or 6, as the case may be) all the households were taken up for the survey. The same set of sample clusters or plots possessed by the households were surveyed for each of the four seasons.

7. In each season six sub-plots were selected circular systematically from all the sub-plots in the sample plots surveyed for land utilisation with probability proportional to the gross area under the specified crops. From the selected sub-plots, yield data were collected from circular cuts located at random in the sub-plot. For crops paddy, ragi, wheat (grown pure) or barley (grown pure) one cut was taken from a sub-plot while two cuts were taken in sub-plots growing jowar, bajra, wheat (mixed), maize or barley (mixed). Selection of sub-plots for crop-cutting experiments was done afresh for each season. If in a village the number of sub-plots having the specified crops was less than 6, all those sub-plots were taken up for crop-cutting experiments.

#### 8. Estimation procedure :

##### 8.1 Notation :

s=subscript for sth stratum/sub-stratum.

i=subscript for ith sample village/selected part of village.

k=number of strata/sub-strata in the state.

v=number of sample villages selected in the stratum and the sub-sample for the season.

Z=sum of sizes (used for selection) of the villages per stratum.

z=size (used for selection) of the village

r=adjustment ratio for revenue village selection and selection of part of the village .†

N=highest survey number (adjusted)††/highest sampling serial number of plots (adjusted).††

\*A plot is defined as distinct patch of land having a major survey number.

\*\*A sub-plot is defined as a contiguous patch of land within a plot having a particular type of utilisation. A plot may consist of one or more sub-plots.

†r=1 When the surveyed revenue villages coincides with the sampled census village and the whole of it was surveyed.

r= The number of areal divisions/hamlet groups formed in the village if an areal division or hamlet group was selected for survey.

r= The number of revenue villages which are wholly contained in the sampled census village in case the surveyed revenue village was selected from among them.

r= 1/number of census villages wholly contained in the surveyed revenue village, when the sampled census village was one of them.

†† For selection of sample plots, the highest survey number or sampling serial number was rounded off to the next higher multiple of the cluster size (in case it was not a multiple of the cluster size).



H=total number of households in the village.

n=number of clusters/households selected.

c=cluster size (in terms of number of plots).

a=area under a particular crop.

y=yield rate for a particular crop.

8.2 The estimates of area and yield rate for each crop were obtained separately for each crop season and for each sub-sample and separately for crop grown 'pure' and 'mixed' separately. The estimate of production of a crop was obtained as a product of the estimate of the area under the crop (based on all sample villages where land utilisation survey was conducted including crop-cutting villages) and the estimate of yield rate (obtained from all sample villages where crop-cutting experiments were conducted).

### 8.3 Acreage estimate

An estimate of the gross area under a particular crop separately for crop grown 'pure' and 'mixed' in a particular season for a given sub-sample in a state is given by

$$\hat{A} = \sum_{s=1}^k Z \sum_{i=1}^v \frac{r_{si}}{z_{si}} \frac{N'_{si}}{n_{si}}$$

where Z is constant for all strata and v=6 and

$$N'_{si} = N_{si} \left| \frac{C}{c_{si}} \right.$$

if clusters of plots were selected using map or a list of plots

$$= H_{si}$$

if households were selected

$$\frac{N'_{si}}{n_{si}} = 1$$

for a village where all the plots or households in the village were surveyed

$$a_{si} =$$

gross area in all the sampled clusters plots/possessed by the sampled households of the village

$$\hat{A} = \sum_{s=1}^k \hat{A}_s$$

where  $\hat{A}_s$  is the sth stratum estimate

$$\hat{A}_s = \frac{Z}{v} \sum_{i=1}^v \frac{a_{si}}{z_{si}}$$

and  $\hat{A}_{si}$  is the estimate for ith village in the sth stratum =  $r_{si} \frac{N'_{si}}{n_{si}} a_{si}$

### 8.4 Substitution

If any of the selected village was a casualty for the land utilisation survey for a season in the sense that it could not be surveyed, it was substituted by the next sample village selected for land utilisation survey in that stratum. Similarly if a cluster/household selected for acreage survey in a village was a casualty it was substituted by the next surveyed cluster household. Likewise if a selected plot in a cluster selected for acreage survey was a casualty, it was substituted by the next plot.

