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GOVERNMENT OF KERALA

REPORT ON CROP CUTTING SURVEY

ON

WINTER AND SUMMER CROP OF

PADDY 1981

DIRECTORATE OF ECONOMICS AND
STATISTICS TRIVANDRUM



Government of Kerala
1983

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DIRECTORATE OF ECONOMICS AND STATISTICS

TRIVANDRUM

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

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PREFACE

The Crop estimation surveys on Paddy are conducted by the Department separately for each crop season namely Autumn, Winter and Summer and the results of the surveys are published in two separate reports one covering Autumn and the other covering Winter and Summer seasons.

This report relating to Winter, Summer seasons of 1981 deals with the objective of the Survey, sampling technique adopted and the results of the analysis of the data obtained from the surveys.

This report was prepared by the Agricultural Statistics division of the Directorate of Economics and Statistics.

K. RAMAVARMA,

Directorate of Economics and Statistics.

Trivandrum,
12-8-1983.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

In the second section, the author outlines the various methods used to collect and analyze the data. These include direct observation, interviews with key personnel, and the use of specialized software tools. Each method has its own strengths and limitations, and they are often used in combination to provide a comprehensive view of the situation.

The third part of the report details the findings of the study. It shows that there are significant discrepancies between the reported figures and the actual data. These differences are primarily due to incomplete reporting and a lack of proper documentation. The author suggests that implementing a more rigorous record-keeping system could help to resolve these issues.

CONCLUSION

In conclusion, the study has identified several key areas for improvement. The most critical is the need for better record-keeping and documentation. By ensuring that all transactions are properly recorded and supported, the organization can improve its financial accuracy and transparency.

Additionally, the study highlights the importance of regular audits and reviews. These can help to identify any discrepancies early on and prevent them from becoming major issues. The author also suggests that providing training to staff on proper record-keeping procedures could be beneficial.

Finally, the report recommends that the organization should consider investing in more advanced software solutions. These tools can help to streamline the data collection and analysis process, making it more efficient and less prone to error.

Overall, the findings of this study provide a clear path forward for the organization. By addressing the identified issues and implementing the suggested improvements, the organization can ensure that its financial records are accurate and reliable.

CROP CUTTING SURVEY ON WINTER AND SUMMER CROP OF PADDY—1981

1. *Introduction :*

Crop estimation surveys on paddy are being conducted regularly by this department separately for the three crop seasons viz., Autumn (Virippu), Winter (Mundakan) and Summer (Punja). The results of crop cutting surveys on paddy are prepared and published separately for Kharif season (Autumn crop) and Rabi season (Winter and Summer crops). The present report deals with the results of Survey conducted during Winter and Summer 1981.

2. *Objectives of the Survey :*

The main objectives of the survey were :—

- (i) To estimate the Productivity of dry paddy at the Taluk, District and the State levels for each season.
- (ii) To estimate the total production of rice in the state during each crop season.
- (iii) To estimate the productivity of High yielding varieties of Paddy at the district level.
- (iv) To study the cultivation practices of paddy.

2.2 *Period of the Survey :*

The field work relating to winter paddy was from December 1980 to February 1981 and that of Summer paddy was from March 1981 to May 1981.

2.3 *Coverage :*

The Survey was conducted in all the taluks except Cochin during winter 1980-81 and 53 out of 57 taluks during summer 1981. The taluks where crop cutting experiments were not conducted during summer were Shertallay, Peermade, Cochin and Kanjirappally as there was no summer paddy.

2.4 *Sampling Design :*

A stratified multistage random sampling design was adopted for the survey. Taluk was treated as the stratum, revenue village as the first stage unit, a survey subdivision number as the second stage unit, a Kanloni as the third stage unit and square plot of side 5 metres as the ultimate sample unit. The selection of revenue villages was done at the headquarters of the Directorate in the beginning of the agricultural year, they being the same as those selected for T.R.S. The number of experiment to be conducted in each season is fixed considering the area of the crop and availability of

investigators limiting the number of experiments to thirty in a Taluk subject to a minimum of two experiments in a village. In each of the investigator units the required number of experimental plots were selected by simple random sampling method from the frame consisting of the list of wet land survey subdivisions in the unit growing the crop which would be harvested in the seasons.

Three samples of the harvested produce each weighing 250 gram were collected at the time of harvest from a taluk for conducting driage experiments. The first sample was taken at the beginning, the second towards the middle and the third towards the end of the harvesting season in each taluk.

2.5. *Sample Selection :*

The selection of plots in each investigator unit was done by the Taluk Statistical Inspector. The selection of Kandom if the number of kandoms in the selected survey subdivision was more than one and the location of square plot of side 5 meters were done by the investigators.

2.6 *Field Work :*

The field work of the survey was attended to by the Investigators under the immediate supervision of the Taluk Statistical Inspectors. The District Statistical Officers were also made responsible for the proper conduct and supervision of the field work of the survey. The additional District Statistical Officers also conducted supervision of the field work.

The total number of crop cutting experiments planned during winter and summer 1981 in the State were 1458 and 1081 respectively. The percentage response was found to be 98 for winter and 97 for summer.

2.7 *Supervision :*

The field work of the survey was inspected at three stages viz. pre-harvest, harvest and post-harvest stages by the Additional Statistical Inspectors, Statistical Inspectors, Additional District Statistical Officers and District Statistical Officers. Targets were fixed for the supervising Officials for the conduct of inspection at the harvest stage. The officers at the district level have been instructed to conduct harvest-stage inspection at the rate of one experiment in each Taluk. The Statistical Inspectors/Additional Statistical Inspectors were asked to conduct at least one harvest stage inspection in each investigator unit subject to a minimum of six experiments in a taluk. During Winter 1981 about 49% of the experiments analysed were inspected at the harvest stage, about 15% at the pre-harvest stage and during summer 1981, about 53% of the experiments analysed were inspected at the harvest stage and 17% at the pre-harvest stage.

2.8. *Analysis.*—The tabulation and analysis of the data collected through the survey was done at the head quarters of the Directorate by the Agricultural Statistics Division.

2.9. Procedure of Estimation.—

(i) *Mean yield.*—The taluk-wise mean yield of dry paddy and its standard error were estimated using the following formula—

$$\text{Taluk mean yield } \bar{X} = \frac{\sum_{i=1}^K \sum_{j=1}^{n_i} x_{ij}}{\sum_{i=1}^K n_i}$$

where n_i = number of experiments conducted in the i th village ($i=1, 2, 3, \dots, k$) k = number of villages selected in the taluk x_{ij} = weight of paddy obtained from the j th experiment in the i th villages ($j=1, 2, \dots, n_i$) each experiment is taken from 5 metre square ($\frac{1}{400}$ th of a hectre).

Mean yield of dry paddy in kg per hectare = $\bar{X} \times 400 \times d$
where d is the driage ratio of dry paddy to wet paddy.

