



GOVERNMENT OF KERALA

REPORT ON
CROP CUTTING SURVEY ON WINTER
AND
SUMMER CROPS OF PADDY
1988-89

DEPARTMENT OF
ECONOMICS & STATISTICS
THIRUVANANTHAPURAM
1994

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FOREWORD

The Department of Economics and Statistics is conducting crop estimation surveys on paddy since 1950, during each of the three crop seasons viz. Autumn (Virippu), Winter (Mundakan) and Summer (Punja). The reports on the surveys are being published separately for Autumn (Khariff) crop and a combined one for Winter and Summer (Rabi) crops together. This report deals with the objects, area covered by the survey, the sampling techniques adopted, the results of the analysis of data and the reliability of the results obtained from the survey in respect of Winter and Summer crops 1988-'89.

This report was prepared in the Agricultural Statistics Division of the Department of Economics and Statistics.

Suggestions for the improvement of the report are welcome.

Department of Economics and Statistics, Thiruvananthapuram, 12. 9. 1991. S. RETNABAI AMMAL,
DIRECTOR.

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**REPORT ON CROP CUTTING SURVEY ON WINTER AND SUMMER CROPS
OF PADDY - 1988-'89**

1. Introduction

The Department of Economics and Statistics has been regularly conducting crop cutting surveys on paddy separately for the three crop seasons of Autumn (Virippu), Winter (Mundakan) and Summer (Punja) every year in the State. The results of this sample survey on yield estimation of paddy are published in two volumes; one for the Autumn (Khariff) Season and the other for the Winter and Summer (Rabi) seasons.

This report relates to the survey conducted in Rabi season of 1988-'89 (ie. November 1988 to June 1989).

2. Objectives of the Survey

The main objectives of the yield estimation survey on paddy are:-

- i. To estimate the mean yield per hectare of dry paddy, at Block, District and State level for each season.
- ii. To estimate production of rice at Block, District and State level.
- iii. To estimate mean yield and productivity of high yielding varieties, of paddy at District and State level.
- iv. To study the impact of various cultivation practices on the productivity of paddy crop.

.(3) Period of the Survey

The period of the field work for Winter (Mundakan) season was from November 1988 to February 1989 and that for summer season was from March 1989 to June 1989.

(4) Coverage

The survey was designed to cover the whole state except the forest area.

5. Sampling design

The survey was conducted on a stratified multistage sampling design. Under this system, blocks are considered as strata and investigator zones or sub-blocks forming sub-strata and first stage unit. Paddy growing survey sub-divisions in the selected cluster form the second stage unit.

In each zone, separate lists of survey sub-divisions of wet-land plots growing paddy under HYV irrigated, HYV unirrigated, local irrigated and local unirrigated are prepared. The required number of

plots are selected by using circular systematic sampling method from the above lists. One kandom each is chosen by simple random, after serially numbering them anti-clockwise starting from the south-west corner from the selected survey sub-divisions. They form the third stage unit. A square plot of 5 metres located in the selected kandom forms the ultimate sample unit and the crop in the demarcated plot is harvested, threshed, winnowed and weighed. The weight of the cleaned grains and other relevant details such as irrigation status, use of manure, fertilisers, insecticides, pesticides, etc. are recorded in the prescribed schedule. In each investigator zone 6 experiments are conducted in each season. In each corporation and municipality the number of experiments per zone per season is limited to 10 and 6 respectively.

Blocks in rural areas and municipalities and corporations in urban areas in each district are treated as stratum. The blocks are again divided into a number of investigator zones depending on the area of the block, nature of land etc. Corporation area is divided into 3 investigator zones and municipality with an area of 10 sq.km. and above is treated as one investigator zone. These investigator zones formed for the EARAS survey are treated as sub-stratum for the survey. The remaining small municipalities are grouped with the adjoining blocks.

In each investigator zone, 100 clusters of 5 survey sub-divisions are selected for the survey. These 100 clusters are allocated among the wet and dry lands in proportion to the area under these categories in the zone.

In each investigator zone, list of wet land survey sub-divisions and dry land survey sub-divisions as per the basic tax register is prepared separately in an orderly manner (one village after the other). The required number of key plots (survey sub-divisions) are selected from each list in proportion to the wet and dry land area for forming the cluster using circular systematic sampling method. These key plots together with the two other adjacent plots on either side (left and right in the horizontal direction) form the cluster. The wet land clusters of five survey sub-divisions each are visited in each paddy growing season in the agricultural year in the investigator zone for the collection of details of area under paddy during the season. From these paddy growing plots 6 survey sub-divisions are selected for the conduct of crop cutting survey in each investigator zone in every paddy season.

From every block, three samples each weighing 250 gms. of wet paddy are collected at the time of harvest for conducting driage experiments. The first sample is taken at the beginning, the second towards the middle and the third towards the end of the harvest season. These samples are dried and weighed until weights on two consecutive days agree. The driage ratio thus obtained was utilised for the estimation of dry weight.

6. Field work

The field work of the survey was attended to by the investigators under the immediate supervision of Taluk Statistical Inspectors and Taluk Statistical Officers. The Deputy Director of the districts were in overall charge for the proper conduct of the survey. He was assisted by the District Officers and Additional District Officers.

During the crop seasons of Winter and Summer 1988-'89 the total number of crop cutting experiments planned were 4654 and 2880 respectively.

The number of crop cutting experiments analysed during Winter and Summer were 4477 (96%) and 2815 (98%) respectively. The number of experiments planned and analysed in each block during Winter and Summer 1988-'89 are furnished in table 1.1 and 1.2 respectively.

7. Supervision

The yield estimation survey was inspected at pre-harvest, harvest and post-harvest stages by the Taluk Level and District Level Officers. The Statistical Inspectors and Taluk Statistical Officers were made responsible to inspect atleast one experiment in each investigator zone and the Deputy Director, District Officer and Additional District Officer were to inspect atleast one experiment in each block at the harvest stage. The Taluk Statistical Officer/Statistical Inspector had to conduct, atleast one harvest stage inspection in each investigator zone subject to a minimum of 5 experiments in a block. Over and above, the officers of the Agriculture Department had to conduct supervision on 1% of the crop cutting experiments in the districts.

The percentages of experiments inspected during the Winter and Summer seasons 1988-'89 are given in the following table.

Season	Year	No. of crop cutting experiments conducted	Percentage of experiments inspected	Pre-harvest stage	Harvest stage	Post-harvest stage	Total
		1	2	3	4	5	6
Winter	1988-'89	4477	4.87	17.33	0.67	22.87	
Summer	1988-'89	2815	9.08	18.76	0.93	28.70	

8. Analysis of data

On completion of the field work of the survey the data collected in each season were transmitted to the concerned district offices of the department and consolidated data from each district were forwarded to

the Head Office by the Deputy Directors of the Districts. Tabulation and analysis of data so collected were done by the Agricultural Statistics Division of the Directorate. The procedure adopted for estimation of various parameters at Block, District and State level is described in the ensuing paragraphs.

9. Estimation

Meanyield of paddy, its standard error and production of rice were estimated from the data collected through the surveys. Estimation of meanyield has been done separately for the following categories of paddy and weighted average was computed to obtain the meanyield of all varieties together.

1. Paddy high yielding varieties - Irrigated (HYV-I)
2. Paddy High yielding varieties - Unirrigated (HYV-UI)
3. Paddy Local varieties - Irrigation (L-I)
4. Paddy Local varieties - Unirrigated (L-UI)

(1) Mean yield of paddy at Block level:-

The following formula has been utilised to estimate meanyield of paddy at Block level.

$$\bar{x}_P = \frac{\sum_{j=1}^{np} x_{pj} \times 400 \times d}{4}$$

where;

np = Number of crop cutting experiments on the p th category paddy in the block.

x_{pj} = Weight of paddy (in Kg.) obtained from the J th experiment on the P th category paddy of the block.

$P = 1, 2, 3, 4$ represents HYV - I, HYV - UI, L-I and L-UI respectively.

d = The weight of dry paddy per Kg. of the harvested produce obtained through driage experiments.

The experimental plot is $1/400$ th of a hectare and hence x_p gives the meanyield of dry paddy per hectare of the p th category at block level.

Meanyield of dry paddy of the block for all categories taken together is obtained by computing the weighted average of the meanyield of all the four categories, weights being the proportion of area under paddy of the respective classifications. Thus meanyield of dry paddy (all categories together) in Kg. per hectare of the block is given by:

$$\bar{X} = \frac{\sum_{p=1}^4 a_p \bar{x}_p}{\sum_{p=1}^4 a_p}$$

a_p is the area under the P^{th} category paddy in the block.

Mean yield of paddy for the district is obtained as the weighted average of the mean yield of the blocks in the district, weight being the proportion of area under the crop in the respective blocks. So also mean yield of paddy for the state is computed as the weighted average mean yield of the district, weights being the proportion of area under the crop in the respective districts.

(ii) Standard error of block mean yield:-

Standard error of mean yield per hectare of the P^{th} category paddy of the block is computed using the formula:-

$$S_p = \sqrt{\frac{MSS}{np}} \times 400 \times d, \text{ where}$$

n_p = No. of crop cutting experiments conducted as P^{th} category paddy of the block.

$$MSS = \frac{TSS}{np-1},$$

$$TSS = \frac{\sum_{j=1}^{np} X_j^2 - (\sum X_j)^2}{np}, \text{ where}$$

X_j is the weight of harvested produce obtained from j^{th} cut on the P^{th} category paddy of the block.

