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REPORT ON CROP CUTTING SURVEY

ON

AUTUMN CROP OF PADDY 1980

DIRECTORATE OF ECONOMICS AND STATISTICS

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PREFACE

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

This report deals with the objectives of the survey, sampling techniques adopted and the result of the analysis of the data obtained from the survey during Autumn 1980.

This report was prepared by the Agricultural Statistics Division of the Directorate of Economics & Statistics.

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Trivandrum,
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REPORT ON THE CROP CUTTING SURVEY ON AUTUMN PADDY—1980

1. *Introduction :*

This report relates to the crop cutting survey on paddy conducted during Autumn season of 1980.

The crop cutting experiments in paddy are conducted for three seasons viz. Autumn (Virippu), Winter (Mundakan) and Summer (Punja). Usually the results of crop cutting surveys on paddy are prepared and published in two parts; one for autumn crop and the other for winter and summer crops.

2.1. *Objectives of the survey :*

The main objectives of the survey were:—

- (1) To estimate the average yield of paddy per hectare for taluks, districts and state.
- (2) To estimate the total production of rice in the state during the season.
- (3) To estimate the productivity of high yielding varieties of paddy in each district.
- (4) To estimate the productivity of the crop according to the different cultivation practices like application of chemical fertilizers adoption of irrigation etc.

2.2. *Period of the survey :*

The period of the crop cutting survey on Autumn paddy was from August 1980 to October 1980. The field work of the survey was conducted during the period in all the selected revenue villages where autumn crop of paddy was raised.

2.3. *Coverage and sample size :*

The survey was conducted in all the taluks in the state except the four taluks Peermade, Udumbanchola, South Wynaad and North Wynaad where the area under Autumn paddy was reported to be negligible. The survey was conducted in 199 villages.

2.4. *Sampling design :*

For the conduct of the survey, a stratified multistage sampling design was adopted. Each taluk was treated as the stratum, village as the first stage unit, a survey sub division as the second stage unit, a kandan as the third stage unit and a 5 metre square plot as the ultimate sampling unit. In each taluk 30 experiments were planned during the autumn season.

These experiments were conducted in the TRS villages in such a way that a minimum of two experiments are conducted in a sample village. The sample villages were selected at the headquarters of the Directorate at the beginning of the agricultural year.

Three samples each weighing 250 gm. of wet paddy were collected at the time of harvest from a taluk. 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 for conducting driage experiments.

2.5. Field work :

The Investigators under the immediate supervision of the Statistical Inspectors and Additional Statistical Inspectors conducted the experiments. The District Statistical Officers were responsible for the proper conduct and supervision of the field work of the survey. The additional District Statistical Officers were also instructed to conduct supervision of the field work.

The total number of crop cutting experiments planned in the state during Autumn 1980 was 1430 but only 1377 could be conducted. The percentage response was about 96.29.

The field work of the survey was inspected at three stages viz., preharvest at harvest stage and post-harvest stage 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 and Additional Statistical Inspectors were instructed to conduct one harvest/ stage inspection atleast in each investigator unit subject to a minimum of six experiments in a taluk. During the season under report about 44% of the experiments analysed were inspected at the harvest-stage and about 14% at the preharvest stage. The inspection at the post harvest stage was only 2%

2.6. Analysis :

The tabulation and analysis of the data collected through the survey was done at the headquarters of the Directorate by the Agricultural Statistics Division.

2.7. Procedure and estimation :

The taluk-wise meanyield of dry paddy and its standard error were estimated using the following formula :—

$$(i) \text{ Taluk meanyield : } \quad \bar{x} = \frac{\sum_{i=1}^k \sum_{j=1}^{n_i} x_{ij}}{\sum_{i=1}^k n_i}$$

where n_i = number of experiments conducted in the i th revenue village

k = number of revenue village selected in the taluk

x_{ij} = weight of paddy obtained from the j th experiment in the i th village.

Each experiment is taken from 5 metre square i.e. $1/400$ th of a hectare. Meanyield of dry paddy in kg. per hectare is equal to $x \times 400 \times d$ where d is the driage ratio of dry paddy to wet paddy.