(ii) *Standard Error of Taluk Mean Yield:*

$$\text{Variance of Taluk mean yield} = \frac{A}{N} + \frac{B.A.}{m} \times \frac{\sum_{i=1}^K n_i^2}{N^2}$$

Where A = Mean square within village

B = Mean square between village

N = Total number of experiments

conducted in the taluk $\sum_{i=1}^K n_i$

n_i = No of experiments conducted in the i th village

$$m = \frac{N^2 - \sum n_i^2}{N(K-1)}$$

k = number of villages selected in the taluk the standard error (S.E) is the square root of this variance. The standard error in kg per hectare is obtained by multiplying this square root of variance by 400.

(iii) *Standard error of the State Mean Yield.*—The formula adopted for the computation of standard error of the state mean yield is indicated below:—

Standard Error of the State Mean yield

$$= \frac{\sqrt{\sum (a_i s_i^2)}}{\sqrt{(\sum a_i)^2}}$$

where a_i = Area under the crop in the i th taluk and

s_i = The standard error of the estimate of mean yield in the i th taluk.

The data on area under paddy in each taluk estimated through the T.R.S. have been utilised to compute the production of rice.

The weight of cleaned rice is reckoned as 65.7 percent of dry paddy.

2.10. Results of the Survey.—

(i) *General.*—The estimated production of rice in the state during the three seasons of the year 1980—81 is given below:—

	<i>Tonnes</i>
Autumn 1980	553748
Winter 1981	548500
Summer 1981	169714
Total	1271962

The production of rice in the state has decreased by about 28,000 tonnes during the year compared to the level of production obtained in 1979-80. The decrease mainly in the production during summer season was due to the decrease in the extent of area brought under cultivation. It was also reported (from certain places) that there was not adequate rain during summer season.

(ii) The estimated area, mean yield and its standard error and production of rice together with the number of crop cutting experiments analysed in each taluk during winter and summer 1981 are given in the table 1 and 6 respectively in the appendix.

(iii) The analysis of variance of plot yield pooled for the state is given in tables 2 and 7 in the appendix in respect of winter & summer seasons respectively. In both cases the yield rate of paddy was found to be statistically significant between taluks as well as between villages within each taluk.

(iv) It was found that the yield rate obtained from about 46 per cent in winter and 45 per cent in summer of the experimental plots was over 2500 kg. of wet paddy per hectare. About 8 per cent of the experimental plots in winter have yield more than 4100 kg. of wet paddy per hectare while in summer this percentage was about 12. In last year these percentages were 8 and 15 respectively. The lowest yield rate of less than 500 kg. of wet paddy per hectare was obtained from about 2 per cent of the experimental plots in winter and little more than of the 3 per cent of the plots in summer 1981.

(v) In order to determine the driage ratio of dry paddy to wet paddy 168 and 141 driage experiments were conducted during winter and summer 1981. It was found that during winter the driage ratio varies from 0.877 in Trivandrum District to 0.918 in Idukki District and during summer from 0.893 in Quilon District to 0.919 in Kozhikode District. The driage ratio for the state was estimated as 0.905 in winter and 0.917 in summer.

(vi) The estimated mean yield of dry paddy relating to Winter and Summer 1981 for taluks, districts and the state for the last six years (1976 to 1981) are given in tables 3 and 8 respectively in the appendix.

(vii) *High yielding varieties.*—The estimated area, mean yield and production of high yielding varieties and other varieties of paddy in each district and the state during Winter and Summer 1981 are furnished in

tables 4 and 9 respectively in the appendix. The estimates show that 26% of area under paddy during Winter and 52% during summer 1981 were brought under high yielding varieties.

The State level productivity of the high yielding strains during winter 1981 was 31.5% above that of other varieties. It was also estimated that about 32% of the total out turn of rice was from high yielding varieties during Winter. The district level yield rate of high yielding varieties of paddy was found lower than that of other varieties in the districts of Quilon, Kottayam and Idukki. It was reported that due to the high cost of chemical fertilizers and manures, the cultivators did not apply the required quantity. During Summer, the productivity was 41.8% over the productivity of other varieties. About 60% of the product of rice during the season was from High Yielding Varieties.

The distribution of experimental plots with high yielding varieties of paddy according to the variety raised in each district during winter and summer 1981 showed that about 22% and 55% of the experimental plots covered by the survey were grown with high yielding strains of paddy during winter and summer 1981 respectively. The high yielding varieties of paddy in the order of cultivators preference were Jyothi, Mashori and H4 during Winter and Jyothi, Triveni, Culture-28, Jaya and Bharathy during summer 1981. The highest State average yield of 3201 kg. per hectare was obtained from Mashori followed by 2929 kg. per hectare from I. R. 8 and 2795 kg. per hectare from H4 during winter. During summer 1981 the highest State average yield of 5136 kg. per hectare was obtained from I. R. 20.

The names of high yielding strains of paddy which corresponds to the highest district average yield together with the highest mean yield and the number of experimental plots where the crop was raised in each district during winter 1981 are indicated in the table given below:—

District-wise High Yielding Varieties with highest average yield-Winter 1981

Sl. No.	District	HYV corresponding to the highest district average yield	Highest average yield of dry paddy (kg./hect.)	No. of experimental plots where HYV in col. (3) raised
(1)	(2)	(3)	(4)	(5)
1.	Trivandrum	Bharathy	3299	1
2.	Quilon	Jyothi	3369	5
3.	Alleppey	Jyothi	2927	41
4.	Kottayam	Bharathy	3348	7

(1)	(2)	(3)	(4)	(5)
5.	Idukki	I.R.8	4104	2
6.	Ernakulam	H4	2834	10
7.	Trichur	Jyothi	2581	1
8.	Palghat	H4	3387	2
9.	Malappuram	Jaya	3516	2
10.	Kozhikode	Mashori	2165	2
11.	Cannanore	I.R.8	3620	2

The highest district average yield was obtained for I. R. 8 in Idukki District closely followed by I. R. 8 in Cannanore District and Jaya in Malappuram District. Jyothi attained the highest district average yield in three districts.

The names of high yielding varieties which correspond to the highest average yield in each district together with the highest average yield and the number of experimental plots where the crop was raised during summer 1981 are indicated below:—

District-wise High Yielding Variety with highest average yield—Summer 1981

Sl. No.	District	HYV corresponding to the highest district average yield	Highest average yield of dry paddy (kg./hect.)	No. of experimental plots where HYV in col. (3) is raised
1.	Trivandrum	Mashori	2309	1
2.	Quilon	Jyothi	2027	10
3.	Alleppey	Bharathy	4081	12
4.	Kottayam	Jyothi	3217	14
5.	Idukki	..	..	..
6.	Ernakulam	I.R.8	4175	1
7.	Trichur	I.R.20	7080	1
8.	Palghat	I.R.20	5636	1
9.	Malappuram	Bharathy	3567	1
10.	Kozhikode	Sabari	3431	1
11.	Cannanore	Sabari	4397	1

I. R. 20 recorded the highest district average in Trichur District followed by I. R. 20 in Palghat District, Sabari in Cannanore District and I. R. 8 in Ernakulam District.