Then standard error of the block mean yield is given by:-

$$S = \sqrt{\frac{\frac{4}{\sum_{p=1}^4 (apsp)^2}}{\frac{4}{\sum_{p=1}^4 (ap)^2}}} = \frac{1}{\frac{4}{\sum_{p=1}^4 ap}} \sqrt{\frac{4}{\sum_{p=1}^4 (apsp)^2}}$$

where a_p represents the area of p^{th} category paddy in the block.

The standard error of the district mean yield is obtained by:-

$$S = \sqrt{\frac{\sum_{i=1}^n (a_i s_i)^2}{\sum_{i=1}^n (a_i)^2}}, \text{ where}$$

n = number of blocks in the district

a_i = area under paddy in the i^{th} block of the district and

S_i = Standard error of the i^{th} block meanyield.

Computation of the standard error of the state meanyield is also made utilising the same formula where ' n ' will represent the number of districts in the state, ' a_i ' area under paddy in the i^{th} district and

S_i the standard error of the i^{th} district meanyield.

(iii) Production of rice

The estimates of meanyield obtained from crop cutting survey and that of the area obtained from area enumeration under the survey 'Establishment of an agency for reporting Agricultural Statistics' were utilised for computation of estimates of production of rice. In terms of weight, 65.7% clean rice is accounted for from dry paddy.

10. Results of the survey

(i) General

The total production of rice in the state during 1988-'89 has been estimated at 10,12,558 tonnes which is less than the previous year's production of 1038547 tonnes. The shortage in production during this year compared to the previous year is 25989 tonnes which comes to about 2.5% decrease in production.

State level estimates on area, meanyield of dry paddy and production of rice for 1987-'88 and 1988-'89 winter and summer are as shown below:

Crop season	Area under paddy (Hect.)		Meanyield of dry paddy (in Kg./Hect.)		Production of rice in tonnes	
	87-88	88-89	87-88	88-89	87-88	88-89
1	2	3	4	5	6	7
Winter	293891	274151	2445	2624	472153	472699
Summer	69746	70234	3138	3295	143815	152055

During the crop season of winter 1988-89 the area under the crop was decreased by 6.7% while the meanyield rate increased by 7.3% compared to the corresponding season of the previous year, which maintained the total production of rice in the state more or less the same during the season under report. During summer of 1988-'89 the area, meanyield and production of rice increased by 0.7%, 5.0% and 5.73% respectively compared to the corresponding season in the previous year.

The scheme for block-wise estimation of mean yield and production was implemented from 1987-'88 onwards and the number of crop cutting experiments conducted during the following years have been considerably increased since the sampling design followed for the sample survey upto 1986-'87 considering taluk as the stratum was changed and block-wise considered as the stratum for forming block level estimates from the crop season khariff 1987-'88 onwards.

The details of crop cutting experiments conducted during the last three years are shown below:-

Year 1	No. of crop cutting experiments conducted		
	Autumn 2	Winter 3	Summer 4
1986-87	1545	1612	1060
1987-88	3607	4100	1703
1988-89	4271	4477	2815

It may be seen that the percentage increase of crop cutting experiments during Autumn, Winter and Summer 1988-'89 compared to the corresponding seasons of 1986-'87 were 176, 178 and 166 respectively.

On an analysis of 4477 crop cutting experiments on winter paddy and 2815 experiments on summer paddy it has come to notice that 39% of the crop cutting experiments during winter and 33% of the experiments during summer had reported on yield rate between 2001-3000 Kg./ha., while 21% of the experiments in winter and 17% of experiments in summer recorded an average yield of 3001 to 4000 Kg./ha. But 23% of experiments in winter and 24% of the experiments in summer recorded an average yield rate of 1001 to 2000 Kg./ha. only. 9% of the total experiments conducted in winter and 8% of experiments in summer had an average yield rate below 1000 Kg./ha. only.

Sl. No.	Yield range (Kg./ha.)	Percentage of experimental plots	
		Winter 88-89 3	Summer 88-89 4
1	2	3	4
1.	0	0.51	0.85
2.	1 - 1000	8.87	7.73
3.	1001 - 2000	22.89	24.35
4.	2001 - 3000	39.15	33.14
5.	3001 - 4000	21.47	17.23
6.	4001 - 5000	5.03	10.72
7.	5001 - 6000	1.59	4.31
8.	6001 - and above	0.49	1.67
Total		100.00	100.00

The estimate of area, mean yield, standard error and production of rice at block level for winter and summer paddy 1988-89 are furnished in tables 1.1 and 1.2 respectively alongwith the number of crop cutting experiments analysed. The estimates of meanyield of winter and summer paddy for eight years from 1982 to 1989 are furnished in table 1.1 and 2.2 respectively for a comaprative study.

(ii) High Yielding Varieties

The district-wise area under paddy, meanyield and production of rice for winter and summer 1988-'89 are furnished in table 3.1 and 3.2 respectively in respect of high yielding varieties and other varieties. Details for the state as a whole are furnished in the table given below:

**Area and production of winter and summer paddy 1988-'89
for the state**

Varieties of paddy	Area under paddy (ha.)		Meanyield of dry paddy (Kg./Ha.)		Production of rice (tonnes)	
	Winter 1989	Summer 1989	Winter 1989	Summer 1989	Winter 1989	Summer 1989
	1	2	3	4	5	6
High yielding varieties	37971	36691	3110	3734	77587	90017
Other varieties	236180	33543	2546	2791	395112	62030
All varieties	274151	70234	2624	3295	472699	152055

The percentage area under high varieties and local varieties of paddy during winter 1989 were 14 and 86 respectively, whereas the percentages of production under these items were 16 and 84. But in the case of summer paddy 1989 the percentages of area under high yielding varieties and other varieties were 52 and 48 and those of production were 59 and 41 respectively. The extent of area and production under high yielding varieties have considerably extended during both the seasons of winter and summer 1988-'89 compared to the previous year.

The number of crop cutting experiments conducted in high yielding varieties, name of the variety corresponding to the highest average yield and yield rate in respect of each district for winter and summer 1988-'89 are furnished in the following tables.

High yielding variety with highest meanyield winter 1988-'89

Sl. District No.	Total no. of crop cutting experiments on HYV paddy	Name of the HYV corresponding to the highest mean yield	Highest mean-yield (Kg./Ha.)	No. of experimental plots where they HYV in col.4 was grown	
			2	3	4
1	2				
1. Thiruvananthapuram	50	Bharathy	4365	8	
2. Kollam	34	H4	3723	2	
3. Pathanamthitta	116	Jyothi	6011	73	
4. Alappuzha	40	Jyothi	5193	36	
5. Kottayam	171	Jyothi	6293	96	
6. Idukki	20	I.R.S.	5250	10	
7. Ernakulam	50	Jyothi	3758	6	
8. Thrissur	60	Annapoorna	4937	10	
9. Palakkad	12	Jyothi	4499	7	
10. Malappuram	77	Bharathy	4810	2	
11. Kozhikode	33	Jyothi	4508	17	
12. Wayanad	25	Sabari	5413	1	
13. Kannur	103	Jaya	5734	28	
14. Kasaragod	64	Jaya	5108	24	

The highest yield rate has been recorded in Kottayam district for Jyothi variety followed by the yield rate of same variety in Pathanamthitta and for Jaya in Kannur District.

High yielding variety with highest meanyield summer 1988-'89

Sl. District No.	Total no. of crop cutting experiments on HYV paddy	Name of the HYV corresponding to the highest mean yield	Highest mean-yield (Kg./Ha.)	No. of experimental plots where the HYV in col.4 was grown	
			2	3	4
1	2				
1. Thiruvananthapuram	57	Jyothi	2933	22	
2. Kollam	2	Jyothi	2897	1	
3. Pathanamthitta	69	Jyothi	7129	52	
4. Alappuzha	102	Jyothi	7085	81	
5. Kottayam	99	Jyothi	6356	64	

(Table contd.)

1	2	3	4	5	6
6.	Idukki	No paddy			
7.	Ernakulam	83	Thriveni	4293	8
8.	Thrissur	164	Jyothi	8239	64
9.	Palakkad	95	Jaya	5508	9
10.	Malappuram	247	Thriveni	6855	26
11.	Kozhikode	112	Jyothi	5424	67
12.	Wayanad	93	Jyothi	6857	7
13.	Kannur	72	Jyothi	5160	25
14.	Kasaragod	40	Pavizham	5143	1

For summer 1988-'89 the highest yield rate has been recorded by Jyothi in Thrissur District followed by the same variety in Pathanamthitta and Alappuzha Districts.

(iii) Cultural practices

(a) Winter paddy 1988-'89:- During Winter season, out of 4477 experimental plots selected for crop cutting, 2422 plots (54%) were irrigated. Among these irrigated 2422 plots 91% of the plots were chemically manured and organic manures were applied in 7% plots. The rest of the plots (2%) were not manured. Out of 2055 inirrigated plots 79% were applied with chemical fertilizers and 15% with other organic manures. 6% of the plots were not manured. It is observed that 99% of the plots cultivated with high yielding varieties of paddy were chemically or organically manured during the winter season 1988-'89.