(ii) *Standard error of Taluk meanyield :*

Variance of taluk meanyield

$$= \frac{A}{N} + \frac{B-A}{m} \times \frac{\sum_{i=1}^k n_i^2}{\frac{2}{N}}$$

Where A = Mean square within revenue village

B = Mean square between revenue 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 Meanyield :*

The formula adopted for the computation of standard error of the state meanyield is indicated below.

$$\text{Standard Error of the State mean yield} = \sqrt{\frac{\sum (a_i s_i)^2}{\sum a_i}}$$

Where a_i = Area under the crop, s_i = The standard error of the estimate of mean yield in the i th taluk.

The area under paddy in each taluk estimated through the TRS has been utilised to compute the production of rice.

The weight of clean rice is reckoned as 65.7% of dry paddy

3. 1 Results of the survey

The total production of rice in the state during Autumn 1980 was estimated to 553748 tonnes. The production of rice has decreased by about 14,000 tonnes during the season as compared to that of the corresponding season in the previous year.

The reduction in the production of rice was due to decrease, in cultivated area applied with chemical fertilizers due to rise in the cost of fertilizers and manures and the heavy rain during flowering season in certain places.

The estimated area mean yield and its standard error, production of rice together with number of crop cutting experiment : analysed in each taluk during Autumn 1980 are given in table 1. The taluk yield rate ranges from 699 kg/hect. in Ambalapuzha to 4199 kg/hect. in Kuttanad.

The district level mean yield of dry paddy ranges from 1297 in Kozhikode district to 3232 in Palghat district. The district level productivity has increased in three district viz. Quilon, Alleppey and Cannanore.

The analysis of variance of plot yield pooled for the state is given in Table-2. As far as the yield rates are concerned statistically significant variation was found between taluks as well as between villages within taluk.

It was found that the yield obtained from about 47% of the experimental plots was over 2500 kgs. of wet paddy per hectare. About 9% of the experimental plots have yielded 4100 kgs. or more of wet paddy per hectare during Autumn 80 23% of the experimental plots in Palghat district falls in this group. The lowest yield rate of less than 500 kg. of wet paddy was reported from about 3% of the experimental plots. About 12% of the experimental plots in Trichur district falls in this group.

159 Driage experiments were conducted to determine the driage ratio of dry paddy to wet paddy during the season.

The estimated mean yield of Autumn crop of dry paddy in each taluk for the last 5 years (1975-80) are given in Table 3.

Area, meanyield and production of Rice in Kerala during Autumn season 1971-72 to 1980-81 is given below :

Season (Autumn)	Agricultural year									
	1971-72	72-73	73-74	74-75	75-76	76-77	77-78	78-79	79-80	80-81
Area (hectare in lakhs)	3.95	3.92	3.93	3.95	3.75	3.64	3.65	3.47	3.48	3.49
Meanyield (kg./hect.)	2126	2237	2347	2064	2241	2040	2300	2391	2481	2413
Production of rice ('000 tonnes)	552	576	606	536	552	488	552	545	568	554

3. 2. Highyielding Varieties :

It is estimated that about 51% of the total outturn of rice in the State during Autumn 80 was from High yielding varieties. The state level productivity of the HYV was about 62% higher than that local varieties. The productivity of HYV is seen to be higher than local varieties in all districts except Idukki. The districtwise yield rate of HYV ranges from 1535 kg/ hect. in Kozhikode district to 3721 kg/ hect. in Palghat district. Slight decrease of 9 per cent was noted in the productivity of HYV of paddy during the season as compared to previous year.

The state level outturn of paddy from this variety during the season has decreased by about 13% from the production of Autumn 1979. The area, mean yield of paddy and production of rice during Autumn 1980 is given in Table 4.

The cultivators preferences for high yielding variety in the order of preference were Jyothi, Jaya, Bharathy, Mashori, IR8, where as the order of preference during the corresponding season in the previous year were Jyothi, Mashori, Jaya, Bharathi and IR8. As in the previous year Jyothi and Jaya were found to have been cultivated in all the districts. Jyothi was found to be more popular in Quilon, Alleppey, Kottayam and Ernakulam while Mashori seemed to be popular in the northern districts.