(viii) *Cultivation practices.*—It was found that 34 per cent in winter and 83 per cent in summer of the experimental plots covered by the survey received irrigation. These per centages were 33 and 78 respectively during the corresponding seasons of the previous year. Out of the irrigated plots about 84% during winter 81 and 88% during summer 1981 were applied with chemical fertilizers while 14% and 11% during winter and summer 81 respectively were found to have been applied with other manures like farm yard manure, green manure, cowdung etc. It is seen that about 2% and 1% of the irrigated plots covered by the survey were left unmanured during winter and summer 1981 respectively.

(a) As far as unirrigated plots are concerned, 72% of the plots were found to have been applied with chemical fertilizers and another 24% with other types of manures during winter 1981. During summer 1981, these per centages were 86 and 12 respectively.

(b) It was reported that crops in 44% of the experimental plots during winter 81 and 68% during summer were treated with insecticides and pesticides. No severe pest attack was reported from any district during winter 1981. During summer 1981, there were reports regarding pest attack, but the attack could be controlled by the timely application of insecticides and pesticides.

(c) In the case of the experimental plots where HYV were raised it was found that about 51% and 86% of them received irrigation during winter and summer 1981 respectively. Chemical fertilizers were found to have been applied in about 91% of the irrigated plots with the HYV during winter 1981. The above per centage was 98.3 during summer 1981 with regard to the unirrigated plot with HYV, Chemical fertilizers have been applied in 90% of the plots during winter 1981 and in all the plots during summer 1981.

(d) Insecticides and pesticides were found to have been applied to about 72% of the experimental plots with HYV during winter 1981 and to about 78% during summer 1981.

The estimated average yield of dry paddy per hect. for the high yielding and other varieties under various cultivation practices during winter and summer 1981 are given in tables 5 and 10 in the appendix.

A statement showing the area mean yield and production of rice in Kerala for the two seasons winter and summer for the last ten years (1971-81) is given below to facilitate comparison.

Season-wise area, mean yield and production of Rice in Kerala from 1971-81

Agricultural year	Autumn			Winter			Summer			Total		
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		(11)	(12)	(13)
	Area in (000 hect.)	Mean yield of paddy (kg./hect.)	Production of rice in lakh tonnes	Area in (000 hect.)	Mean yield of dry paddy (kg./hect.)	Production of rice in lakh tonnes	Area in (000 hect.)	Mean yield of dry paddy (kg./hect.)	Production of rice in lakh tonnes	Area in (000 tonnes)	Mean yield of dry paddy (kg./hect.)	Production of rice in lakhs tonnes
1971-72	395	2126	5.52	382	2378	5.97	98	3151	2.03	875	2361	13.52
1972-73	392	2237	5.76	382	2426	6.09	100	2918	1.91	874	2527	13.76
1973-74	393	2347	6.06	381	2028	5.08	101	2168	1.44	875	2187	12.58
1974-75	395	2054	5.36	385	2382	6.02	102	2936	1.96	882	2303	13.34
1975-76	375	2241	5.52	396	2296	5.98	105	2632	1.81	876	2313	13.31
1976-77	364	2040	4.88	381	2344	5.88	109	2497	1.79	854	2234	12.55
1977-78	365	2300	5.62	371	2295	5.59	104	2677	1.84	840	2345	12.95
1978-79	347	2391	5.45	346	2333	5.30	106	2832	1.98	799	2423	12.73
1979-80	348	2481	5.68	340	2359	5.26	105	2971	2.06	793	2494	13.00
1980-81	349	2413	5.54	354	2357	5.48	98	2627	1.70	801	2415	12.72

APPENDIX

TABLE: I

Estimate of Area Mean Yield of Paddy and Production of Rice during Winter 1981

Sl. No.	Taluk and District	No. of experiments		Area (in hect.)	Mean yield of dry paddy in	Standard error	Production of rice in tonnes
		Planned	Analysed				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Neyyattinkara	30	29	4522	2162	446	6423
2	Trivandrum	24	23	3042	1941	148	3879
3	Nedumangad	30	30	4141	2078	46	5653
4	Chirayinkil	30	30	4410	2208	206	6397
	TRIVANDRUM DISTRICT	114	112	16115	2111	141	22352
5	Quilon	24	23	3794	2098	106	5230
6	Kottarakkara	30	30	5803	2888	384	11011
7	Kunnathur	30	30	4845	2456	226	7818
8	Pathanapuram	24	24	3957	2976	228	7737
9	Pathanamthitta	20	20	2372	2401	222	3742
10	Karuragappally	24	24	4319	2229	207	6325
	QUILON DISTRICT	152	151	25090	2539	114	41863
11	Karthigappally	24	24	4724	1843	161	5720
12	Mavelikara	30	30	5433	2181	139	7785
13	Chengannur	24	23	2461	3018	413	4880
14	Thiruvalla	24	23	1137	2483	372	1855
15	Kuttanad	30	29	5916	3298	—	12819
16	Ambalapuzha	18	17	3075	824	—	1665
17	Shertallay	30	30	2626	1169	174	2017
	ALLEPPEY DISTRICT	180	176	25372	2204	98	36741
18	Changanacherry	20	19	908	2525	376	1506
19	Kanjirappally	6	6	86	2848	—	161
20	Kottayam	30	30	2644	3108	532	5399
21	Vaikom	24	22	4635	2558	226	7790
22	Meenachil	24	24	2526	2692	282	4468
	KOTTAYAM DISTRICT	104	101	10799	2724	180	19324

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
23	Peermade	12	12	69	3865	..	175
24	Devicolam	12	12	1453	3370	..	3217
25	Udumbanchola	12	12	934	3302	278	2026
26	Thodupuzha	30	30	2644	2265	101	3935
	IDUKKY DISTRICT	66	66	5100	2791	104	9353
27	Kothamangalam	30	30	3706	2310	.	5624
28	Muvattupuzha	30	30	6379	2775	154	11630
29	Cochin	.	..	..	..	..	.
30	Kanayannur	30	30	4048	1839	320	4891
31	Kunnathunad	30	30	12363	2132	224	17317
32	Alwaye	30	30	10107	2172	174	14423
33	Parur	30	30	3116	1600	..	3276
	ERNAKULAM DISTRICT	180	180	39719	2190	111	57161
34	Cranganore	20	20	2119	823	136	1146
35	Mukundapuram	30	30	15771	2117	118	21935
36	Trichur	30	29	12853	1795	198	15158
37	Thalappally	30	29	14518	2245	156	21414
38	Chowghat	30	29	3907	1063	166	2729
	TRICHUR DISTRICT	140	137	49168	1931	80	62382
39	Chittur	30	30	16736	3081	301	38877
40	Alathur	30	30	28540	2959	208	55484
41	Palghat	30	28	18818	3465	184	42839
42	Ottappalam	30	29	17899	2136	329	25119
43	Mannarghat	30	30	7557	3798	194	18857
	PALGHAT DISTRICT	150	147	89550	2994	117	176176
44	Perinthalmanna	30	28	6996	2158	380	9919
45	Ponnani	24	24	2490	1891	268	4336
46	Tirur	30	27	10239	2070	235	13925
47	Ernad	30	30	15287	2227	186	22367
	MALAPPURAM DISTRICT	114	109	36012	2136	130	50547