Plant protection measures were taken in 75% of the experimental plots grown with high yielding varieties and in 50% of plots grown with local varieties.

(b) Summer paddy 1988-'89:- Of the 2815 experimental plots, where paddy crop cutting was conducted in summer season 2614 plots (93%) were irrigated and in 94% of the irrigated plots chemical fertilizers were applied for the summer crop; 5% of the irrigated plots were applied with other manures while in the remaining 1% of the irrigated plots no manuring was done. There were 201 experimental plots where irrigation was not provided. Of these, 86% of the plots were applied with chemical fertilizers and 12.5% plots with other organic manures while 15% were not manured at all. 99% of the experimental plots cultivated with high yielding varieties were applied with chemical fertilizers or manures.

Plant protection measures such as treatment with insecticides, pesticides, etc. were adopted in 67% of the plots where paddy crop cutting experiments were conducted in summer season. The treatment was done in 84% of the plots grown with high yielding varieties, and in case of plots grown with other varieties the percentage of plant protection was only 53%.

The district-wise details of mean yield and number of crop cutting experiments analysed in respect of winter and summer paddy 1988-'89 grown under the various cultural practices are furnished in tables 4.1 and 4.2 respectively.

Table 1.1 - Winter paddy 1988-'89
Block-wise estimate of area, meanyield and production of rice

S1. Name of blocks No. and district	2	No. of experiments			Mean yield of dry paddy (Kg/ ha)	Stand- ard error	Produc- tion (Ton- nes)
		Plan- ned	Ana- lysed	Area (Ha)			
1		3	4	5	6	7	8
1. Athiyannoor		18	17	345	2541	187	576
2. Nemom		30	30	532	1960	89	685
3. Parassala		24	22	939	2331	100	1438
4. Perumkadavila		30	29	1117	2579	129	1893
5. Kazhakkuttom		36	36	1291	2391	57	2028
6. Trivandrum rural		12	12	360	2355	86	557
7. Nedumangad		30	30	449	2464	63	727
8. Vellanad		30	30	715	2340	103	1099
9. Vamanapuram		30	30	1353	2725	86	2422
10. Chirayinkil		18	17	758	2723	177	1356
11. Varkala		24	24	889	2501	157	1461
12. Kilimannur		36	36	1843	2698	101	3267
Municipalities							
13. Attingal		10	9	179	2764	169	325
14. Nedumangad		10	10	120	2549	249	201
15. Varkala		10	10	73	2352	256	113
Corporation							
16. Trivandrum		18	18	41	2435	81	66
Trivandrum District		366	360	11004	2519	34	18214
17. Anchalummood		12	12	57	1122	173	42
18. Chittumala		18	18	419	2393	107	659
19. Ithikkara		30	28	925	2335	166	1419
20. Mukhathala		30	26	651	2058	227	880
21. Karunagappally		18	18	1021	1558	212	104
22. Chavara		18	18	460	1744	120	527
23. Ochira (Portion)		12	12	558	1402	182	514
24. Sasthamcotta (Portion)		24	24	1605	2152	108	2269
25. Kottarakkara		30	30	1598	3038	74	3190
26. Vettikkavala		30	30	1991	2963	105	3876
27. Chadayamangalam		30	30	1905	2836	76	3549
28. Anchal		30	26	1681	3111	119	3436
29. Pathanapuram		30	30	1361	2987	113	2671
Municipalities							
30. Punalur		10	10	349	2992	105	686
31. Quilon		-	-	-	-	-	-
Quilon Dist.		322	312	14581	2585	36	24763

(Table contd.)

1	2	3	4	5	6	7	8
32.	Parakkod	24	24	1658	3197	57	3483
33.	Pandalam (Portion)	18	18	534	2279	177	800
34.	Sasthamcotta (Portion)	6	6	398	3530	211	923
35.	Kulanada (Portion)	18	16	375	3182	94	784
36.	Konni	24	22	772	3216	134	1631
37.	Elamthoore	24	23	726	2988	127	1425
38.	Ranni	24	24	88	3068	86	177
39.	Malappally	24	24	233	3338	119	511
40.	Koipuram	24	21	290	4613	331	879
41.	Pulikeezhu	24	22	138	4246	213	385
Municipalities							
42.	Pathanamthitta	10	10	171	3934	182	442
43.	Thiruvalla	10	10	2	2316	432	3
	Pathanamthitta Dist.	230	220	5385	3234	44	11443
44.	Thycattuserry	18	17	552	670	94	243
45.	Pattanakkad	18	12	176	543	240	63
46.	Kanjikuzhy	18	18	821	616	80	332
47.	Aryad	18	17	430	794	9	224
48.	Ambalappuzha	12	12	303	2954	449	588
49.	Haripad	18	18	1310	2283	439	1965
50.	Muthukulam	18	18	1027	2007	141	1408
51.	Ochira (Portion)	6	6	456	1345	377	403
52.	Chengannur	18	16	2346	2521	291	3885
53.	Kulanada (Portion)	6	6	483	3105	79	985
54.	Mavelikkara	18	17	1517	1801	168	1795
55.	Bharanikkavu	18	18	1646	1818	137	1966
56.	Pandalam (Portion)	6	6	467	2245	186	689
57.	Veliyanad	18	16	6622	3865	186	16814
58.	Champakulam	18	16	3072	3261	300	6582
Municipalities							
59.	Alleppey	-	-	-	-	-	-
60.	Chengannur	10	9	32	2378	78	50
61.	Kayamkulam	10	10	201	1775	226	234
62.	Mavelikkara	10	9	41	2227	386	60
63.	Sherthalai	10	10	93	229	85	18
	Alappuzha Dist.	268	251	21595	2700	85	38304
64.	Madappally	30	29	1015	3574	191	2384
65.	Vazhoor	12	12	29	2452	122	47
66.	Kanjirappally	-	-	8	3362	-	18
67.	Pampady	12	11	2509	3223	179	5313
68.	Ettumanoor	29	29	701	3643	116	1678
69.	Pallom	30	29	1385	3856	529	3509
70.	Uzhavoor	30	30	1546	2889	148	2934
71.	Lalam	30	30	1170	2662	252	2046
72.	Erattupetta	14	14	21	2780	130	38
73.	Vaikom	30	30	588	2573	230	994
74.	Kaduthuruthy	30	30	2706	2705	115	4809

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8
Municipalities							
75.	Changanacherry	10	10	124	4865	301	396
76.	Kottayam	-	-	-	-	-	-
77.	Palai	10	10	77	3696	103	187
	Kottayam Dist.	267	264	11899	3120	86	24353
78.	Thodupuzha	30	30	697	2931	211	1342
79.	Elamdesom	30	30	1166	3441	140	2636
80.	Idukki	12	12	209	3157	135	434
81.	Arudai	-	-	313	3861	-	794
82.	Adimali	6	6	212	3977	72	554
83.	Devicolam	-	-	-	-	-	-
84.	Kattappana	12	12	166	3400	147	371
85.	Nedumkandom	-	-	49	3220	126	104
Municipalities							
86.	Thodupuzha	10	10	217	3703	220	528
	Idukki Dist.	100	100	3029	3398	75	6763
87.	Alangad	12	12	2002	2111	118	2776
88.	Angamaly	30	30	3787	2498	104	6216
89.	Edappally	12	12	1117	2550	323	1871
90.	Koovappady	30	30	2599	2651	117	4527
91.	Kothamangalam	36	36	2282	2873	124	4308
92.	Mulamthuruthy	24	24	1959	2214	174	2849
93.	Muvattupuzha	30	30	2017	2742	239	3634
94.	Palluruthy	-	-	-	-	-	-
95.	Pampakuda	36	36	2772	3000	155	5464
96.	Parakadavu	18	18	3164	2496	393	5189
97.	Parur	13	13	65	1569	68	67
98.	Vadavucode	30	30	3873	2819	107	7172
99.	Vazhakulam	34	34	3940	2763	96	7151
100.	Vypeen	-	-	-	-	-	-
101.	Vythila	-	-	-	-	-	-
Municipalities							
102.	Angamaly	10	10	416	2554	65	698
103.	Kothamangalam	10	10	255	2770	164	464
104.	Muvattupuzha	7	7	66	3282	186	142
105.	Perumbavoor	10	10	211	2218	161	307
106.	Thripunithura	10	10	43	1911	216	54
Corporation							
107.	Kochi	12	12	2	961	192	1
	Ernakulam Dist.	394	364	30570	2633	56	52890
108.	Anthicadu	18	17	1556	2912	157	2977
109.	Cherpu	24	24	2093	2922	271	4018
110.	Ollukara	30	29	3522	2636	102	6099
111.	Puzhakkal	36	33	2977	2533	122	4955
112.	Chowannur	30	27	5138	2573	94	8687

