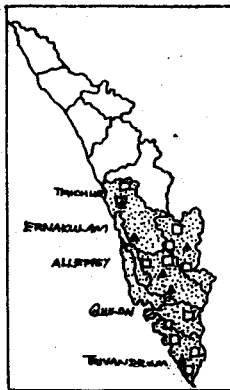
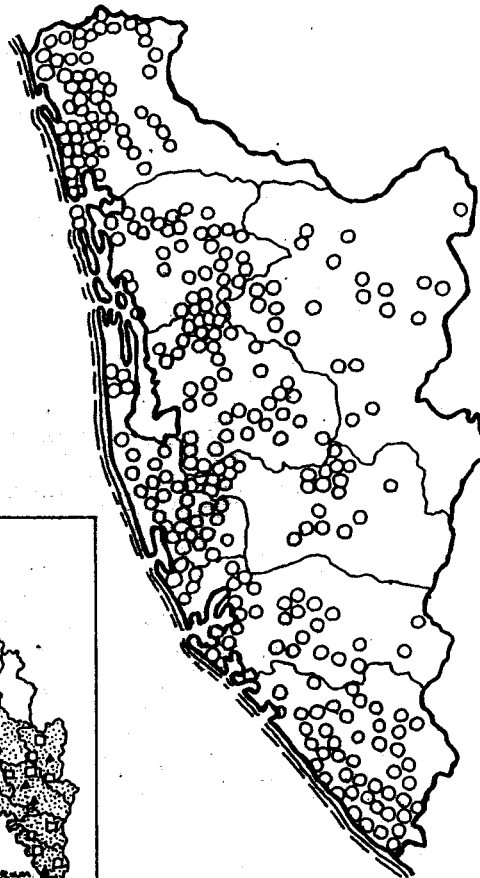


SURVEY ON PRODUCTION LOSS OF COCONUT DUE TO ROOT (WILT) DISEASE

1984 - 85

- ⊗ AREA SURVEYED
- ▲ HEAD QUARTERS OF REVENUE DISTRICTS
- HEAD QUARTERS OF AGRICULTURAL SUB-DIVISIONS
- VILLAGES



NAMES OF SUB DIVISIONS	NUMBER OF VILLAGES	NUMBER OF CLUSTERS
1. MADAKKANCHERY	21	126
2. TRICHUR	23	138
3. IRINJALAKUDA	23	138
4. ALWAYE	21	126
5. PERUMBAYOOR	9	54
6. MOOHTTUPEZZHA	19	114
7. PEERMEDU	8	48
8. ADIMALI	6	36
9. THODUPUZHA	9	54
10. KADUTHURUTHY	9	54
11. KOTTAYAM	14	84
12. PALAI	12	72
13. ALLEPPEY	18	108
14. MAVELIKARA	15	90
15. CHENGANNUR	13	78
16. ADOOR	20	120
17. QUILON	15	90
18. KOTTARAKARA	17	102
19. ATTINGAL	22	132
20. MEDUMANGAD	10	60
21. NEYYATTINKARA	14	84