The average yield of dry paddy (simple average) of various HYV at the district and the state level has also been estimated. The highest yield rate of 5162 kg. of dry paddy (IR8) was obtained from Palghat district followed by 3966 kg. (H4) from Ernakulam district and 3834 kg. (Jaya) from Palghat district. The names of HYV which corresponds to the highest district average yield and the number of experimental plots where the crop was raised is given in the table given below.

District-wise high yielding varieties corresponding to Highest average yield during Autumn 1980

<i>Sl. No.</i>	<i>District</i>	<i>H.Y.V. corresponding to highest average yield</i>	<i>Highest average yield (dry paddy kg. hect.)</i>	<i>No. of experiments</i>
1	Trivandrum	Bharathi	3391	2
2	Quilon	Sabari	3779	1
3	Alleppey	Bharathy	3040	2
4	Kottayam	IR8	3347	2
5	Idukki	IR8	2468	13
6	Ernakulam	H4	3966	1
7	Trichur	Sabari	3649	1
8	Palghat	IR8	5162	1
9	Malappuram	IR8	3054	1
10	Kozhikode	Bharathy	1893	3
11	Cannanore	Jyothi	3118	5

IR8 obtained highest average yield in four district while Bharathy in 3 districts sabari in two districts and H4 and Jyothi in one district each.

3.3. Cultivation practices :

Autumn crop of paddy is considered to be mainly rain fed crop in the State. It was reported that about 12% of the plots selected for the crop cutting experiments were irrigated during the season against 15 in Autumn 79. All the irrigated experimental plots in the State except 3 plots in Ernakulam district were found to be manured either with chemical manure or by organic manure. About 10% of the unirrigated plots covered by the survey were reported to be left unmanured during the season. But in Trivandrum, Quilon and Idukki districts no experimental plot was left unmanured during the season. Irrespective of irrigation, chemical fertilizer was applied in 66% of the plots selected for the survey.

There was no report of severe attack of pests and disease from any parts of the State. About 29% of the selected plots were reported to be treated with insecticides or pesticides during the season. About 47% of the experimental plots with HYV were treated with insecticides/pesticides whereas only 18% of the experimental plots with local varieties were treated with pesticides.

The estimated average yield of high yielding and local varieties of paddy in irrigated and unirrigated plots, manured and unmanured plots and plots treated with insecticides or pesticides together with the number of experiments under each of these categories in respect of Autumn 1980 is given in table No 5.

TABLE I

Estimates of Area, Mean Yield of Paddy and Production of
(Rice) & (Paddy) during Autumn 1980

Sl. No.	Taluk and District	No. of Experiments.					
		Planned	Analysed	Area (hect.)	Mean yield dry paddy (kg.)	Standard- errord- Production of rice in Tonnes	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Neyyattinkara	30	30	3940	2172	386	5622
2.	Trivandrum	24	24	3179	2385	449	4981
3.	Nedumangad	30	30	4256	2150	308	6012
4.	Chirayinkil	30	30	3986	2318	160	6070
	TRIVANDRUM DISTRICT	114	114	15361	2248	166	22685
5.	Quilon	24	24	3560	1982	236	4636
6.	Kottarakkara	30	30	5958	2496	230	9770
7.	Kunnathur	30	29	4693	2062	117	6358
8.	Pathanapuram	24	24	3997	2960	189	7773
9.	Pathanamthitta	20	19	2060	3029	244	4100
10.	Karunagappally	24	24	3874	2792	552	7106
	QUILON DISTRICT	152	150	24142	2506	122	39743
11.	Karthigappally	24	24	4268	2414	213	6769
12.	Mavelikara	30	30	5252	2261	549	7802
13.	Chengannur	24	23	2917	2640	207	5059
14.	Thiruvalla	24	22	1860	1695	203	2071
15.	Kuttanad	30	29	10829	4199	272	29874
16.	Ambalapuzha	18	17	3163	699		1453
17.	Shertallay	30	29	4730	1010	250	3139
	ALLEPPEY DISTRICT	180	174	33019	2589	149	56167
18.	Changanacherry	20	20	2042	2103	270	2821
19.	Kanjirappally	6	6	73	3643		175
20.	Kottayam	30	30	5235	2447	334	8416
21.	Vaikom	24	22	3846	3042	582	7687
22.	Meenachil	24	24	2289	2794	306	4202
	KOTTAYAM DISTRICT	104	102	13485	2630	222	23301