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8
113.	Pazhayannur	30	30	4243	2402	90	6696
114.	Wadakkancherry	36	36	6440	2174	94	9198
115.	Chowakkad	24	23	341	1580	168	354
116.	Mullasserry	18	18	969	3149	332	2005
117.	Thalikkulam	18	18	55	553	65	20
118.	Chalakkudy	36	36	1530	2230	104	224
119.	Irinjalakkuda	24	23	2536	2342	179	3902
120.	Kodakara	24	24	1832	2213	68	2664
121.	Mala	30	30	3643	2295	46	5492
122.	Vellangallur	24	23	1914	1799	87	2262
123.	Kodungallur	22	22	238	363	131	57
124.	Mathilakom	18	18	218	810	130	116
Municipalities							
125.	Chowghat	-	-	199	1660	-	217
126.	Chalakkudy	-	-	485	2341	-	746
127.	Irinjalakkuda	-	-	237	2672	-	416
128.	Kodungallur	-	-	66	1182	-	51
129.	Thrissur	-	-	79	2640	-	137
Thrissur Dist.		442	431	40311	2391	35	63311
130.	Alathur	60	54	9310	3292	162	20138
131.	Kuzhalmannam	48	42	8745	3138	319	18030
132.	Palakkad	42	42	7581	3004	194	14961
133.	Kollengode	48	48	10925	2404	241	17254
134.	Nenmara	18	17	2611	2889	337	4956
135.	Chittur	42	40	4377	3951	308	11362
136.	Mannarghat	54	53	5386	2738	149	9687
137.	Attappadi	30	28	212	3389	224	472
138.	Sreekrishnapuram	42	42	3989	2506	369	6567
139.	Pattambi	48	38	4216	2254	141	6242
140.	Ottappalam	36	32	4010	2452	145	6461
141.	Thrithala	36	33	3723	2057	105	5032
Municipalities							
142.	Chittur-Thathamangalam	10	10	1504	4386	143	4334
143.	Palakkad	12	11	950	3603	427	2249
144.	Shornur	10	10	566	2216	300	824
Palakkad Dist.		536	500	68105	2873	74	128569
145.	Malappuram	36	36	1182	2242	94	1741
146.	Manjerry	36	29	1503	2343	128	2314
147.	Kondotty	42	42	2228	2061	126	3017
148.	Vandoor	48	48	4275	2325	116	6530
149.	Nilambur	24	24	2284	2728	256	4093
150.	Andathode	27	27	794	2034	99	1061
151.	Ponnani	24	18	1410	1836	179	1701
152.	Perinthalmanna	42	42	2684	2289	106	4037
153.	Mankada	30	30	2350	2238	150	3455

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8
154.	Thirurangadi	30	28	1121	2075	150	1528
155.	Vengara	36	36	1379	1943	117	1760
156.	Tirur	36	29	2151	1721	136	2432
157.	Kuttupuram	18	18	1909	1957	254	2454
158.	Thanur	30	30	1668	1519	112	1665
Municipalities							
159.	Manjery	10	10	375	2549	51	628
160.	Malappuram	10	10	109	2109	192	151
161.	Tirur	10	10	149	1512	203	148
	Malappuram Dist.	489	467	27571	2137	44	38715
162.	Balussery	30	27	1153	1486	153	1126
163.	Perambra	24	20	871	2258	279	1292
164.	Meladi	24	21	493	1318	184	427
165.	Panthalayini	18	15	158	973	130	101
166.	Kozhikode	24	23	459	1462	153	441
167.	Chelannur	24	23	404	1130	110	300
168.	Koduvally	30	28	1312	2173	118	1873
169.	Kunnamangalam	30	27	2131	2373	227	3323
170.	Badagara	18	18	201	1363	131	180
171.	Thuneri	30	27	180	1535	99	182
172.	Kunnummel	30	30	627	1670	103	688
173.	Thodannur	24	21	423	1231	110	342
Municipalities							
174.	Badagara	10	10	63	1358	193	56
Corporation							
175.	Kozhikode	12	11	208	1407	174	192
	Kozhikode Dist.	328	301	8683	1845	70	10523
176.	Kalpetta	78	78	4366	2861	101	8207
177.	Mananthody	72	72	6300	3093	110	12804
178.	Sultan Battery	60	60	6557	2952	125	12718
	Wayanad Dist.	210	210	17223	2981	67	33729
179.	Kuthuparamba	42	42	706	1729	128	802
180.	Peravoor	48	48	919	2322	168	1402
181.	Iritty	54	54	1115	2132	117	1562
182.	Tellicherry	24	24	475	1641	127	512
183.	Kannur	12	12	81	2556	142	136
184.	Edakkad	36	36	653	2044	94	877
185.	Taliparamba	54	54	1229	2003	68	1617
186.	Payyannur	72	72	2021	2430	179	3226
187.	Irikkur	54	54	1250	2343	125	1923
Municipalities							
188.	Tellicherry	10	10	6	2024	131	8
189.	Kannur	-	-	-	-	-	-
	Kannur Dist.	406	406	8455	2172	55	12066

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8
190.	Kanhagad	60	60	770	2303	114	1165
191.	Feeleswar	72	71	1803	2301	143	2726
192.	Manjeswar	72	72	1832	2467	98	2969
193.	Kasaragod Municipalities	72	72	751	2473	55	1220
194.	Kasaragod	10	6	307	2202	316	444
195.	Kanhagad	10	10	297	2726	71	532
	Kasaragod Dist.	296	291	5760	2393	60	9056
	State	4654	4477	274151	2624	23	472699

Table 1.2 - Summer paddy 1988-'89
Block-wise estimate of area, mean yield and production of rice

Sl. No.	Name of Blocks and district	No. of experiments			Mean yield (Kg/ha)	Stand- ard paddy er- ror	Produc- tion of rice (tonnes)
		Plan- ned	Analy- sed	Area (Ha)			
1	2	3	4	5	6	7	8
1.	Athiyannur	-	-	-	-	-	-
2.	Nemom	12	10	68	2395	87	107
3.	Parassala	18	17	167	2373	93	260
4.	Perumkadavila	15	13	39	2082	39	53
5.	Kazhakkuttom	-	-	-	-	-	-
6.	Trivandrum rural	-	-	-	-	-	-
7.	Nedumangad	-	-	-	-	-	-
8.	Vellanad	-	-	-	-	-	-
9.	Vamanapuram	18	17	2	1550	77	2
10.	Chirayinkil	12	12	4	1171	22	3
11.	Varkala	-	-	-	-	-	-
12.	Kilimanoor	36	34	3	1083	107	2
	Municipalities						
13.	Attingal	-	-	-	-	-	-
14.	Nedumangad	-	-	-	-	-	-
15.	Varkala	-	-	-	-	-	-
	Corporation						
16.	Trivandrum	-	-	-	-	-	-
	Trivandrum Dist.	111	103	283	2297	62	427
17.	Anchalummoodu	-	-	-	-	-	-
18.	Chittumala	-	-	-	-	-	-
19.	Ithikkara	12	12	9	1768	279	10
20.	Mukhathala	-	-	-	-	-	-
21.	Karunagappally	-	-	-	-	-	-
22.	Chavara	-	-	-	-	-	-

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8
23.	Ochira (Portion)	-	-	-	-	-	-
24.	Sasthamcotta (Portion)	19	19	21	2050	147	28
25.	Kottarakkara	-	-	-	-	-	-
26.	Vettikkavala	-	-	-	-	-	-
27.	Chadayamangalam	-	-	-	-	-	-
28.	Anchal	-	-	-	-	-	-
29.	Pathanapuram	2	2	3	1656	1212	3
	Municipalities						
30.	Punalur	-	-	-	-	-	-
31.	Quilon	-	-	-	-	-	-
	Quilon Dist.	33	33	33	1891	163	41
32.	Parakkode	20	17	29	2463	29	47
33.	Pandalam (Portion)	18	18	385	4542	268	1149
34.	Sasthamcotta (Portion)	-	-	-	-	-	-
35.	Kulanada (Portion)	18	18	399	4433	188	1162
36.	Konni	-	-	-	-	-	-
37.	Elamthoor	24	24	219	3044	99	438
38.	Ranni	-	-	-	-	-	-
39.	Mallappally	17	17	352	4549	346	1052
40.	Koipuram	17	17	234	4846	222	745
41.	Palikeezhu	24	21	2129	4844	202	6773
	Municipalities						
42.	Pathanamthitta	-	-	-	-	-	-
43.	Thiruvalla	10	10	171	4438	338	490
	Pathanamthitta Dist.	148	142	3918	4610	121	11307
44.	Thycattuserry	-	-	-	-	-	-
45.	Pattanakkad	-	-	-	-	-	-
46.	Kanjikuzhy	-	-	-	-	-	-
47.	Aryad	-	-	-	-	-	-
48.	Ambalappuzha	17	17	1358	3861	214	3445
49.	Haripad	18	18	2755	4337	407	7850
50.	Muthukulam	6	6	251	4169	485	687
51.	Ochira (Portion)	-	-	-	-	-	-
52.	Chengannur	16	16	1025	3951	300	2661
53.	Kulanada (Portion)	6	6	105	4697	214	324
54.	Mavelikkara	12	12	1244	5180	467	4234
55.	Bharanikkavu	10	10	64	2212	752	93
56.	Pandalam (Portion)	-	-	127	4638	-	387
57.	Veliyanad	16	16	2689	3280	245	5794
58.	Champakulam	16	16	8360	3926	173	21566
	Municipalities						
59.	Alleppey	9	9	385	4523	112	1144
60.	Chengannur	10	10	16	3566	206	37
61.	Kayamkulam	-	-	-	-	-	-
62.	Mavelikkara	10	10	87	3937	346	225
63.	Sherthalai	-	-	-	-	-	-
	Alappuzha Dist.	146	146	18466	3993	114	48447