INTENSITY OF INCIDENCE OF COCONUT ROOT (WILT) DISEASE IN
THE CONTIGUOUSLY AFFECTED DISTRICTS OF KERALA STATE

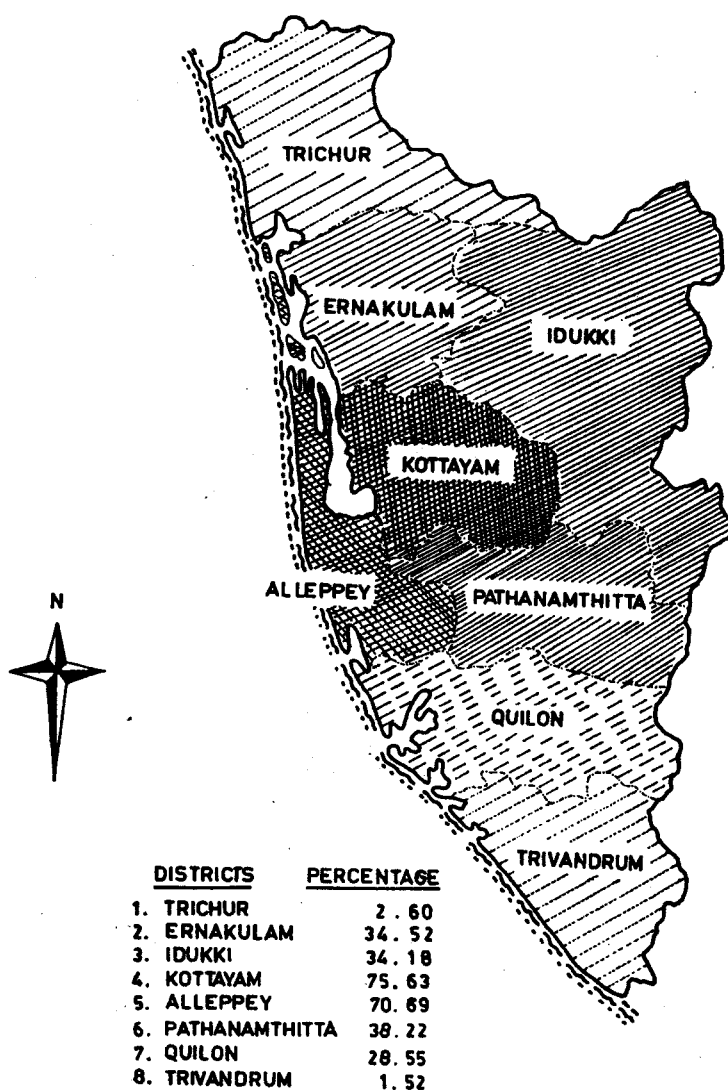


Table 1.
DISTRIBUTION OF NONBEARING AND BEARING PALMS IN RELATION TO THEIR CONDITION AND INTENSITY OF DISEASE
(In thousands)

Sl. No. DISTRICT	RWF		DE		DA		TOTAL DISEASED		TOTAL		GRAND			
	NB	B	NB	B	NB	B	NB	B	NB	B	NB	B		
1. TRIVANDRUM	6370	10111	13	182	195	5	55	60	18	237	255	6388	10348	16736
2. QUILON	5102	5735	10837	916	2255	3171	263	896	1159	1179	3151	4330	6281	8886
3. PATHANAMTHITTA	1967	2099	4066	237	1179	1436	118	961	1079	375	2140	2515	2342	4239
4. ALLEPPEY	1848	1410	3258	1243	4550	5793	332	1734	2066	1575	6284	7859	3423	7694
5. KOTTAYAM	1208	1483	2691	903	5046	5949	232	2168	2400	1135	7214	8349	2343	8697
6. IDUKKI	1028	973	2001	105	675	780	16	243	259	121	918	1039	1149	1891
7. ERNAKULAM	4530	4821	9351	910	3329	4239	81	611	692	991	3940	4931	5521	8761
8. TRICHUR	4883	8347	13230	20	265	285	8	60	68	28	325	353	4911	8672
TOTAL	26936	34979	61915	4367	17481	21848	1055	6728	7783	5422	24209	29631	32358	59188

Table 2.

**PERCENTAGES OF NON BEARING AND BEARING PALMS
UNDER VARIOUS CATEGORIES OF DISEASE**

Sl. District No.	NON BEARING PALMS			BEARING PALMS			TOTAL DISEASED	TOTAL DISEASED	OVERALL * DISEASED
	RWF	DE	DA	RWF	DE	DA			
1. TRIVANDRUM	99.69	0.22	0.09	97.54	1.88	0.58	2.46	1.52 +	
2. QUILON	83.03	13.49	3.48	68.13	22.68	9.19	31.87	28.55	
3. PATHANAMTHITTA	81.26	12.90	5.84	44.88	29.53	25.59	55.12	38.22	
4. ALLEPPEY	59.64	29.75	10.61	40.36	56.77	23.39	80.16	70.69	
5. KOTTAYAM	53.19	37.38	9.43	46.81	61.56	24.00	85.56	75.63	
6. IDUKKI	94.90	4.69	0.41	5.10	64.70	27.01	35.30	34.18	
7. ERNAKULAM	78.61	19.64	1.75	21.39	39.91	8.66	48.57	34.52	
8. TRICHUR	99.42	0.42	0.16	95.39	3.75	0.86	4.61	2.60	
OVERALL*	83.24	13.50	3.26	59.10	29.54	11.36	40.90	32.37	

RWF = Root(wilt) Free, DE = Diseased Early, DA = Disease Advanced
The figures given for the overall mean are weighted means

Table.3.