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
23.	Peermade		Nil	4	2304	..	6
24.	Devicolam	12	12	941	2389	..	1477
25.	Udumbanchola		Nil	155	2304	..	235
26.	Thodupuzha	30	30	2762	2276	243	4130
	IDUKKI DISTRICT	42	42	3862	2304	243	5848
27.	Kothamangalam	30	30	4318	2218	..	6292
28.	Muvattupuzha	30	30	5468	2738	130	9836
29.	Cochin	20	19	1615	1676	235	1778
30.	Kanayannur	30	30	5034	1863	347	6162
31.	Kunnathunad	30	25	12544	1946	153	16038
32.	Alwaye	30	30	10272	2039	199	13761
33.	Parur	30	30	3923	2288	..	5897
	ERNAKULAM DISTRICT	200	194	43174	2107	97	59764
34.	Cranganore	20	20	811	826	244	440
35.	Mukundapuram	30	29	13244	1613	217	14035
36.	Trichur	30	30	8000	1673	177	8793
37.	Thalappally	30	30	14876	2220	167	21697
38.	Chowghat	30	30	3653	1880	269	4512
	TRICHUR DISTRICT	140	139	40584	1855	103	49477
39.	Chittur	30	28	21381	3922	404	55094
40.	Alathur	30	26	18918	3426	324	42582
41.	Palghat	30	28	21583	3749	314	53161
42.	Ottappalam	30	30	20401	2069	114	27732
43.	Mannarghat	30	30	7479	2447	230	12024
	PALGHAT DISTRICT	150	142	89762	3232	144	190593
44.	Perinthalmanna	30	28	8389	1935	267	10665
45.	Ponnani	24	17	3821	2128	313	5342
46.	Tirur	30	30	10348	1715	193	11660
47.	Ernad	30	13	16045	1941	221	20461
	MALAPPURAM DISTRICT	114	88	38603	1898	124	48128

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
48.	Kozhikode	30	30	4595	1222	128	3689
49.	Quilandy	30	29	3182	1299	186	2716
50.	Badagara	24	24	2002	1465	207	1927
51.	South Wynad	..	..	47	1297	..	40
	KOZHIKODE DISTRICT	84	83	9826	1297	95	8372
52.	North Wynad	..	..	21	1619	..	22
53.	Tellichery	30	30	6005	1619	204	6387
54.	Cannanore	30	29	6914	1768	274	8031
55.	Taliparamba	30	30	8448	1991	157	11051
56.	Hosdurg	30	30	6816	2116	336	9476
57.	Kasargode	30	30	9221	2427	446	14703
	CANNANORE DISTRICT	150	149	37425	2020	144	49670
	STATE	1430	1377	349243	2413	51	553748

TABLE No. 2
 AUTUMN CROP OF PADDY—1980
 Analysis of variance of plot yield pooled for the State,
 in kg./ plot of 1/400th of a hectare

Source of variation	Sum of squares	Degrees of freedom	Mean sum of square (variance)	
Between taluk	5298.54	52	101.90	17.85*
Between villages within taluk	1547.01	140	11.05	1.94*
Within villages within taluk	6998.68	1184	5.71	
All	13844.23	1376	118.66	

* Significant at 1% level.