### 8.5 Production estimate

The production estimate P of a crop (obtained separately for pure and mixed crop) is the product of Y, and estimate of the yield rate of the crop (pure or mixed as the case may be) based on the villages reporting crop-cutting experiments and A, an estimate of the area under the crop (area under pure crop or gross area under mixed crop as the case may be) based on all the villages selected for the land utilisation survey.

8.6 The estimate Y is given by

$$\hat{Y} = \frac{\sum' \hat{A}_s \bar{y}_s}{\sum' \hat{A}_s}$$

where  $\bar{y}_s$  = simple average of yield rates over the cuts taken for the crop in the sth stratum.

$\hat{A}_s$  = obtained as described in paragraph 8.3

$\sum'$  denotes summation over only these strata reporting crop-cutting experiments for that crop.

8.7 As mentioned earlier, the area survey was planned to be conducted in all the sample villages of each of the four sub-samples while crop-cutting experiments were planned for a sub-set of villages of sub-samples 1 and 2 only. The production estimates have therefore been obtained :

(i) as the product of acreage estimate from sub-samples 1 and 3 combined and the estimates of yield rate from sub-sample 1.

(ii) as the product of acreage estimate from sub-sample 2 and 4 combined and the estimate of yield rate from sub-sample 2.

(i) gives the estimates based on one half of the sample surveyed by one party of investigation (designated as half-sample 1) and

(ii) gives estimates based on the other half of the sample, surveyed by another party (designated as half-sample 2).

The combined production estimate based on both the half-samples was obtained as the mean of the two half-sample estimates.

8.8 The 'total' estimates of production of a crop is given by the sum of the production estimates for the grown 'pure' and 'mixed'.

8.9 The estimate given above are for the green weight of the crop. The estimate of production of dry crop is obtained by multiplying the green weight of crop by a drriage factor applied at the State level. This factor is obtained as the ratio of the total dry weight to the total green weight of that crop (pure and mixed taken together) obtained from the cuts of 2' 3" radius. The drriage factors are obtained separately for each sub-sample and for each season.

8.10 The estimates of area and production of crops for the whole agricultural year is given as the sum of the estimates for the four seasons autumn, winter, spring and summer.



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**APPENDIX 2**

**FACSIMILE OF THE SCHEDULES OF INVESTIGATION**

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APPENDIX

TABLE OF THE RESULTS OF INVESTIGATION















[7] utilisation particulars of plots

serial number	cluster/household number	survey number	geographical area (0.00) acres	sub-plot number	area of sub-plot as percentage of geographical area of plot	utilisation type	crops of autumn season and their mixtures			other utilisation		gross area (0.00) acres under																	
							name of crops	crop code*	season code NSS**	name of official state season	name	season code NSS**	crop grown singly								mixed crops								
													paddy	jowar	bajra	ragi	maize	wheat	barley	small millets	paddy	jowar	bajra	ragi	maize	wheat	barley	small millets	
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	











































CENTRAL\*

ORIGINAL\*

STATE

DUPLICATE

## GOVERNMENT OF INDIA NATIONAL SAMPLE SURVEY : 1964-65

## Schedule 5.2 : Driage Experiments

RURAL

AUTUMN  
(Nineteenth Round)

## [1] identification particulars of village

1. serial number	5. sample village	9. district.....
2. zone-state-region	6. C.P.A. classification**	10. tahsil/taluka/thana*
3. stratum	7. method code	11. name of village .....
4. sub-sample	8. state.....	12. village area (0.00 acres) .....