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
48	Kozhikode	30	30	6297	1683	172	6963
49	Quilandy	30	30	5113	1383	295	4646
50	Badagara	24	24	2971	1365	216	2664
51	South Wynad	12	12	14080	2300	390	21276
	KOZHIIKODE DISTRICT	96	96	28461	1901	205	35549
52	North Wynad	12	12	8939	2132	202	12521
53	Tellicherry	30	30	3927	1927	174	4972
54	Cannanore	30	30	2902	1783	160	3399
55	Taliparamba	30	30	4502	1688	162	4993
56	Hosdurg	30	30	3184	1916	216	4008
57	Kasargode	30	29	5292	2059	185	7159
	CANNANORE DISTRICT	162	161	28746	1962	85	37052
	STATE	1458	1436	354132	2357	44	548500

TABLE : 2

**Winter crop of Paddy 1981 Analysis of Variance of Plot
yield pooled for the State in Kg./Plot of
1/400 of hectare**

Source of variation	Sum of squares	Degrees of freedom	Mean sum of square (variance)	Variance ratio (calculated) *
Between Taluk	4417.49	55	80.32	20.08
Between Village within Taluk	1108.74	143	7.75	1.94
Within village within Taluk	4947.23	1237	4.00	
All	10473.46	1435	92.07	

* Significant at 1 per cent level.

TABLE 3

**Estimates of Area mean Yield Production of Dry
Paddy (Kg./hect) during winter season
from 1976 to 1981**

Sl. No.	Taluk and District	1976	1977	1978	1979	1980	1981
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Neyyattinkara	2759	2453	2052	1981	1816	2162
2	Trivandrum	2272	2086	2044	2257	1804	1941
3	Nedumangad	2578	2156	2027	2238	2207	2078
4	Chirayinkil	2703	2434	2524	2569	2552	2208
	TRIVANDRUM DISTRICT	2595	2280	2167	2266	2115	2111
5	Quilon	2165	2571	2288	2509	2649	2098
6	Kottarakkara	2872	2837	2482	2859	3419	2888
7	Kunnathur	2376	2669	2369	2289	2633	2456
8	Pathanapuram	3085	2842	2924	2678	2998	2976
9	Pathanamthitta	2865	2858	2485	2103	2794	2401
10	Karunagappally	2147	2080	1570	2302	1775	2229
	QUILON DISTRICT	2585	2628	2334	2504	2741	2539
11	Karthigappally	1682	1803	1207	2012	2086	1843
12	Mavelikara	1715	2096	2101	1761	2001	2181
13	Chengannur	2569	3008	2244	1795	2615	3018
14	Thiruvalla	2668	2840	2839	2951	2576	2483
15	Kuttanad	..	3782	3874	3496	3506	3298
16	Ambalapuzha	2383	2151	1943	732	630	824
17	Shertallay	1013	785	979	808	621	1169
	ALLEPPEY DISTRICT	1848	2820	2458	1851	1808	2204
18	Changanacherry	2558	3191	2670	2583	2123	2525
19	Kanjirappally	2062	1911	2372	2247	2554	2848
20	Kottayam	2334	2590	2529	2081	2801	3108
21	Vaikom	1997	1916	1921	2039	2050	2558
22	Meenachil	2485	2547	2675	2545	2647	2692
	KOTTAYAM DISTRICT	2244	2344	2323	2176	2373	2724

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
23	Peermade	3008	3198@	3107	2263	3392	3865
24	Devicolam	2524	2362@	3943	2712	3427	3370
25	Udumbanchola	2881	2077	2382	3297	3072	3302
26	Thodupuzha	2389	2403	2428	2681	2772	2265
	IDUKKY DISTRICT	2544	2338	2803	2837	2974	2791
27	Kothamangalam	2374	2697	2118	2147	2263	2310
28	Muvattupuzha	2009	2100	2215	2575	2541	2775
29	Cochin	..	..	..	..	..	..
30	Kanayannur	1833	1088	1826	1750	1763	1839
31	Kunnathunad	2023	2009	1962	2258	2335	2132
32	Alwaye	2159	2227	1781	2344	1750	2172
33	Parur	2159	2204	2218	2357	1686	1600
	ERNAKULAM DISTRICT	2079	2102	1986	2289	2102	2190
34	Cranganore	1255	1309	1213	1470	1142	823
35	Mukundapuram	1677	1853	1742	2048	2064	2117
36	Trichur	2316	2363	2033	2227	2176	1795
37	Thalappally	2453	2248	1992	2179	2143	2245
38	Chowghat	1165	1330	1211	911	1942	1063
	TRICHUR DISTRICT	1995	2037	1822	2018	2070	1931
39	Chittur	3458	3188	3090	3043	3433	3081
40	Alathur	3387	3035	3476	3163	3061	2959
41	Palghat	2913	2894	3451	3481	3754	3465
42	Ottappalam	2553	2226	2322	2114	2242	2136
43	Mannarghat	2451	2481	2129	2252	2228	3798
	PALGHAT DISTRICT	3050*	2783	2994	2887	3038	2994
44	Pecinthalmanna	2362	2285	2286	2185	1998	2158
45	Ponnani	2120	2135	1732	1902	1471	1891
46	Tirur	1785	1960	1879	1595	1565	2070
47	Ernad	2165	1890	1958	2222	2217	2227
	MALAPPURAM DISTRICT	2080	2006	1961	2010	1921	2136

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
48	Kozhikode	1772	1639	1784	1762	1511	1683
49	Quilandy	1107	1349	1163	1490	1062	1333
50	Badagara	1299	1356	1506	1151	1219	1365
51	South Wynad	2482	2296	2762	2886	2621	2300
	KOZHICODE DISTRICT	1911	1847	2083	2208	1931	1901
	WYNAD DISTRICT						
52	North Wynad	2235	2474	2526	1905	2617	2132
53	Tellicherry	1693	1902	1718	1643	1688	1927
54	Cannanore	1713	1608	1653	1194	1710	1783
55	Taliparamba	2010	1981	1981	1551	2290	1688
56	Hosdurg	2381	2239	2025	1896	1828	1916
57	Kasargode	2107	2649	2148	2298	2312	2059
	CANNANORE DISTRICT	2101	2243	2088	2038	2213	1962
	State	2332*	2344	2295	2333	2359	2357

TABLE No. 4

Estimated area, Mean yield and production of high yielding and other varieties of Paddy—Winter—1981