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TABLE 3

**Estimates of Area Mean Yield of Dry Paddy (kg./hect.)
during Autumn seasons from 1976 to 1980**

<i>Sl. No.</i>	<i>Taluk and District</i>	1976	1977	1978	1979	1980
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Neyyattinkara	3214	2622	2759	2594	2172
2.	Trivandrum	2199	2320	2466	2409	2335
3.	Nedumangad	1914	1614	2042	1938	2150
4.	Chirayinkil	1246	1960	2668	2174	2318
	TRIVANDRUM DISTRICT	2139	2112	2481	2269	2248
5.	Quilon	1239	1343	2206	1742	1982
6.	Kottarakkara	1540	2256	2835	2367	2496
7.	Kunnathur	1632	1948	2100	2478	2062
8.	Pathanapuram	1753	2879	2627	2436	2960
9.	Pathanamthitta	2304	2458	2765	3032	3029
10.	Karunagappally	558	1444	2033	1546	2792
	QUILON DISTRICT	1458	2051	2424	2224	2506
11.	Karthigappally	2112	1894	1735	2634	2414
12.	Mavelikara	1275	1553	2012	2205	2261
13.	Chengannur	2094	2243	2434	2591	2640
14.	Thiruvalla	1707	2153	1625	1805	1695
15.	Kuttanad	3435	3330	2136	3838	4199
16.	Ambalapuzha	2662	1116	1221	400	699
17.	Shertally	1642	690	1627	806	1010
	ALLEPPEY DISTRICT	2265	2049	1954	2481	2589
18.	Changanacherry	2611	2572	2348	2591	2103
19.	Kanjirapally	2156	2726	2701	4001	3643
20.	Kottayam	2391	2312	2913	3137	2447
21.	Vaikom	1993	1939	2605	2293	3042
22.	Meenachil	2293	2729	2573	2864	2794
	KOTTAYAM DISTRICT	2303	2286	2678	2808	2630

(1)	(2)	(3)	(4)	(5)	(6)	(7)
23.	Peermade	..	..	2285	..	2304
24.	Devicolam	...	2284	2791	3434	2389
25.	Udumbanchola	..	2285	2588	3434	2304
26.	Thodupuzha	2300	2286	2588	2811	2276
	IDUKKY DISTRICT	2300	2285	2599	1899	2304
27.	Kothamangalam	2218	2318	2189	2348	2218
28.	Muvattupuzha	2204	2838	2434	2696	2738
29.	Cochin	2149	2972	2397	1830	1676
30.	Kanayannur	1705	1668	1882	1883	1863
31.	Kaunnathunad	2294	2147	2476	2139	1946
32.	Alwaye	2140	2576	2673	2307	2039
33.	Parur	2077	1671	2796	1899	2288
	ERNAKULAM DISTRICT	2127	2312	2437	2204	2107
34.	Cannanore	1130	959	678	597	826
35.	Mukundapuram	1498	1446	1907	1924	1613
36.	Trichur	1314	1878	2205	1804	1673
37.	Thalappally	1803	1683	2007	1956	2220
38.	Chowghat	846	832	1040	1604	1880
	TRICHUR DISTRICT	1479	1526	1903	1860	1855
39.	Chittur	3065	4726	3893	4246	3922
40.	Alathur	2634	3552	3585	4036	3426
41.	Palghat	3170	3856	3779	3971	3749
42.	Ottappalam	1802	2120	2046	2152	2069
43.	Mannarghat	2185	2111	2308	2348	2447
	PALGHAT DISTRICT	2617	3435	3235	3481	3232
44.	Perinthalmanna	2291	2171	2585	1997	1935
45.	Ponnani	1281	1740	1931	2217	2128
46.	Tirur	1209	2028	1687	1598	1715
47.	Ernad	1425	1818	2159	2295	1941
	MALAPPURAM DISTRICT	1516	1939	2103	2041	1898

(1)	(2)	(3)	(4)	(5)	(6)	(7)
48.	Kozhikode	818	1035	1174	1438	1222
49.	Quilandy	1050	1058	1094	1270	1299
50.	Badagara	1236	1565	1145	1167	1465
51.	South Wynad	..	1156	..	1167	2297
	KOZHICODE DISTRICT	987	1156	1142	1329	1297
52.	North Wynad	..	1894	..	1827	1619
53.	Tellichery	1958	1695	1549	1823	1619
54.	Cannanore	2189	1944	1981	1737	1768
55.	Taliparamba	1924	1812	1429	2001	1991
56.	Hosdurg	2182	1944	1635	1916	2116
57.	Kasargode	2555	2028	2085	2251	2427
	CANNANORE DISTRICT	2168	1894	1744	1970	2020
	STATE	2040	2300	2391	2481	2413

TABLE—4.
Estimated Area, Mean yield and Production of High yielding and other Varieties of Paddy during Autumn—1980.