## [2] investigation particulars

1. investigator : name.....	roll no.....	date (1) completion of driage experiments.....
(ii) despatch.....		signature.....
2. inspector : name.....	date (i) inspection.....	(ii) scrutiny.....
(iii) despatch.....		signature.....
3. scrutiniser : name.....	date (i) receipt.....	(ii) scrutiny.....
(iii) despatch.....		signature.....

## [3] remarks by investigator

\*delete whichever is inapplicable.

\*\*not in C.P.A.-0; C.P.A. stage 1-1, stage 2-2; in community development block-3.





**NATIONAL SAMPLE SURVEY REPORTS ALREADY PUBLISHED**

- No. 1 General Report No. 1 on the First Round (October 1950-March 1951)
- 2 Tables with Notes on the Second Round (April-June 1951)
- 3 Tables with Notes on the Third Round (August-November 1951)
- 4 Special Report on the Survey of Persons in the "Live-Registers" of Delhi Employment Exchange (August-September 1951)
- 5 Technical Paper on Some Aspects of the Development of the Sample Design
- 6 Survey of Faridabad Township (March-April 1954)
- 7 Couple Fertility (Second Round, April-June, 1951 and Fourth Round, April-September 1952)
- 8 Report on Preliminary Survey of Urban Unemployment (September 1953)
- 9 Report on the Sample Survey of Displaced Persons in the Urban Areas of the Bombay State (July-September 1953)
- 10 First Report on Land Holdings, Rural Sector (Eighth Round : July 1954-March 1955)
- 11 Report on Sample Survey of Manufacturing Industries, 1949-50
- 12 A Technical Note on age Grouping
- 13 Report on Household Transport Operations (Seventh Round : October 1953-March 1954)
- 14 Report on Some Characteristics of the Economically Active Population (Fourth to Seventh Round : April 1952-March 1954)
- 15 Report on Sample Survey of Manufacturing Industries, 1951
- 16 Preliminary Report on Employment and Unemployment (Ninth Round : May-November 1953)
- 17 Report on Sample Survey of Employment in Calcutta (September 1953)
- 18 Tables with Notes on Consumer Expenditure (Fourth Round : April-September 1952)
- 19 Report on Small Scale Manufacture : Household Enterprises smaller than Registered factories (Seventh Round : October 1953-March 1954)
- 20 Report on Pattern of Consumer Expenditure (Second to Seventh Round : April 1951-March 1954)
- 21 Household Small Scale Manufacturing Establishments (Ninth Round : May-November 1953)
- 22 Report on Sample Survey of Manufacturing Industries, 1952
- 23 Report on Sample Survey of Manufacturing Industries, 1953
- 24 Report on Household Retail Trade (Seventh to Ninth Round : October 1953-September 1955)
- 25 Sample Verification of Livestock Census : 1956
- 26 A Preliminary Report on Housing Condition (Seventh Round : October 1953-March 1954)
- 27 Technical Records of Sample Design, Instructions to Field Workers and List of Sample Villages and Urban Blocks (Ninth Round : May-November 1953)
- 28 Report on Sample Survey of Manufacturing Industries, 1954 (1)
- 29 Notes on Some Results of the Land Utilisation Survey (Tenth Round : December 1955-May 1956)
- 30 Report on Land Holdings (2) : Operational Holdings in Rural India (Eighth Round : July 1954-April 1955)
- 31 Tables with Notes on Household Transport Operation (Eighth to Tenth Round : July 1954-May 1956)
- 32(I) Some Aspects of Costs of Cultivation of Paddy, Wheat, Jowar and Bajra (Fifth to Seventh Round : October 1952-March 1954)
- 32(II) Some Aspects of Costs of Cultivation of Barelly, Maize, Ragi, Gram, Small Millets, Groundnut, Cotton and Jute (Fifth to Seventh Round : October 1952-March 1954)
- 32(III) Some Aspects of Costs of Cultivation of Minor Cereals, Pulses, Sugarcane, Oil Seeds, Potato, Spices and Tobacco (Fifth to Seventh Round : October, 1952-March 1954)
- 33 Tables with Notes on Wages, Employment, Income and Indebtedness of Agricultural Labour Households in Rural Areas (Eleventh and Twelfth Round : August 1956-August 1957)
- 34 Tables with Notes on Employment and Unemployment (Tenth Round : December 1955-May 1956)
- 35 Tables with Notes on Livestock Products (Fifth to Seventh Round : April 1952-March 1954)
- 36 Report on Land Holdings (3) : Some Aspects of Ownership Holdings (Eighth Round : July 1954-April 1955)
- 37 Survey of Book Reader's Preference in India (Thirteenth Round : September 1957-May 1958)
- 38 Some Results of Land Utilisation Survey and Crop-cutting Experiments (Thirteenth Round : September 1957-May 1958)
- 39 Tables with Notes on Consumer Expenditure (Eighth Round : July 1954-March 1955)
- 40 Tables with Notes on Consumer Expenditure (Ninth Round : May-November 1955)
- 41 Household Retail Trade (Tenth Round : December 1955-May 1956)
- 42 Report on Small Scale Manufacture : Household Enterprises smaller than Registered Factories (Seventh to Eighth Round : October 1953-April 1955)
- 43 Tables with Notes on small Scale Manufacture : Household Enterprises smaller than Registered Factories (Ninth and Tenth Rounds : May 1955-May 1956)
- 44 A Note on Profession and Services (Fourth to Eighth Round : April 1952-April 1955)