Sl. No.	District	High yielding varieties					Other varieties			All varieties	
		Area in (Hect.)	Mean yield of dry paddy kg/h.	Production Tonnes	Ar. a in (Hect.)	Mean yield of dry paddy kg/h.	Production Tonnes	Area in (Hect.)	Mean yield of dry paddy kg/h.	Production Tonnes	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
1	Trivandrum	789	2593	1344	15326	2086	21008	16115	2111	22352	
2	Quilon	1163	2417	1847	23927	2545	40016	25090	2539	41863	
3	Alleppey	5007	3111	10235	20365	1981	26506	25372	2204	36741	
4	Kottayam	9799	2668	17176	1000	3269	2148	10799	2724	19324	
5	Idukki	1889	1957	2429	3211	3242	6924	5100	2791	9353	
6	Ernakulam	4081	2335	6182	35638	2177	50979	39719	2190	57161	
7	Trichur	7779	2187	11177	41389	1883	51205	49168	1931	62382	
8	Palghat	56115	3162	116564	33435	2714	5912	8950	294	176176	
9	Malappuram	1496	2579	2535	34516	2117	4812	36012	216	50747	
10	Kozhikode	2172	1839	2625	28091	1784	32924	28461	1901	35549	
11	Cannanore	2101	2263	3124	26574	1943	328	28746	1962	37052	
	State	92351	2887	175238	258741	2106	373262	354132	2357	548500	

TABLE No. 5
 District-wise yield rate for high yielding and other varieties of paddy according
 to Cultural Practices—Winter—1981

District	Varieties	Irrigated						Unirrigated			
		No. of expts.	Mean yield of paddy in kg/hect.	No. of expts.	Other manured	No. of expts.	Mean yield of paddy in kg/hect.	Total	Chemically manured		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Trivandrum	H	1	3299	..	..	..	..	1	3299	2	2124
	O	33	2175	..	..	..	..	33	2175	73	2062
	T	34	2208	..	..	..	..	34	2208	75	2063
Quilon	H	2	2796	..	..	..	..	2	2796	15	2526
	O	13	3068	1	2006	..	..	14	2992	100	2525
	T	15	3032	1	2006	..	..	16	2958	115	2526
Alleppey	H	12	3582	..	..	..	..	12	3582	35	2691
	O	3	2293	2	771	1	688	6	1518	80	2309
	T	15	3324	2	771	1	688	18	2894	115	2425
Kottayam	H	26	2730	1	1278	..	..	27	2677	48	2694
	O	8	2736	..	..	..	..	8	2736	17	3737
	T	34	2732	1	1278	..	..	35	2690	65	2815

TABLE No. 5—(Contd.)
 District-wise yield rate for high yielding and other varieties of paddy according
 to cultural practices : Winter—1981

District	Unirrigated													
	(1)	(2)	Other manured			Total			Treated with pesticides			Not treated with pesticides		
	No. of expts.	Mean yield of paddy in kg/hect.	No. of expts.	Mean yield of paddy in kg/hect.	No. of expts.	Mean yield of paddy in kg/hect.	No. of expts.	Mean yield of paddy in kg/hect.	No. of expts.	Mean yield of paddy in kg/hect.	No. of expts.	Mean yield of paddy in kg/hect.	No. of expts.	Mean yield of paddy in kg/hect.
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
Varities	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Trivandrum	H	..	..	..	..	2	2	2	2	2	2	2	2	2
	O	2	2334	1	1457	76	2061	33	2092	76	2097	76	2097	76
	T	2	2334	1	1457	78	2063	35	2157	77	2084	77	2084	77
Quilon	H	2	1487	..	..	17	2404	7	2625	12	2340	12	2340	12
	O	16	2184	2	2805	118	2484	7	2956	125	2514	125	2514	125
	T	18	2107	2	2805	135	2474	14	2791	137	2499	137	2499	137
Alleppey	H	..	..	..	..	35	2691	47	2919	..	..	..	..	..
	O	38	1236	5	580	123	1907	57	2003	72	1799	72	1799	72
	T	38	1236	5	580	158	2802	104	2418	72	1799	72	1799	72
Kottayam	H	1	2044	..	..	49	2681	67	2676	9	2705	9	2705	9
	O	..	..	..	..	17	3737	20	3132	5	2581	5	2581	5
	T	1	2044	..	..	66	2803	87	2781	14	2661	14	2661	14

TABLE No. 5 - (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Idukki	H	2	1585	..	..	..	..	2	1885	6	2974
	O	10	2335	..	..	..	..	10	2336	35	2836
	T	12	2211	..	..	..	..	12	2211	41	2899
Ernakulam	H	11	2778	..	..	..	..	11	2778	6	1915
	O	67	2344	11	2283	3	2398	81	2305	62	2073
	T	78	2371	11	2283	3	2398	92	2361	68	2059
Trichur	H	3	2591	..	..	..	..	3	2591	8	1997
	O	30	2170	12	1892	1	2703	43	2105	36	1878
	T	33	2208	12	1892	1	2700	46	2136	44	1900
Palghat	H	63	3243	9	3579	5	3582	77	3304	2	2712
	O	38	3146	7	2022	..	..	45	2971	12	2651
	T	101	3206	16	28.8	5	3582	122	3181	14	2650
Malappuram	H	5	2972	..	..	..	..	5	2972	4	2027
	O	15	2294	14	1993	..	..	29	21.9	44	2035
	T	20	2464	14	1993	..	..	34	2270	48	2035
Kozhikode	H	..	..	..	..	..	..	..	..	6	2264
	O	4	1781	1	2055	..	..	5	1828	34	1803
	T	4	1781	1	2055	..	..	5	1828	40	1873
Cannanore	H	20	2300	..	..	..	..	20	2300	7	2112
	O	46	2113	9	1653	..	..	55	2.38	52	1896
	T	66	2170	9	1653	..	..	75	2108	59	1922
State	H	145	29.5	10	3330	5	3563	160	2988	139	2535
	O	267	2400	57	1943	5	2100	329	2313	545	2250
	T	412	2591	67	2140	10	2831	489	2534	684	2308

TABLE No. 5--(Contd.)

(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Idukki	H	..	..	3	4235	9	3395	9	2905	2	3787
	O	2	4039	8	3527	45	3051	36	3132	19	2522
	T	2	4039	11	3720	54	3108	45	3087	21	2642
Ernakulam	H	..	..	..	..	6	1915	13	2332	4	2932
	O	19	1400	1	958	82	1904	70	2140	93	2675
	T	19	1400	1	958	88	1994	83	2170	97	2110
Trichur	H	1	1836	1	..	10	1781	12	1979	1	1836
	O	39	982	6	1214	81	1398	35	2124	89	1453
	T	40	1003	7	1041	91	1440	47	2087	90	1458
Palghat	H	3	3589	1	3582	6	3295	36	3427	47	3210
	O	7	2039	..	..	19	2426	21	2710	43	2857
	T	10	2504	1	3582	25	2634	57	3163	90	3041
Malaypuram	H	1	1947	..	..	5	2011	8	2676	2	1751
	O	26	1987	..	..	70	2018	47	2184	52	1941
	T	27	1987	..	..	75	2018	55	2256	54	1934
Kozhikode	H	1	1143	2	942	9	1846	6	2094	3	1349
	O	39	1337	9	1457	82	1544	20	1865	67	1469
	T	40	1332	11	1364	91	1574	26	1918	70	1464
Cannanore	H	..	..	..	..	7	2112	20	2274	7	2188
	O	26	1211	1	1762	79	1669	58	2012	76	1674
	T	26	1211	1	1762	86	1705	78	2079	83	1718
State	H	9	2299	7	2607	155	2525	227	2740	88	2814
	O	214	1444	33	1862	792	2017	404	2267	717	2011
	T	223	1479	40	1998	947	2100	631	2437	805	2099