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8
64.	Madappally	24	24	2095	3647	195	5020
65.	Vazhoor	-	-	-	-	-	-
66.	Kanjirappally	-	-	-	-	-	-
67.	Pampady	-	-	-	-	-	-
68.	Ettumanoor	26	26	1402	3992	182	3677
69.	Pallom	26	26	2773	4427	322	8065
70.	Uzhavoor	-	-	-	-	-	-
71.	Lalam	-	-	-	-	-	-
72.	Erattupetta	-	-	-	-	-	-
73.	Vaikom	-	-	-	-	-	-
74.	Kaduthuruty	11	11	281	4377	323	808
Municipalities							
75.	Changmacherry	12	10	104	4450	200	304
76.	Kottayam	10	10	77	4976	279	252
77.	Palai	-	-	-	-	-	-
	Kottayam Dist.	109	107	6732	4098	156	18126
78.	Thodupuzha	-	-	-	-	-	-
79.	Elamdesom	-	-	-	-	-	-
80.	Idukki	-	-	-	-	-	-
81.	Arudai	-	-	-	-	-	-
82.	Adimali	-	-	5	4439	-	14
83.	Devicolam	-	-	-	-	-	-
84.	Kattappana	-	-	-	-	-	-
85.	Nedumkandom	-	-	-	-	-	-
Municipalities							
86.	Thodupuzha	-	-	-	-	-	-
	Idukki Dist.	-	-	5	4439	-	14
87.	Alangad	12	12	1208	2715	242	2155
88.	Angamaly	26	26	2238	2403	103	3533
89.	Edappally	12	12	152	2273	333	227
90.	Koovappady	30	30	2019	2506	105	3324
91.	Kothamangalam	33	33	563	2482	99	918
92.	Mulanthuruthy	11	11	208	3234	316	443
93.	Muvattupuzha	23	23	503	2660	111	879
94.	Palluruthy	-	-	-	-	-	-
95.	Pampakuda	18	18	731	2855	177	1372
96.	Parakkadavu	18	18	2393	2366	259	3720
97.	Parur	-	-	-	-	-	-
98.	Vadavucode	30	30	2103	2097	120	2897
99.	Vazhakulam	34	34	2379	2480	87	3877
100.	Vypeen	-	-	-	-	-	-
101.	Vythila	-	-	-	-	-	-
Municipalities							
102.	Angamaly	10	10	316	2789	153	579
103.	Kothamangalam	6	6	60	2131	216	84

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8
104. Muvattupuzha		-	-	17	2629	-	29
105. Perumbavoor	10	10	142	2090	45	195	
106. Thripunithura Corporation	-	-	-	-	-	-	
107. Kochi Ernakulam Dist.	273	273	15032	2453	56	24232	
108. Anthicadu	24	24	1187	2035	233	1587	
109. Cherpu	24	22	1519	2653	265	2648	
110. Ollukara	30	29	515	3254	813	1101	
111. Puzhakkal	36	35	2207	2892	588	4194	
112. Chellanur	20	19	906	6112	606	3638	
113. Pazhayannur	26	25	49	2485	1179	80	
114. Wadakkancherry	36	36	350	2414	413	555	
115. Chowaikkad	18	17	406	4185	448	1116	
116. Mullassery	18	18	860	3506	224	1981	
117. Thalikulam	-	-	-	-	-	-	
118. Chalakudy	36	35	970	2609	565	1663	
119. Iringalakuda	24	24	1148	2642	427	1993	
120. Kodakara	24	24	592	2389	131	929	
121. Mala	30	29	1635	2794	104	3001	
122. Vellangallur	24	24	385	2914	138	737	
123. Kodungallur	-	-	-	-	-	-	
124. Mathilakom Municipalities	12	9	5	2125	523	7	
125. Chowghat	-	-	45	4185	-	124	
126. Chalakudy	-	-	325	2599	-	555	
127. Iringalakuda	-	-	488	2723	-	873	
128. Kodungallur	-	-	-	-	-	-	
129. Thrissur Thrissur Dist.	382	370	13631	2999	138	26860	
130. Alathur	18	15	36	3239	512	77	
131. Kuzhalmanam	24	24	23	3587	337	54	
132. Palakkad	42	40	124	3351	185	273	
133. Kollengode	8	7	7	3735	347	17	
134. Nenmara	-	-	-	-	-	-	
135. Chittur	50	50	372	2336	140	671	
136. Mannarghat	26	26	51	2746	293	92	
137. Atteppadi	37	37	138	2040	209	185	
138. Sreekrishnapuram	34	33	155	2219	149	226	
139. Pattambi	22	22	26	3739	305	64	
140. Ottappalam	29	29	113	2519	210	187	
141. Thrithala Municipalities	-	-	-	-	-	-	
142. Chittur-Thathmalangalam	-	-	-	-	-	-	
143. Palakkad	-	-	-	-	-	-	

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8
144.	Shornur Palakkad Dist.	9 299	9 292	47 1092	3206 2572	240 71	99 1845
145.	Malappuram	18	18	13	2029	233	17
146.	Manjerry	30	29	70	2473	125	117
147.	Kondotty	42	42	296	1743	144	339
148.	Vandoor	44	44	101	2080	167	138
149.	Nilambur	21	21	41	2747	234	74
150.	Andathode	30	30	1433	3022	208	2845
151.	Ponnani	30	30	784	4255	349	2207
152.	Perinthalmanna	42	40	86	2071	205	117
153.	Mankada	30	30	189	2674	192	332
154.	Thirurangadi	28	28	770	3133	242	1585
155.	Vengara	36	36	109	2823	154	202
156.	Tirur	29	29	261	3546	276	608
157.	Kuttippuram	24	24	74	2612	339	127
158.	Thanur	24	24	60	2537	397	100
Municipalities							
159.	Manjery	10	10	8	2093	154	11
160.	Malappuram	—	—	—	—	—	—
161.	Tirur	10	10	4	2487	162	7
	Malappuram Dist.	448	445	4301	3123	34	8826
162.	Balusserry	36	25	312	1956	241	401
163.	Permbra	24	20	606	1876	128	747
164.	Meladi	30	22	354	1978	161	460
165.	Panthalayini	23	15	15	1218	314	12
166.	Kozhikode	24	22	28	2881	319	53
167.	Chelannur	18	16	165	1633	228	177
168.	Koduvally	24	23	183	2262	183	272
169.	Kunnamangalam	24	23	219	1571	121	226
170.	Badagara	—	—	—	—	—	—
171.	Thuneri	—	—	—	—	—	—
172.	Kunnummel	18	17	102	2611	132	175
173.	Thodannur	18	17	40	2588	554	68
Municipality							
174.	Badagara	—	—	—	—	—	—
Corporation							
175.	Kozhikode	12	12	26	1698	169	29
	Kozhikode Dist.	239	212	2050	1945	67	2620
176.	Kalpetta	78	78	701	2727	97	1256
177.	Mananthody	70	70	1411	3125	128	2897
178.	Sultan Battery	60	60	1058	3349	233	2328
	Wayanad Dist.	208	208	3170	3112	89	6481
179.	Kuthuparamba	—	30	30	19	1923	179
180.	Peravoor	48	48	143	1906	1413	179

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8
181. Irity		52	52	73	1251	100	60
182. Tellicherry		12	12	3	1522	226	3
183. Kannur		-	-	-	-	-	-
184. Edakkad		12	12	22	1634	160	24
185. Taliparamba		-	-	-	-	-	-
186. Payyannur		24	24	9	1015	188	6
187. Irikkur		47	47	95	2019	167	126
Municipalities							
188. Tellicherry		-	-	-	-	-	-
189. Kannur		-	-	-	-	-	-
Kannur Dist.		225	225	364	1765	75	422
190. Kanhangad		50	50	194	2388	65	304
191. Neeleswar		49	49	127	1989	102	166
192. Manjeswar		72	72	529	2532	76	880
193. Kasaragod		72	72	219	2495	71	359
Municipaliteis							
194. Kasaragod		6	6	20	3224	321	42
195. Kanhangad		10	10	68	2146	91	96
Kasaragod Dist.		259	259	1157	2439	41	1847
State		2880	2815	70234	3295	65	152055

Table 2.1 - Taluk-wise estimates of meanyield of dry paddy
(Kg./ha.) during winter season (1982-'89)

Taluk/District	1982	1983	1984	1985	1986	1987	1988	1989
1	2	3	4	5	6	7	8	9
Neyyattinkara	2148	2577	1681	2451	2108	2516	1989	2299
Trivandrum	2156	1933	1818	2300	2101	1668	2036	2432
Nedumanagad	2568	2534	1536	2235	2323	2257	2137	2519
Chirayinkil	2433	2242	2056	2460	2541	2993	2398	2621
Thiruvananthapuram Dist.	2344	2341	1783	2368	2290	2431	2172	2483
Quilon	1965	2224	1917	2482	2000	2491	2065	2094
Kottarakkara	3079	2502	2267	2753	2893	2909	2813	2951
Kunnathur	3043	2672	2030	2610	2429	2859	2414	2152
Pathanapuram	3141	3338	1863	2791	3140	2945	2828	3035
Pathanamthitta	2816	2787	2486	-	-	-	-	-
Karunagappally	1562	2056	2173	2168	1803	1472	1899	1591
Quilon Dist.	2631	2569	2115	2574	2510	2556	2471	2572
Kozhencherry	-	-	-	2797	3079	2719	3122	3241
Ranni	-	-	-	1557	2415	2920	3283	3172
Adoor	-	-	-	3033	2554	2677	3137	2866
Thiruvalla	-	-	-	3972	3776	3451	3852	4089
Mallappally	-	-	-	1425	3209	2660	4145	3593
Pathanamthitta Dist.	-	-	-	2842	2861	2765	3227	3122

(Contd.)