## NATIONAL SAMPLE SURVEY REPORTS ALREADY PUBLISHED

- 45 Report on Indian Villages : A Study of Some Social and Economic Aspects (Tenth to Twelfth Round : December 1955-August 1957)
- 46 Tables with Notes on Consumer Expenditure of Agricultural Labour Households in Rural Area (Eleventh and Twelfth Rounds : August 1956-August 1957)
- 47 Tables with Notes on Consumer Expenditure (Tenth Round : December 1955-May 1956)
- 48 Preliminary Estimates of Birth and Death Rates and of the Rate of Growth of Population (Fourteenth Round : July 1958-July 1959)
- 49 Report on Morbidity (Thirteenth Round : September 1957-May 1958)
- 50 Tables with Notes on Housing Condition (Tenth Round : December 1955-May 1956)
- 51 Tables with Notes on Housing Condition Eleventh Round : August 1956-January 1957)
- 52 Tables with Notes on Employment and Unemployment (Eleventh and Twelfth Rounds : August 1956-August 1957)
- 53 Tables with Notes on Internal Migration (Ninth, Eleventh, Twelfth and Thirteenth Rounds : May 1955-May 1958)
- 54 Vital Rates (Seventh Round : October 1953-March 1954)
- 55 Report on Sample Survey of Manufacturing Industries, 1954 (2) : Exploratory Survey of Scheduled Industries
- 56 Report on Sample Survey of Manufacturing Industries, 1955 (1) : Survey of Scheduled Industries
- 57 Report on Sample Survey of Manufacturing Industries, 1955 (2)
- 58 Report on Sample Survey of Manufacturing Industries, 1956 (1) : Survey of Scheduled Industries
- 59 Tables with Notes on Pattern of Household Ownership and Possession of Land in Rural Area, 1950-51 to 1953-54 (Eighth Round : July 1954-April 1955)
- 60 Tables with Notes on Farming Condition and Practices in Rural Areas 1953-54 (Eighth Round : July 1954-April 1955)
- 61 Notes on the Results of the Land Utilisation Survey and Crop-cutting Experiments : (Eleventh Round : August 1956-February 1957)
- 62 Supplementary Report on Employment and Unemployment (Ninth Round : May-November 1955)
- 63 Tables with Notes on Employment and Unemployment in Urban Areas (Thirteenth Round : September 1957-May 1958)
- 64 Indian Villages : A Study of Some Social and Economic Aspects : Thirteenth Round : September 1957-May 1958)
- 65 Tables with Notes on Animal Husbandry (Eleventh Round : August 1956-January 1957)
- 66 Report on Land Holdings (4) : Rural Sector, States (Eighth Round : July 1954-April 1955)
- 67 Tables with Notes on Housing Condition (Twelfth Round : March-August 1957)
- 68 Tables with Notes on Rural Indebtedness (Eighth Round : July 1954-April 1955)