TABLE 6

**Estimates of area mean yield production of rice
during Summer 1981**

Sl. No.	Taluk and District	No. of expts.	Area in hect.	Mean yield of dry paddy in kg/hect.	stand-ard error	Produ-ction of rice in tonne
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Neyyattinkara	22	381	1423	207	356
2	Trivandrum	24	240	1552	544	245
3	Nedumangad	24	384	1074	420	271
4	Chirayinkil	22	102	1147	342	77
	TRIVANDRUM DISTRICT	92	1107	1305	203	949
5	Quilon	10	191	1174	..	147
6	Kottarakkara	13	77	1894	402	96
7	Kunnathur	10	74	1360	..	66
8	Pathanapuram	6	10	1011	383	7
9	Pathanamthitta	..	198	1011 [Ⓐ]	..	132
10	Karunagappally	6	273	750	..	135
	QUILON DISTRICT	45	823	1078	358	583
11	Karthigappally	18	3020	3005	664	5962
12	Mavelikara	24	2516	3618	199	5981
13	Chengannur	22	1923	3895	260	4921
14	Thiruvalla	23	2675	3188	314	5603
15	Kuttanad	24	12901	3268	235	27699
16	Ambalapuzha	17	950	2858	747	1784
17	Shertallay	..	..	..	..	..
	ALLEPPEY DISTRICT	128	24075	3284	160	51950
18	Changanachery	6	2880	3420	..	5997
19	Kanjirappally	..	..	..	..	..
20	Kottayam	12	4472	3096	..	9096
21	Vaikom	6	411	2389	..	645
22	Meenachil	6	201	2388	..	315
	KOTTAYAM DISTRICT	30	7664	3148	..	15853

[Ⓐ]Yield rate of Pathanapuram Taluk in applied.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
23	Peermade	..	..	..	..	..
24	Devicolam	..	199	1536@	..	201
25	Udumbanchola	..	72	1536@	..	73
26	Thodupuzha	..	28	1536@	..	28
	IDUKKY DISTRICT	..	299	1536@	..	302
27	Kothamangalam	19	788	1565	303	810
28	Muvattupuzha	20	1233	1536	148	1244
29	Cochin	..	..	..	..	..
30	Kanayannur	20	445	2548	..	745
31	Kunnathunad	25	8274	2198	..	11948
32	Alwaye	24	6769	2103	228	9553
33	Parur	20	2098	2594	343	3576
	ERNAKULAM DISTRICT	128	19607	2148	159	27676
34	Cranganore	26	68	2754	..	123
35	Mukundapuram	35	9270	2725	276	16596
36	Trichur	23	7433	2432	233	11877
37	Thalappally	22	2291	3021	463	4547
38	Chowghat	24	1500	2607	113	2569
	TRICHUR DISTRICT	130	20562	2694	160	35712
39	Chittur	22	1676	2542	382	2799
40	Alathur	24	94	1852	368	114
41	Palghat	22	427	3192	858	895
42	Ottappalam	33	934	2243	223	1376
43	Mannarghat	23	1191	2337	588	1829
	PALGHAT DISTRICT	124	4322	2470	240	7013
44	Perinthalmanna	24	936	1949	235	1199
45	Ponnani	27	1767	2891	303	3356
46	Tirur	23	1901	2554	260	3190
47	Ernad	27	803	2024	200	1068
	MALAPPURAM DISTRICT	101	5407	2481	144	8813

@Yield rate of Muvattupuzha Taluk is applied.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
48	Kozhikode	29	929	1985	289	1212
49	Quilandy	20	1713	2106	204	2370
50	Badagara	27	132	1681	723	146
51	South Wynad	20	4390	2252	351	6495
	KOZHIKODE DISTRICT	96	7164	2172	224	10223
52	North Wynad	20	2705	2507	391	4455
53	Tellicherry	30	527	2007	325	695
54	Cannanore	22	147	2374	371	229
55	Taliparamba	30	727	1643	464	785
56	Hosdurg	41	1429	1835	251	1723
57	Kasargode	36	1759	2382	218	2753
	CANNANORE DISTRICT	179	7294	2220	170	10640
	STATE	1053	98324	2627	73	169714

TABLE : 7

SUMMER CROP OF PADDY : 1981

Analysis of variance of plot yield pooled for the state in

$$\text{kg/plot of } \frac{1}{400} \text{ on hectare}$$

Source of variation	Sum of squares	Degrees of freedom	Mean sum of square (variance)	Variance ratio (calculated)*
(1)	(2)	(3)	(4)	(5)
Between Taluk	3178.91	48	66.23	8.57
Between Villages within taluk	1955.69	118	16.57	2.14
Within villages within taluk	6847.25	886	7.73	
Total	11981.85	1052		

*Significant at 1% level

TABLE : 8

**Estimates of Area Mean Yield Production of Dry Paddy
(kg/hect.) during summer season for each taluk
for six year from 1976—1981**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
No.	Taluk and district	1976	1977	1978	1979	1980	1981
1.	Neyyattunkara	1914	1581	874	1184	1636	1423
2.	Trivandrum	1877	1273	458	1565	1422	1552
3.	Nedumangad	1496	1158	894	1186	1048	1074
4.	Chirayinkil	1225	738	854	945	777	1147
	TRIVANDRUM DISTRICT	1599	1262	791	1251	1296	1305
5.	Quilon	1259	1322	1070	1387	1447	1174
6.	Kottarakara	1754	1147	897	1524	788	1894
7.	Kunnathur	1891	1521	434	1432	736	1360
8.	Pathanapuram	..	929	683	2087	1214	1011
9.	Pathanamthitta	1928	1316	683	2087	2777	1011
10.	Karunagappally	2166	1018	923	304	1162	750
	QUILON DISTRICT	1818	1250	896	1035	1505	1078
11.	Karthigappally	3738	3717	4357	4655	3039	3005
12.	Mavelikara	3634	3016	3619	3625	4166	3618
13.	Chengannur	3344	3535	2893	4041	4014	3895
14.	Thiruvalla	3333	3293	4350	3899	3025	3188
15.	Kuttanad	3049	3046	3650	3950	4323	3268
16.	Ambalapuzha	2650	3046	1773	4116	3494	2858
17.	Shertallay	..	..	..	..	..	..
	ALLEPPEY DISTRICT	3068	3300	3662	4031	4014	3284
18.	Changanacherry	4182	3304	2930	5140	3800	3420
19.	Kanjirappally	..	..	..	..	..	..
20.	Kottayam	3333	2536	2601	2719	3349	3096
21.	Vaikoim	2680	1600	2106	..	2616	2389
22.	Meenachil	2902	2585	3670	..	3073	2388
	KOTTAYAM DISTRICT	3429	2594	2660	3297	3439	3148