District	High yielding varieties			Other varieties			Total		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Area under HYV (hect.)	Mean yield of paddy (kg./hect.)	Production of rice (tonnes)	Area under other varieties of paddy (hect.)	Mean yield of dry paddy (kg./hect.)	Production of rice (tonnes)	Area under Autumn paddy 1980 (hect.)	Mean yield of dry paddy (kg./hect.)	Production of rice (tonnes)
Trivandrum	1694	2397	2668	13667	2229	20017	15361	2248	22685
Quilon	12356	3040	24678	11786	1945	15065	24142	2506	39743
Alleppey	16062	3002	31685	16957	2197	24482	33019	2589	36167
Kottayam	11558	2780	21112	1927	1729	2189	13485	2630	23301
Idukki	2580	2256	3824	1282	2403	2024	3862	2304	5848
Ernakulam	13119	2427	20917	30055	1967	38847	43174	2107	59764
Trichur	7301	2269	10882	33283	1765	38595	40584	1855	49477
Palghat	62185	3721	152034	27577	2128	38559	89762	3232	190593
Malappuram	2065	2816	3821	36538	1846	44307	38603	1898	48128
Kozhikode	1773	1535	1788	8053	1244	6584	9826	1297	8372
Cannanore	5543	2378	8661	31882	1958	41009	37425	2020	49670
State	136236	3151	282070	213007	1941	271678	349243	2413	553748

TABLE-5

District wise Yield Rate of High Yielding and other Varieties of Paddy according to Cultural Practices : Autumn-1980

District	Irrigated										
	Chemically manured					Other manured					Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
	Variety	No. of expts.	Mean yield of Dry paddy in kg./hect.	No. of expts.	Mean yield of dry paddy in kg./hect.	No. of expts.	Mean yield of dry paddy in kg./hect.	No. of expts.	Mean yield of dry paddy in kg./hect.	No. of expts.	Mean yield of dry paddy in kg./hect.
Trivandrum	H	3	2357	..	..	..	..	3	2359	..	..
	O	27	2143	..	..	..	..	27	2143	..	..
	T	30	2164	..	..	..	..	30	2164	..	..
Quilon	H	2	2687	..	..	..	..	2	2687	..	..
	O	13	2037	..	..	..	..	13	2037	..	..
	T	15	2124	..	..	..	..	15	2124	..	..
Alleppey	H	..	..	..	..	..	..	..	..	..	..
	O	..	..	..	..	..	..	..	..	..	..
	T	..	..	..	..	..	..	..	..	..	..
Kottayam	H	2	3424	1	2285	..	..	3	3044	..	..
	O	1	1878	..	..	..	..	1	1878	..	..
	T	3	2908	1	2285	..	..	4	2752	..	..

Idukki	H	1	1272	..	..	..	..	..	1	1272
Ernakulam	O	..	1272	..	..	..	..	..	..	1272
	T	31	2591	1	1737	..	..	..	32	2564
	H	22	2237	2	1544	3	2374	..	27	2201
	O	53	2444	3	1609	3	2374	..	59	2398
Trichur	T	1	1673	..	..	..	..	..	1	1673
	O	..	1673	..	..	..	..	..	..	1673
Palghat	H	43	3720	..	..	..	..	..	43	3720
	O	2	1928	2	2522	..	..	..	4	2225
	T	45	3640	2	2522	..	..	..	47	3592
	H	4	3022	..	..	..	..	..	4	3022
Malappuram	O	2	2597	3	1739	..	..	..	5	2082
	T	6	2881	3	1739	..	..	..	9	2501
	H	..	..	..	..	..	..	..	..	..
Kozhikode	O	..	..	..	..	..	..	..	..	..
	T	..	..	..	..	..	..	..	..	..
	H	..	..	..	..	..	..	..	..	..
Cannanore	H	1	1826	..	..	..	..	..	1	1826
	O	1	2452	..	..	..	..	..	1	2452
	T	2	2139	..	..	..	..	..	2	2139
State	H	88	3098	2	1986	..	..	..	90	3073
	O	68	2168	7	1887	3	2367	..	78	2150
	T	136	2693	9	1909	3	2367	..	168	2645