(Table contd.)

	1	2	3	4	5	6	7	8	9
Karthigappally	1799	1582	3561	1522	2627	1444	2171	1884	
Mavelikkara	1994	1975	1826	1997	1945	2663	1982	1942	
Chengannur	3157	2934	2838	2688	3668	3818	2959	2437	
Thiruvalla	3196	2522	2725	—	—	—	—	—	
Kuttanad	4384	4619	3128	3050	4355	3601	3787	3467	
Amblappuzha	2502	537	1841	1310	1329	2378	2026	1653	
Sherthalai	741	901	919	867	606	697	888	561	
Alleppey Dist.	2606	2449	2501	2057	2620	2609	2807	2569	
Changanacherry	4037	4270	3729	2222	2608	4154	3259	3564	
Kanjirappally	2771	2273	2650	2616	2917	3161	2967	3266	
Kottayam	2419	3146	3097	3358	3211	4064	3645	3534	
Vaikom	2272	3463	2408	2549	2081	2734	2464	2672	
Meenachil	2575	2761	3045	2760	3200	2997	2897	2945	
Kottayam Dist.	2507	3288	2884	2818	2717	3383	3147	3157	
Peermade	3962	2125	2113	2392	2629	4254	2128	3861	
Devikulam	2971	3772	2395	3227	2968	3566	2545	3977	
Udumbanchola	3279	3413	3313	3631	3451	3600	2046	3312	
Thodupuzha	2612	3043	2552	2796	2970	2834	2986	3229	
Idukki Dist.	2868	3297	2775	3160	3172	3161	2761	3357	
Kothamangalam	2402	2403	2006	2535	2509	2836	2437	2854	
Muvattupuzha	2735	2378	2617	2847	2998	3019	2723	2905	
Cochin	—	—	—	—	—	—	—	—	
Kanayannur	1585	1949	2300	2330	1885	2300	2048	2218	
Kunnathunadu	2413	2439	1619	2491	2625	2527	2220	2646	
Alwaye	2081	2532	2137	2552	2529	2496	2408	2577	
Parur	2511	1824	1089	2636	2557	1841	2207	2978	
Ernakulam Dist.	2316	2354	1973	2554	2565	2545	2344	2677	
Crangannur	1663	1527	833	1330	944	1335	1162	1413	
Mukundapuram	1859	1896	2406	2346	2906	2316	2312	2143	
Thrissur	2452	2507	2415	2382	2857	2334	2707	2689	
Thalappally	2390	2216	2261	2381	2290	2475	2158	2345	
Chowghat	2098	1343	1795	1234	1926	1375	1277	2295	
Thrissur Dist.	2193	2094	2255	2261	2542	2291	2289	2348	
Chittur	3286	3322	3877	3581	3458	3002	2799	3221	
Alathur	3883	3692	3646	3553	2730	2768	2591	3592	
Palakkad	2862	2443	3210	2753	2461	2326	2459	2819	
Ottappalam	2274	2036	2165	2147	2352	2343	2239	2301	
Mannarghat	2031	2466	1968	2250	2708	2139	2345	3011	
Palghat	3069	2849	3150	2957	2750	2582	2518	2990	
Perinthalmanna	2372	2310	3042	2568	2459	2698	2223	2269	

(Contd.)

(Table 2.1 contd.)

	1	2	3	4	5	6	7	8	9
Ponnani		1831	1899	1919	1913	1673	2308	1704	1908
Tirur		2019	1820	1913	1772	1970	1677	2050	1794
Ernad		2401	2136	2012	2388	2542	2795	2286	2325
Malappuram Dist.		2219	2043	1975	2164	2248	2377	2141	2120
Kozhikode		1653	2029	1578	2154	2090	1879	1784	1762
Quilandy		1585	1734	1356	1766	1810	1646	1269	1548
Badagara		1333	1339	1459	1188	1477	1450	1247	1881
Kozhikode Dist.		1563	1793	1479	1861	1886	1721	1521	1716
Vythiri		2864	2574	3150	2897	2589	2415	2204	2861
Sultan Battery		2642	2702	2865	3231	2872	2915	2312	2952
Mananthody		2963	2361	3128	2150	2663	3568	2848	3093
Wayanad Dist.		2824	2536	3068	2758	2722	3050	2508	2981
Telllicherry		1446	1786	1435	1647	2043	1718	2342	2030
Kannur		1839	1877	1347	1754	1933	2258	2115	2138
Taliparamba		1977	2274	2305	2057	2820	2218	2403	2332
Hosdurg		2384	2034	2304	1722	2189	-	-	-
Kasaragod		2348	2388	2274	2191	2393	-	-	-
Kannur Dist.		2006	2108	1956	1900	2319	2058	2327	2176
Hosdurg		-	-	-	-	-	2310	2423	2328
Kasaragod		-	-	-	-	-	2435	2667	2441
Kasaragod Dist.		-	-	-	-	-	2377	2538	2384
State		2518	2444	2442	2514	2559	2545	2436	2633

Table 2.2 - Taluk-wise estimates of mean-yield of dry paddy
(Kg./hec.) during Summer season (1982-'89)

Taluk/District	1982	1983	1984	1985	1986	1987	1988	1989
	2	3	4	5	6	7	8	9
Neyyattinkara	1872	1587	1900	1863	1513	1218	1286	2226
Trivandrum	1319	2196	1261	1051	2047	905	680	2486
Nedumangad	1770	2214	935	1015	978	1049	-	1550
Chirayinkil	1660	710	1535	870	468	846	0	1087
Thiruvananthapuram Dist.	1695	1914	1539	1419	1645	1049	1094	2248
Quilon	1716	961	713	1354	1444	1319	0	1768
Kottarakkara	1740	1450	1034	602	1686	1617	43	-
Kunnathur	1944	895	651	2323	2529	1336	676	2050
Pathanapuram	1331	3213	1034	-	2906	1336	1210	1656
Pathanamthitta	1772	3460	1040	-	-	-	-	-
Karunagappally	1711	1893	1361	2985	2450	2720	-	-
Quilon Dist.	1751	2077	906	1547	1912	1409	190	1891

(Contd.)

(Table 2.2 contd.)

1	2	3	4	5	6	7	8	9
Kozhencerry	-	-	-	1974	4332	1889	4934	4229
Ranni	-	-	-	-	3259	2815	0	-
Adoor	-	-	-	4505	3531	3762	2623	3412
Thiruvalla	-	-	-	4487	4373	5080	4754	4742
Mallappally	-	-	-	1728	4509	3450	-	4262
Pathanamthitta Dist.-	-	-	-	4391	4321	4695	4508	4498
Karthigappally	4296	3242	3748	4729	3640	3303	3905	4323
Mavelikkara	3650	3466	4199	3382	4596	5332	3594	4116
Chengannur	3213	3737	3136	3559	4690	4260	3441	3979
Kuttanad	4050	3856	3581	3280	4211	4227	3994	3597
Ambalappuzha	3267	3429	3794	3072	3185	3464	3301	4092
Sherthalai	-	-	-	-	-	-	-	-
Alleppey Dist.	4003	3763	3759	3502	4148	4237	3848	3828
Changanacherry	3572	5725	3061	3830	4440	3498	3412	3883
Kanjirappally	-	-	-	4019	4019	3301	-	-
Kottayam	3084	4805	2716	3787	4393	3749	3963	4121
Vaikom	2207	2506	1748	1522	3301	3252	2795	4377
Meenachil	3144	3825	3745	3189	4308	2937	3389	-
Kottayam Dist.	3192	5138	2840	3793	4394	3638	3742	4054
Peermade	-	-	-	-	-	1001	-	-
Devikulam	1558	1558	1530	3638	1940	2377	-	4439
Udumbanchola	1558	1530	1534	3115	3422	2429	-	-
Thodupuzha	1558	1530	1522	4122	1547	1547	-	-
Idukki Dist.	1557	1532	1533	3353	2881	2360	-	4439
Kothamangalam	2258	1567	2229	2099	1952	2133	2035	2411
Muvattupuzha	1892	2199	2758	2203	2255	2886	2142	2747
Cochin	-	-	-	-	-	-	-	-
Kanayannur	2397	656	2771	2721	2621	3672	1994	2829
Kunnathunadu	2429	1675	1833	2539	2467	2462	1797	2296
Alwaye	1966	2700	2224	2307	2410	2341	2025	2484
Parur	2657	1649	2654	2950	2460	2358	2522	2555
Ernakulam Dist.	2266	2141	2184	2456	2413	2464	2015	2444
Crangannur	893	2352	1447	2429	3736	3511	3650	2238
Mukundapuram	2014	2321	2167	2458	3113	2396	2467	2585
Thrissur	2223	2622	3138	2605	2780	3042	3224	2640
Thalappally	2901	2181	2316	4231	3549	3793	3473	3656
Chowghat	3701	2759	2727	2390	3281	4468	3654	3714
Thrissur Dist.	2335	2503	2671	2729	3027	2974	2959	2817
Chittur	2925	3298	1889	3266	2174	905	4321	-
Alathur	3611	1593	1605	2352	1247	1791	3568	3365
Palakkad	3670	1640	1746	1506	2111	1641	-	3433
Ottappalam	1825	2556	1994	1596	2279	2916	2220	2479

(Contd.)