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
23.	Peermade	3053	1836	1315	1806	2215	..
24.	Devicolam	..	1836	1315	1806	2215	1536
25.	Udumbanchola	..	1836	..	..	..	1536
26.	Thodupuzha	..	..	1315	..	..	1536
	IDUKKY DISTRICT	3053	1836	1315	1806	2215	1536
27.	Kothamangalam	1523	1620	1548	1805	2244	1565
28.	Muvattupuzha	2108	1836	1315	1806	2215	1536
29.	Cochin	..	..	..	..	..	..
30.	Kanayannur	2070	1770	2090	2048	1886	2548
31.	Kunnathunad	1755	1609	1881	1809	2092	2198
32.	Alwaye	2310	2250	2421	2003	2708	2103
33.	Parur	1798	2465	2853	2201	2816	2594
	ERNAKULAM DISTRICT	1983	2042	2236	1952	2414	2148
34.	Cranganore	1817	1568	2096	1498	1692	2754
35.	Mukundapuram	2134	2361	2380	2176	2795	2725
36.	Trichur	2061	2309	2987	2262	2810	2432
37.	Thalappally	3087	2440	2309	2133	2357	3021
38.	Chowghat	3302	3507	2067	2369	3050	2607
	TRICHUR DISTRICT	2317	2446	2577	2207	2763	2694
39.	Chittur	2081	1647	2196	2542	3041	2542
40.	Alathur	3461	2839	2337	2327	2827	1852
41.	Palghat	3644	3318	2872	3040	2958	3192
42.	Ottappalam	2261	1811	2450	2014	2302	2243
43.	Mannarghat	2095	1677	1436	1164	2053	2337
	PALGHAT DISTRICT	2465	2123	2166	2206	2611	2470
44.	Perinthalmanna	3022	2465	2335	2528	2153	1949
45.	Ponnani	2468	3733	2408	2669	3650	2891
46.	Tirur	2994	2000	2516	3097	2755	2554
47.	Ernad	1948	1572	1582	1611	1880	2024
	MALAPPURAM DISTRICT	2614	2782	2295	2731	2775	2481

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
48.	Kozhikode	2165	1337	1602	1872	2577	1985
49.	Quilandy	1648	1579	1475	1441	1336	2106
50.	Badagara	2471	1293	1377	2020	1285	1681
51.	South Wynad	2593	1897	2057	2522	1557	2252
	KOZHIKODE DISTRICT	2429	1754	1856	2208	1626	2172
52.	North Wynad	1518	2195	3292	3395	2712	2507
53.	Tellicherry	1900	1176	1636	1650	1403	2007
54.	Cannanore	1482	2180	1476	1608	1584	2374
55.	Taliparamba	1632	1379	2129	2183	2011	1643
56.	Hosdurg	2083	3098	2211	2962	2334	1835
57.	Kasargode	2660	2476	2245	3666	2608	2382
	CANNANORE DISTRICT	2477	2405	2476	3182	2440	2220
	STATE	2794	2497	2677	2832	2971	2627

TABLE 9

Estimates of Area Mean yield and Production of High yielding and other varieties of Paddy Summer--1981

Sl. No.	District	High yielding				Other varieties				All varieties	
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
(1)	(2)	Area	Mean yield	Production	Area	Mean yield	Production	Area	Mean yield	Production	
1	Trivandrum	459	1330	401	648	1287	548	1107	1305	949	
2	Quilon	94	1895	117	729	973	466	823	1078	583	
3	Alleppey	20674	3397	46147	3401	2597	5803	24075	3284	51950	
4	Kottayam	4565	3263	9788	3099	2979	6065	7664	3148	15853	
5	Idukki	86	1558	88	213	1530	214	299	1536	302	
6	Ernakulam	5047	2177	7220	14560	2138	20456	19607	2148	27676	
7	Trichur	9906	2969	19322	10656	2341	16390	20562	2694	35712	
8	Palghat	2687	2755	4864	1635	2000	2149	4322	2470	7013	
9	Malappuram	1845	1862	3469	3562	2283	5344	5407	2431	8813	
10	Kozhikode	4358	2735	7832	2806	1297	2391	7164	2172	10223	
11	Cannanore	1377	2769	2505	5917	2093	8135	7294	2220	10640	
	State	51098	3105	101753	47226	2190	67961	98324	2627	169714	

TABLE 10
District-wise Yield Rate for High Yielding and other Varieties of Paddy According to Cultural Practices Summer—1981

District	Variety	Irrigated										
		Other manured					Not manured					Total
		No. of expts.	Mean yield of Paddy in kg/h.	No. of expts.	Mean yield of Paddy in kg/h.	No. of expts.	Mean yield of Paddy in kg/h.	No. of expts.	Mean yield of Paddy in kg/h.	No. of expts.	Mean yield of Paddy in kg/h.	
(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)			
Trivandrum	H	27	1514	2	510	1	000	30	1397			
	O	33	1133	..	..	..	..	33	1133
	T	60	1305	2	510	1	000	63	1259			
Quilon	H	7	2159	4	768	..	..	11	1634	
	O	11	1285	3	809	..	..	14	1183	
	T	18	1613	7	735	..	..	25	1382	
Alleppey	H	80	3435	..	..	..	..	80	3435
	O	3	3179	..	..	..	..	3	3179
	T	83	3426	..	..	..	..	83	3426
Kottayam	H	2	3532	..	..	..	..	2	3532
	O	..	..	..	..	..	..	..	..
	T	2	3532	..	..	..	..	2	3532

TABLE 10 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Idukki	H								
	O								
	T								
Ernakulam	H	65	2246	1	1372	1	3583	67	2253
	O	52	1847	1	2360	..	..	53	1857
	T	117	2069	2	1866	1	3583	120	2078
Trichur	H	56	2982	..	..	1	2563	57	2975
	O	70	2440	1	2366	1	2239	72	2436
	T	126	2681	1	2366	2	2401	129	2674
Palghat	H	59	2891	5	1901	2	1680	66	2749
	O	39	1951	14	1855	..	..	53	1926
	T	98	2517	19	1867	2	680	119	2382
Malappuram	H	40	2802	7	1662	1	4765	48	2677
	O	33	2289	16	1700	..	..	49	2097
	T	73	2570	23	1688	1	4765	97	2484
Kozhikode	H	63	2167	2	2086	..	..	65	2165
	O	10	1904	12	1325	1	1798	23	1597
	T	73	2131	14	1434	1	1798	88	2016
Cannanore	H	60	2736	8	1496	..	..	68	2590
	O	52	2070	22	1236	1	0000	75	1798
	T	112	2427	30	1305	1	0000	143	2174
State	H	459	2684	29	1476	6	2051	494	2606
	O	303	2001	69	1499	3	1337	375	1904
	T	762	2413	98	1492	9	1813	869	2303