- 69 Notes on the Results of the Land Utilisation Survey and Crop-cutting Experiments (Twelfth Round : March-August 1957)
- 70 Technical Paper on Sample Design (Fourteenth Round : July 1958-June 1959)
- 71 Consumer Expenditure by Levels of Household Expenditure (Thirteenth Round : September 1957-May 1958)
- 72 Tables with Notes on Milk Production (Twelfth Round : March-August 1957)
- 73 Some Results of the Land Utilisation Survey and Crop-cutting Experiments (Fourteenth Round : July 1958-June 1959)
- 74 Report on Land Holdings (5), Rural Sector (Some Aspects of Operational Holdings—Population Zones and All India) (Eighth Round, July 1954-April 1955)
- 75 Report on Sample Survey of Manufacturing Industries 1956 (2)
- 76 Fertility and Mortality Rates in India (Fourteenth Round : July 1958-June 1959)
- 77 Tables with Notes on Consumer Expenditure (Eleventh Round : August 1956-February 1957)
- 78 Tables with Notes on Consumer Expenditure Twelfth Round : March-August 1957)
- 79 Some Results of the Land Utilisation Survey and Crop-cutting Experiments (Fifteenth Round : July 1959-June 1960)
- 80 Tables with Notes on Consumer Expenditure (Thirteenth Round : September 1957-May 1958)
- 81 Report on Land Holdings : Urban Sector (Eighth Round, July 1954-April 1955)
- 82 Tables with Notes on Some Aspects of Cost of Cultivation of Paddy, Wheat, Barley Maize, Millets, Pulses, Oil Seed and Vegetables, Urban India (Fifth to Seventh Round, 1951-1953)
- 83 Report on Sample Survey of Manufacturing Industries, 1957 (1)
- 84 Tables with Notes on Sample Survey of Manufacturing Industries : Survey of Scheduled Industries 1957
- 85 Tables with Notes on Employment and Unemployment in Urban Areas, (Fourteenth Round: July 1958-June 1959)
- 86 Tables with Notes on Sample Survey of Manufacturing Industries, 1957 (2)
- 87 Tables with Notes on Average Budget of Agricultural Labour Households in Rural Areas (Eleventh and Twelfth Rounds : August 1956-August 1957)
- 88 Tables with Notes on Households Receipts and Disbursements ; Fourteenth Round, July 1958-June 1959)
- 89 Tables with Notes on Dwelling Habits of Occupants of the Two-room Government Residences in New Delhi, July 1960
- 90 Tables with Notes of Survey of Scheduled Industries, 1958 : Sample Survey of Manufacturing Industries, 1958
- 91 Tables with Notes on the Annual Survey of Industries, 1959 : Sample Sector : Summary Results.
- 92 Some Results of Land Utilisation Survey and Crop-cutting Experiments (Sixteenth Round : July 1960-June 1961)
- 93 Tables with Notes on Sample Survey of Manufacturing Industries 1958, Factory Establishments : Summary