(Table 2.2 contd.)

	1	2	3	4	5	6	7	8	9
Manarghat	2257	1903	1819	2099	1940	1679	2475	2353	
Palghat Dist.	2591	2487	1878	2275	2076	2191	3363	2593	
Perinthalmanna	1990	1972	4657	1947	2111	2031	2963	2319	
Ponnani	2511	3673	2447	2888	3687	3004	3243	3641	
Tirur	2178	2750	2191	2778	3254	3029	2843	2967	
Ernakulam	1938	1219	1589	1394	2078	2566	2089	2098	
Malappuram Dist.	2186	2729	2467	2357	3137	2884	2984	3166	
Kochikode	1831	1424	1180	1961	1763	1815	1580	1973	
Quilandy	2205	1756	1466	2302	1794	2304	1830	1825	
Badagara	2425	1627	1373	3788	2853	1745	3464	2540	
Kothikode Dist.	2117	1624	1355	2319	1869	2088	1829	1864	
Vythiri	3058	1518	3390	2486	2800	1433	2708	2727	
Sultan Battery	2032	2085	3028	3328	1939	3019	3332	3349	
Mananthody	3085	1900	3058	2240	3227	2352	3019	3125	
Mysore Dist.	2689	1921	3099	2704	2669	2409	3121	3112	
Tellicherry	2029	991	1363	1738	1182	1110	1715	1618	
Kannur	1590	1060	1197	976	1609	2029	1375	1634	
Taliparamba	1628	1852	1628	2295	1779	1768	1983	1786	
Hedburg	2121	1534	2203	2230	2276	-	-	-	
Kasaragod	2515	2190	2345	2252	2378	-	-	-	
Kannur Dist.	2171	1772	2066	2113	2055	1303	1749	1669	
Hedburg	-	-	-	-	-	1903	2650	2156	
Kasaragod	-	-	-	-	-	2267	2450	2458	
Kasaragod Dist.	-	-	-	-	-	2127	2518	2356	
State	2837	2945	2894	2993	3290	3204	3098	3205	

Table 3.1 - High yielding and other varieties of winter paddy 1988 '89
District-wise area, yield of dry rice, mean yield and production of rice

Sl. No.	District/ State	High yielding varieties			Other varieties			All varieties		
		Area (Ha)	Mean (Hc)	Production of dry rice (Tonnes)	Area (Ha)	Mean (Hc)	Production of dry rice (Tonnes)	Area (Ha)	Mean (Kg./he)	Production of dry rice (in tonnes)
1	2	3	4	5	6	7	8	9	10	11
1. Thiruvananthapuram		1190	2896	2264	9814	2474	15950	11004	2519	18214
2. Kollam		1045	2693	1849	13536	2577	22114	14581	2585	24763
3. Pathanamthitta		2059	3327	4510	3326	3177	6943	3355	3234	11443
4. Alappuzha		6774	3731	16605	14821	2232	21699	21595	2700	38304
5. Kottayam		7064	3284	15242	4815	2850	9111	11879	3120	24353
6. Idukki		373	2554	871	2056	3377	5892	3029	3398	6763
7. Ernakulam		3902	2615	6704	2668	2636	46186	30570	2633	52890
8. Thrissur		6658	2261	12689	33653	2290	50622	40311	2391	63011
9. Palakkad		1038	3257	2221	67067	2867	126348	68105	2873	128569
10. Malappuram		2612	2401	4120	24959	2110	34595	27571	2137	36715
11. Kozhikode		706	2479	1150	7977	1723	9373	8683	1845	10523
12. Wayanad		1093	3618	4737	15230	2897	28992	17223	241	33729
13. Kannur		1942	2691	3434	6513	2617	6532	8455	1172	12166
14. Kasaragod		615	2972	1201	5145	3324	7355	5760	156	27411
State		37911	2116	1116	2345	1112	1112	1112	1112	1112

Table 3.2 - High yielding and other varieties of summer paddy 1988-'89
District-wise estimates of area, mean yield and production of rice

Sl. No.	District/ State	High yielding varieties			Other varieties			All varieties		
		Area Mean (Ha)	Production of dry paddy (tonnes)	Area (Ha)	Yield of dry rice (Kg/he)	Production of rice (tonnes)	Area (Kg/Hc)	Mean yield of dry rice (Kg/he)	Production of rice (tonnes)	
1	2	3	4	5	6	7	8	9	10	11
1. Thiruvananthapuram		17	1612	18	266	2310	409	283	2297	427
2. Kollam		3	1686	3	30	1928	38	33	1891	41
3. Pathanamthitta		2868	4683	8325	1050	4410	3042	3918	4610	11867
4. Alappuzha		10415	4230	28944	8751	3687	9503	18466	3993	48447
5. Kottayam		6510	4087	17479	222	4439	647	6732	4098	18126
6. Idukki		-	-	-	5	4452	14	5	4439	14
7. Ernakulam		3142	2732	5640	11890	2379	18592	15032	2453	24232
8. Thrissur		7479	3408	16748	6152	2502	10112	13631	2999	26860
9. Palakkad		526	2306	797	566	2818	1048	1092	2572	1845
10. Malappuram		2630	3291	5666	1671	2860	3140	4301	3123	8826
11. Kozhikode		1194	2079	1631	856	1759	989	2050	1945	2620
12. Wayanad		1670	3482	3820	1500	2700	2661	3170	3112	6481
13. Kannur		112	2243	165	252	1552	257	364	1765	422
14. Kasaragod		125	3178	261	1032	2339	1586	1157	2439	1847
State		36691	3734	90017	33543	2791	62038	70234	3295	15205

Table 4.1 - District-wise number of experiments and mean-yield of paddy (kg./ha) according to various cultivation practices winter 1988-'89

Variety	IRRIGATED						UNIRRIGATED					
	Chemically manured			Not manured			Chemically manured			Not manured		
	No. of pts.	Mean ex-yield pts.	Other manured	Total	No. of pts.	Mean ex-yield pts.	Other manured	Total	No. of pts.	Mean ex-yield pts.	Other manured	Total
HVV	8	2640	1	2723	-	9	2650	-	38	2913	-	41
TVM Local	84	2290	1	2068	-	85	2287	221	2487	4	2375	3
TVM Total	92	2320	2	2395	-	94	2322	259	2549	4	2375	3
HVV	5	2461	-	-	-	5	2461	29	2516	-	29	2516
Kollam Local	19	3096	-	-	-	19	3096	239	2463	15	1572	5
Kollam Total	24	2964	-	-	-	24	2964	268	2469	15	1572	5
Pathanamthitta	HVV	83	3482	-	-	83	3482	33	3229	-	-	33
Pathanamthitta	Local	22	3828	-	-	27	3828	77	3072	-	-	77
Pathanamthitta Total	110	3567	-	-	-	119	3567	110	3119	-	-	110
Alapuzha	HVV	16	2858	-	-	16	2858	24	3001	-	-	24
Alapuzha	Local	11	2992	-	-	11	2992	129	2057	48	778	23
Alapuzha Total	27	2912	-	-	-	27	2912	153	2205	48	778	23
KTM	HVV	64	3113	-	-	64	3113	106	3390	-	-	106
KTM Local	60	2626	-	-	-	60	2626	33	2852	-	-	825
KTM Total	124	2877	-	-	-	124	2877	139	3262	-	-	825
Idukki	HVV	14	3392	-	-	14	3392	6	4212	-	-	6
Idukki Local	50	3201	-	-	-	50	3201	21	3350	3	2757	6
Idukki Total	64	3243	-	-	-	64	3243	27	3541	3	2757	6
Ernakulam	HVV	38	2679	-	-	4	2259	42	2639	8	2067	8
Ernakulam Local	261	2578	12	2800	-	4	2548	277	2587	24	2394	12
Ernakulam Total	299	2591	12	2800	-	8	2404	319	2594	32	2312	12

(Table 4.1 contd.)