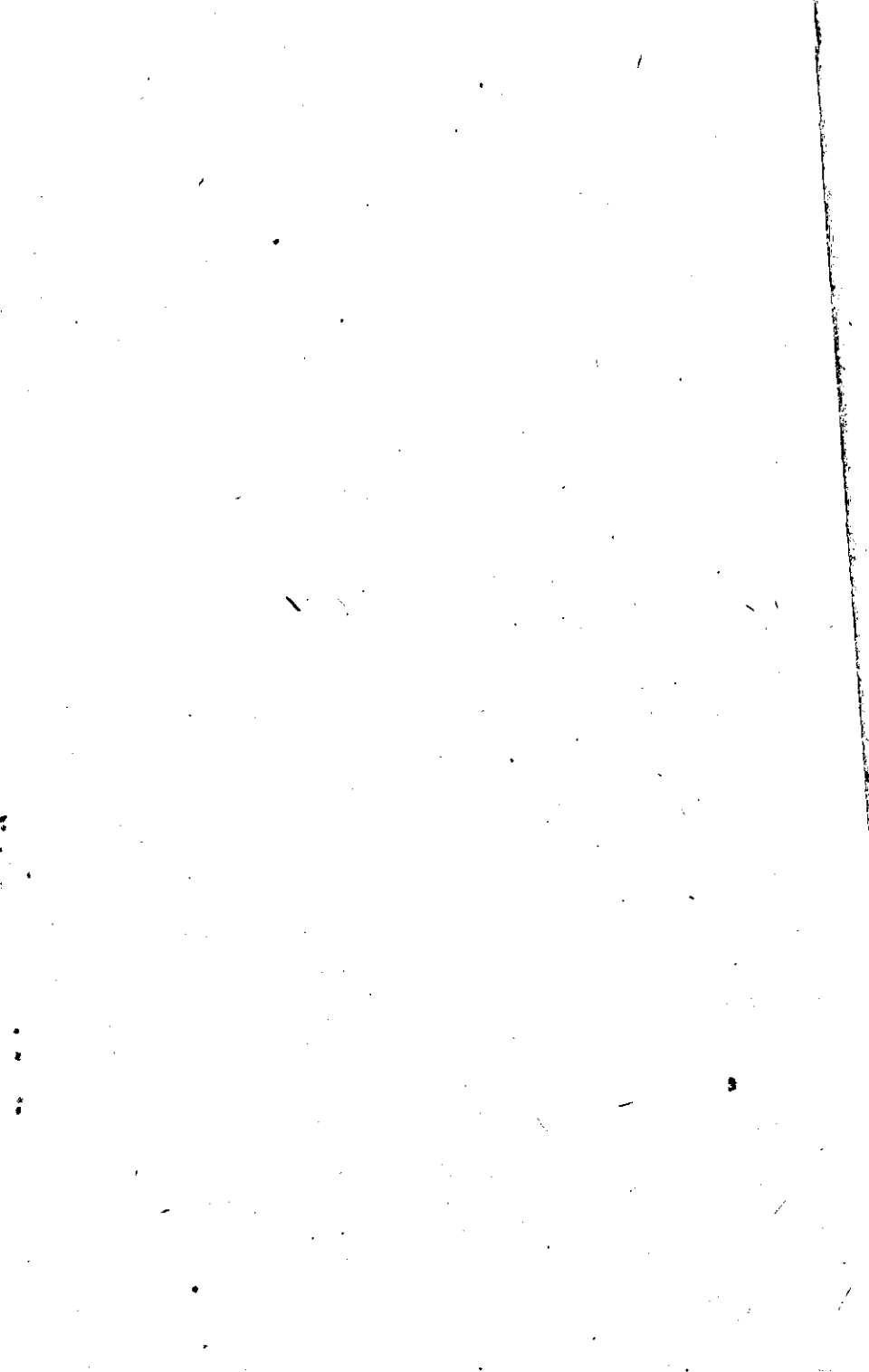
TABLE 10
 Districtwise Yield Rate for High Yielding and other Varieties of
 Paddy According to Cultural Practices—Summer 1981

District	Variety	Unirrigated						treated with pesticides		not treated with pesticides			
		Chemically manured		Other manured		Not manured		No. of expts.	Mean yield of paddy in kg/h.	No. of expts.	Mean yield of paddy in kg/h.		
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Trivandrum	H	11	863	..	..	..	..	11	863	36	1157	5	1948
	O	16	1330	1	1164	1	304	18	1708	38	1442	13	1027
	T	27	1436	1	1164	1	304	29	1388	74	1303	18	1233
Quilon	H	6	1643	..	..	..	..	6	1643	16	1584	1	2499
	O	13	1196	1	785	..	..	14	1167	26	1187	2	1017
	T	19	1337	1	785	..	..	20	1310	42	1338	3	1511
Alleppey	H	26	3283	..	..	..	..	26	3283	102	3383	4	3783
	O	19	3014	..	..	..	..	19	3014	21	3004	1	3723
	T	45	3169	..	..	..	..	45	3169	123	3318	5	3771
Kottayam	H	21	2940	..	..	..	..	21	2940	23	2991	..	..
	O	7	2537	..	..	..	..	7	2537	7	2537	..	..
	T	28	2839	..	..	..	..	28	2839	30	2885	..	..

TABLE 10 (Contd.)

(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Idukki	H												
	O												
	T												
Ernakulam	H	5	1374	..	..	..	..	5	1374	60	2190	12	2203
	O	3	1112	..	..	..	..	3	1112	32	1959	24	1628
	T	8	1275	..	..	..	..	8	1275	92	2109	36	1820
Trichur	H	..	..	..	..	..	..	..	..	54	2773	3	6618
	O	1	764	..	..	..	..	1	764	61	2453	12	2211
	T	1	764	..	..	..	..	1	764	115	2603	15	3093
Palghat	H	4	2746	..	..	..	..	4	2746	39	2969	31	2471
	O	1	3895	..	..	..	..	1	3895	20	2288	34	1771
	T	5	2976	..	..	..	..	5	2976	59	2738	65	2105
Malappuram	H	3	1710	..	..	..	..	3	1710	37	2669	14	2490
	O	1	1859	..	..	..	..	1	1959	28	2054	22	2140
	T	4	1747	..	..	..	..	4	1747	65	2404	36	2276
Kozhikode	H	1	4771	..	..	..	..	1	4771	35	2401	31	1982
	O	4	1306	2	670	1	1340	7	1129	9	1703	21	1396
	T	5	1999	2	670	1	1340	8	1535	44	2259	52	1745
Cannanore	H	5	2347	..	..	..	..	5	2347	45	2716	28	2344
	O	12	1570	18	1676	1	1193	31	1620	32	2174	74	1560
	T	17	1799	18	1676	1	1193	36	1721	77	2491	102	1775
State	H	82	2503	..	..	..	..	82	2503	447	2641	129	2418
	O	77	1997	22	1507	3	938	102	1860	274	2070	203	1636
	T	159	2258	22	1507	3	938	184	2147	721	2424	332	1952

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