## NATIONAL SAMPLE SURVEY REPORTS ALREADY PUBLISHED

- 94 Tables with Notes on Small Scale Manufacture : Rural and Urban (Fourteenth Round, July 1958-June 1959)
- 95 Tables with Notes on Household Indebtedness (Sixteenth Round, July 1960-June 1961)
- 96 The Annual Survey of Industries, 1960 : Sample Sector, Summary Results
- 97 Tables with Notes on Capital Formation (Fifteenth Round—Rural : July 1959-June 1960)
- 93 Tables with Notes on Consumer Expenditure Preliminary (Fifteenth Round : July 1959-June 1960)
- 93 Tables with Notes on Household Non-Registered Trade (Fifteenth Round : July 1959-June 1960)
- 100 Tables with Notes on Rural Employment and Unemployment (Fourteenth Round : July 1958-June 1959)
- 101 Tables with Notes on Consumer Expenditure (Preliminary) (Sixteenth Round : July 1960-August 1961)
- 102 Tables with Notes on Consumer Expenditure : Fourteenth Round, July 1958-June 1959
- 103 Tables with Notes on Urban Labour Force (Sixteenth Round : July 1960-June 1961)
- 104 Tables with Notes on Consumer Expenditure (Fifteenth Round : July 1959-June 1960)
- 105 Tables with Notes on Household Non-Mechanised Transport and Utilisation of working Animals (Fifteenth Round : July 1959-June 1960)
- 106 Tables with Notes on Land Utilisation Survey and Crop-cutting Experiments (Seventeenth Round : July 1961-June 1962)
- 107 Tables with Notes on Consumer Expenditure (Eleventh and Twelfth Round : August 1956-August 1957)
- 108 Report on the Type study on Consumption and Disposal of Cereals and Capital Formation by Households : 1959-60
- 109 Tables with Notes on Indian Villages (Fourteenth Round : July 1958-June 1959)
- 110 Tables with Notes on Rates of Birth, Death and Growth of Rural Population (Fifteenth Round : July 1959-June 1960)
- 111 Tables with Notes on Sample Survey of Manufacturing Industries : 1958 : Factory Establishments : Detailed Results
- 112 Tables with Notes on Land Utilisation Survey and Crop-Cutting Experiments (Eighteenth Round : July 1962-June 1963)
- 113 Tables with Notes on Agricultural Holdings in Rural India (Sixteenth Round : July 1960-June 1961)
- 114 Tables with Notes on Employment and Unemployment in rural areas (Sixteenth Round : July 1960-June 1961)
- 115 Tables with Notes on Disposal of Cereals by Producer Households in Rural Areas (Fifteenth Round : July 1959-June 1960)
- 116 Tables with Notes on Family Planning (Sixteenth Round : July 1960-June 1961)
- 117 Tables with Notes on the Enquiry of Physically Handicapped Persons (Sixteenth Round : July 1960-August 1961)
- 118 Tables with Notes on the Annual Survey of Industries, 1961-Sample Sector, Summary Results
- 119 Special Study on Morbidity (Sixteenth Round : November 1960-October 1961)
- 120 Tables with Notes on the Annual Survey of Industries 1962, Sample Sector, Summary Results
- 121 Preliminary Estimates, of Birth Rate and Death Rate and of the Growth of Population (Eighteenth Round : February to January 1964)
- 122 Tables with Notes on the Annual Survey of Industries, 1959 Sample Sector (Detailed Results)
- 123 Tables with Notes on the Annual Survey of Industries, 1963 Sample Sector (Summary Results)
- 124 Some Results of the Land Utilisation Survey and Crop-Cutting Experiments (Eighteenth Round : July 1963-June 1964)
- 125 Technical Paper on Sample Design (Nineteenth Round : July 1964-June 1965)
- 126 Tables with Notes on Internal Migration (Fourteenth & Fifteenth Round : July 1958-June 1960)
- 127 Tables with Notes on Urban Labour Force (Seventeenth Round : September 1961-July 1962)
- 128 Tables with Notes on Internal Migration (rural) (Fourteenth Round : July 1958-June 1959)
- 129 Report on Pilot Enquiry on Morbidity (Seventeenth Round : September 1961-July 1962)
- 130 Tables with Notes on Profession and Liberal Arts (Eighteenth Round : February 1963-January 1964)
- 131 Tables with Notes on the Annual Survey of Industries, 1960, Sample Sector (Detailed Results)
- 132 Tables with Notes on the Annual Survey of Industries, 1964, Sample Sector (Summary Results)
- 133 Some Results of the Land Utilisation Survey and Crop-Cutting Experiments (Nineteenth Round : July 1964-June 1965)