TABLE 5 (Contd.)
District wise Yield Rate of High Yielding and other Varieties of Paddy according to Cultural Practices : Autumn—1980

District	Variety	Unirrigated			Treated with pesticides			Not treated with pesticides					
		Chemically manured	Other manured	Not manured	Total	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.		
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Trivandrum	H	17	2504	..	..	..	..	17	2504	10	2160	10	2803
	O	67	2223	..	..	..	..	67	2223	32	2135	62	2233
	T	84	2280	..	..	..	..	84	2280	42	2141	72	2313
Quilon	H	71	3056	4	2303	..	..	75	3016	19	3050	58	2993
	O	49	2068	11	1950	..	..	60	2046	9	2049	64	2044
	T	120	2653	15	2044	..	..	135	2585	28	2729	122	2495
Alleppey	H	54	2662	4	2202	2	2524	60	2627	28	2667	32	2592
	O	60	2808	41	998	13	1327	114	1988	9	1743	105	2009
	T	114	2739	45	1105	15	1486	174	2208	37	2442	137	2145
Kottayam	H	67	2782	1	1803	2	1715	70	2738	52	2540	21	3270
	O	21	2591	2	3472	5	2472	28	2640	16	2805	13	2371
	T	88	2738	3	2915	7	2220	98	2711	68	2600	34	2943

Idukki	H	28	2291	..	..	28	2291	26	2233	3	2455		
	O	1	2842	..	..	13	2423	1	2842	12	2388		
	T	29	2310	..	..	41	2333	27	2256	15	2402		
Ernakulam	H	40	2332	5	2843	..	45	2388	53	2480	24	2421	
	O	24	1996	21	1563	45	1898	90	1846	32	2213	85	1820
	T	64	2206	26	1809	45	1898	135	2027	85	2379	109	1953
	H	18	2610	7	2177	5	2400	30	2474	15	2219	16	2663
Trichur	O	40	1706	56	1412	12	1110	108	1487	21	2108	87	1337
	T	58	1987	63	1496	17	1490	138	1702	36	2154	103	1543
	H	37	3509	4	2624	..	..	41	3422	16	3892	68	3500
Palghat	O	28	2849	25	1930	1	2198	54	2411	5	2122	53	2425
	T	65	3224	29	2026	1	2198	95	2848	21	3470	121	3029
	H	3	2966	3	1936	..	..	6	2451	7	2998	3	1936
Malappuram	O	27	1726	38	1795	8	1876	73	1778	16	1952	62	1758
	T	30	1850	41	1806	8	1876	79	1830	23	2271	65	1766
	H	11	1537	3	1742	3	895	17	1461	12	1559	5	1226
	O	23	1445	34	1191	9	1211	66	1282	6	1715	60	1239
Kozhikode	T	34	1475	37	1237	12	1132	83	1319	18	1611	65	1238
	H	21	2628	11	2165	..	..	32	2463	3	2866	30	2400
	O	43	2179	62	1762	10	1404	115	1888	6	2503	110	1859
Cannanore	T	64	2321	73	1823	10	1404	147	2011	9	2624	140	1973
	H	367	2744	42	2230	12	1912	421	2668	241	2583	270	2880
	O	383	2201	302	1570	103	1638	788	1886	153	2161	713	1856
State	T	750	2487	344	1549	115	1636	1209	2159	394	2420	983	2138

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