		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
HYV	38	2679	-	-	4	2259	42	2639	8	2067	-	-	-	-	-	8	2067	37	2667	6	2456	
Erna- kulam	Local	261	2578	12	2800	4	2548	277	2587	24	2394	12	1770	1	483	37	2140	267	251	137	2595	
	Total	299	2591	12	2800	8	2404	3.19	2594	32	2312	12	1770	1	483	45	2127	304	2483	143	2539	
Thri- ssoor	HYV	55	3182	-	-	-	-	55	3182	4	770	-	-	-	4	770	56	3109	3	1337		
	Local	253	2225	19	3253	6	2692	278	2305	47	1593	25	822	22	928	94	1232	225	2161	147	1688	
	Total	308	2396	19	3253	6	2692	333	2450	51	1528	25	822	22	928	98	1213	281	2350	150	1681	
Pala- kkad	HYV	9	2882	-	-	-	-	9	2882	2	4118	-	-	1	4499	3	4245	6	2697	6	3718	
	Local	344	3074	20	2220	5	904	369	2998	90	2557	21	2329	8	1866	119	2470	225	3237	263	2555	
	Total	353	3069	20	2220	5	904	378	2995	92	2591	21	2329	9	2159	122	2514	231	3223	269	2582	
Mala- ppuram	HYV	51	2515	3	1432	1	2362	55	2453	17	2260	1	368	-	-	18	2155	60	2476	13	1936	
	Local	179	1916	51	1974	7	2137	240	1935	106	2236	37	1692	11	1509	154	2052	220	2043	174	1903	
	Total	230	2048	57	1946	8	2165	295	2032	123	2237	38	1658	11	1589	172	2063	280	2135	187	1905	
Kozhi- kode	HYV	13	2882	-	-	-	-	13	2882	20	2170	-	-	-	-	20	2170	28	2542	5	1936	
	Local	8	2307	4	1690	4	1286	16	1898	144	1638	79	1191	29	1299	252	1459	58	1947	210	1357	
	Total	21	2663	4	1690	4	1286	29	2339	164	1703	79	1191	29	1299	272	1511	86	2141	215	1371	
Kannur	HYV	92	2784	7	1977	-	-	99	2727	5	2136	-	-	-	-	-	5	2136	20	2734	84	2690
	Local	188	2100	31	1609	6	1383	225	2003	54	2039	19	1600	4	1721	77	1914	24	2167	278	1972	
	Total	280	2325	36	1676	6	1383	324	2231	59	2048	19	1600	4	1721	82	1928	44	2425	362	2139	
Wayanad	HYV	2	3881	2	3359	-	-	4	3620	19	3634	2	2576	-	-	21	3534	13	3861	12	3207	
	Local	21	3331	5	3886	1	2146	27	3391	103	3023	44	2550	6	1465	158	2832	57	3190	128	2790	
	Total	23	3379	7	3739	1	2146	31	3420	127	3114	46	2551	6	1465	179	2914	70	3315	140	2826	
Kasargod	HYV	61	2643	-	-	-	-	61	2643	6	3123	2	2692	-	-	8	3015	41	2991	28	2240	
	Local	194	2337	8	2405	7	1845	209	2324	10	2326	3	2080	-	-	13	2269	124	2456	98	2148	
	Total	255	2411	8	2405	7	1848	270	2396	16	2625	5	2325	-	-	21	2553	165	2590	126	2169	
STATE	Local	1699	2568	154	2260	40	1884	1893	2528	1303	2451	310	1559	119	1319	1732	2214	1811	2781	1814	1975	
	Total	2210	2675	167	2254	45	1930	2422	2632	1620	2589	315	1569	120	1346	2055	2360	2453	2679	2024	2293	

Table 4.2 - District-wise number of experiments and mean-yield of paddy (kg./ha) according to various cultivation practices summer 1988-'89

IRRIGATED										UN IRRIGATED										
Chemically manured		Other manured		Not manured		Total		Chemically manured		Other manured		Not manured		Total		Treated with plant protection chemicals		Not treated with plant protection chemicals		
No.of pts.	Mean ex-yield pts.	No.of Mean ex-yield pts.	No.of Mean ex-yield pts.	No.of Mean ex-yield pts.																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Thiruvananthapuram	HVV	63	1354	-	-	-	-	63	1364	-	-	-	-	-	-	53	1396	10	1197	
	Local	40	1990	-	-	-	-	40	1930	-	-	-	-	-	-	23	2002	17	1973	
Total		103	1607	-	-	-	-	103	1607	-	-	-	-	-	-	76	1579	27	1686	
Kollam	HVV	1	2897	-	-	-	-	1	2897	13	1725	-	-	-	13	1726	14	2068	-	
	Local	19	2049	-	-	-	-	19	2049	-	-	-	-	-	-	-	17	2054	2	2012
Total		20	2092	-	-	-	-	20	2092	13	1726	-	-	-	13	1726	31	1943	2	2012
Pathanamthitta	HVV	61	4373	-	-	-	-	61	4373	10	2651	-	-	-	10	2651	71	4130	-	
	Local	64	3854	-	-	-	-	64	3854	7	3750	-	-	-	7	3750	62	3864	9	3706
Total		125	4107	-	-	-	-	125	4107	17	3103	-	-	-	17	3103	133	4006	9	3706
Alappuzha	HVV	102	4027	-	-	-	-	102	4027	-	-	-	-	-	-	-	102	4027	-	-
	Local	44	3557	-	-	-	-	44	3557	-	-	-	-	-	-	-	35	3562	9	3538
Total		146	3885	-	-	-	-	146	3885	-	-	-	-	-	-	-	137	3908	9	3538
Idukki	HVV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Local	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(contd.)

(Table 4.2 contd.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Erna- kulam Loca]	HYY	82	2733	-	-	1	2643	83	2732	-	-	-	-	-	-	-	-	83	4278	-	-	
	Total	178	2390	8	1910	1	1099	187	2363	2	1782	-	-	1	1291	3	1619	133	2428	57	2172	
	Total	260	2498	8	1910	2	1871	270	2476	2	1782	-	-	1	1291	3	1619	216	2545	57	2172	
Thr1- ssur Loca]	HYY	164	3341	-	-	-	164	3341	-	-	-	-	-	-	-	-	-	164	3341	-	-	
	Total	205	2465	1	484	-	-	206	2455	-	-	-	-	-	-	-	-	142	2499	64	2358	
	Total	369	2854	1	484	-	-	370	2847	-	-	-	-	-	-	-	-	306	2950	64	2358	
Pala- kkad Loca]	HYY	102	3189	2	1643	3	2375	107	3138	2	2744	3	1386	-	-	5	1930	57	3235	55	2926	
	Total	133	3010	22	1436	9	1929	164	2739	9	2220	7	1894	-	-	16	2077	92	2710	88	2576	
	Total	235	3088	24	1453	12	2040	271	2897	11	2316	10	1741	-	-	21	2042	149	2954	143	2713	
Malai- ppuram Loca]	HYY	233	2831	5	2447	7	1392	245	2782	11	1849	-	-	-	-	11	1849	226	2791	20	2629	
	Total	170	2583	20	1590	2	1455	192	2468	6	2120	11	1363	-	-	7	2012	128	2534	71	2309	
	Total	403	2754	25	1762	9	1406	437	2644	7	2061	11	1363	-	-	8	1991	354	2698	91	2375	
Kozh1- Kode Loca]	HYY	104	2253	3	2476	2	1952	109	2254	3	2172	11	2419	-	-	4	2233	66	2316	47	2154	
	Total	82	1728	5	1710	3	1691	90	1726	6	2496	11	1518	2	535	9	1951	42	1845	57	1673	
	Total	186	2021	8	1997	5	1796	199	2015	9	2388	2	1968	2	535	13	2038	108	2133	104	1895	
Kannur Loca]	HYY	70	2367	3	1520	-	73	2331	-	-	-	-	-	-	-	-	-	67	2335	6	2291	
	Total	111	1687	38	1157	1	946	150	1548	-	-	2	812	-	-	2	812	10	1875	142	1515	
	Total	181	1950	41	1183	1	946	223	1805	-	-	2	812	-	-	2	812	77	2275	148	1546	
Waya- nad Loca]	HYY	71	3568	111	2653	1	5323	83	3468	10	2597	11	831	-	-	11	2436	41	3516	53	3216	
	Total	44	3071	112	1978	4	1487	60	2747	45	2682	9	1704	-	-	54	2519	18	2493	96	2666	
	Total	115	3378	23	2301	5	2255	143	3165	55	2666	10	1617	-	-	65	2505	59	3204	149	2862	
Kasar- agode Loca]	HYY	40	3168	-	-	-	40	3168	-	-	-	-	-	-	-	-	81	3222	9	2984		
	Total	211	2244	3	1881	-	-	214	2239	5	2567	-	-	-	-	5	2567	112	2336	107	2153	
	Total	251	2391	3	1881	-	-	254	2385	5	2567	-	-	-	-	5	2567	143	2528	116	2217	
STATE	Loca]	HYY	1138	3067	24	2328	14	2040	1176	3040	93	3387	5	1483	-	-	98	3290	1074	3131	200	2672
	Total	1309	2492	109	1467	20	1660	1438	2403	89	2606	20	1636	3	806	103	2365	822	2607	719	2164	
	Total	2447	2760	133	1622	34	1817	2614	2690	173	3026	25	1605	3	806	291	2816	1896	2904	919	2275	



ERRATA

Sl. No.	Page No.	Line/ Col., No.	Col. No.	Printed as	Read as/to be printed/ to be added/inserted/deleted
1	2	3	4	5	6
1.	4	6	-	--	Where
2.	4	28	-	Xp	Xp
3.	4	33	-	Weithts	Weights
4.	4	33	-	Proporation	Proportion
5.	6	7	-	of the ith district mean yield	of mean yield of the ith district
6.	7	21	-	on	an
7.	10	18	-	Irrigated	Unirrigated
8.	10	33	-	15%	1.5%
9.	12	8	2	Malappally	Mallappally
10.	15	4	2	Kuttupuram	Kuttippuram
11.	17	17	2	Elanthoor	Elanthoor
12.	18	6	6	4227	4427
13.	20	44	7	1413	143
14.	22	40	4	3042	2042
15.	23	8	2	1563	1565
16.	24	28	3	656	556
17.	28	20	20	251	2551
18.	29	3,4 & 5		These lines	May be deleted
19.	29	11	5	51	54
20.	29	23	8	1845	1848

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