ESTIMATED AVERAGE YIELD (NUTS) PER PALM

SI.No	DISTRICT	AVERAGE YIELD PER PALM			
		RWF	DE	DA	OVERALL
1.	TRIVANDRUM	78	34	9	77
2.	QUILON	66	37	22	54
3.	PATHANAMTHITTA	78	52	27	59
4.	ALLEPPEY	86	48	22	49
5.	KOTTAYAM	68	36	13	35
6.	IDUKKI	67	34	20	49
7.	ERNAKULAM	80	37	12	59
8.	TRICHUR	63	50	31	63
	OVERALL	72	41	19	57

RWF = Root(wilt) Free; D.E. = Diseased Early; D.A. = Disease Advanced
 Figures given for the over all means are weighted means

Table 4

ESTIMATED LOSS IN PRODUCTION (IN MILLION NUTS)

S. No.	DISTRICT	LOSS IN PRODUCTION
1.	TRIVANDRUM	11.34
2.	QUILON	110.56
3.	PATHANAMTHITTA	99.89
4.	ALLEPPEY	271.02
5.	KOTTAYAM	254.39
6.	IDUKKI	31.11
7.	ERNAKULAM	177.13
8.	TRICHUR	12.65
	TOTAL	968.09

ANNEXURE - I

**DISTRIBUTION OF NON-BEARING AND BEARING PALMS IN RELATION TO THEIR CONDITION
AND INTENSITY OF DISEASE (TALUK-WISE) (NUMBER IN THOUSANDS)**

Taluk/District	RWF		DE		DA		Total diseased			Total			Grand Total
	NB	B	NB	B	NB	B	NB	B	Total	NB	B	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	
Neyyattinkara.	2326	3748	0	22	0	0	0	22	22	2326	3770	6096	
Trivandrum	1392	2228	1	20	0	8	1	28	29	1393	2256	3649	
Nedumangad	1305	1968	12	130	5	44	17	174	191	1322	2142	3464	
Chirayinkil	1347	2167	0	10	0	3	0	13	13	1347	2180	3527	
TRIVANDRUM	6370	10111	13	182	5	55	18	237	255	6388	10348	16736	
Quilon	1823	2044	255	729	136	360	391	1089	1480	2214	3133	5347	
Kottarakkara	1486	1776	80	364	13	93	93	457	550	1579	2233	3812	
Kunnathur	553	628	134	350	75	98	209	448	657	762	1076	1838	
Pathanapuram	473	496	38	156	14	93	52	229	301	525	745	1270	
Karunagappally	767	791	409	656	25	252	434	908	1342	1201	1699	2900	
QUILON	5102	5735	916	2255	263	896	1179	3151	4330	6281	8886	15167	

	1	2	3	4	5	6	7	8	9	10	11	12	13
Pathanamthitta	387	385	77	274	37	174	114	448	562	501	833	1334	
Ranni	235	234	34	80	16	90	50	170	220	285	404	689	
Adoor	704	904	50	194	10	124	60	318	378	764	1222	1986	
Thiruvalla	187	160	50	212	24	215	74	427	501	261	587	848	
Mallappally	454	416	46	419	31	358	77	777	854	531	1193	1724	
PATHANAMTHITTA	1967	2099	257	1179	118	961	375	2140	2515	2342	4239	6581	
Karthikappally	323	159	285	899	144	631	429	1530	1959	752	1689	2441	
Mavelikara	284	117	113	550	79	403	192	953	1145	476	1070	1546	
Chengannur	211	195	23	208	12	151	35	359	394	246	554	800	
Kuttanad	163	59	51	330	17	129	68	499	527	231	518	749	
Ambalapuzha	250	236	64	351	24	173	88	524	612	338	760	1098	28
Shertalai	617	644	707	2212	56	247	763	2459	3222	1380	3103	4483	
ALLEPPEY	1848	1410	1243	4550	332	1734	2575	6284	7859	3423	7694	11117	
Changanacherry	214	251	92	682	42	358	134	1040	1174	348	1291	1639	
Kanjirappally	46	39	65	268	14	159	79	427	506	125	466	591	
Kottayam	501	584	311	1757	108	1073	419	2830	3250	920	3414	4334	
Vaikom	296	545	125	897	29	228	154	1125	1279	450	1670	2120	
Meenachil	151	64	310	1442	39	350	349	1792	2141	500	1856	2356	
KOTTAYAM	1208	1483	903	5046	232	2168	1135	7124	8349	2343	8697	11040	

	2	3	4	5	6	7	8	9	10	11	12	13
Peermade	29	25	2	22	0	4	2	26	28	31	51	81
.Devikulam	2	3	0	0	0	0	0	0	0	2	3	5
Udumbanchola	166	267	6	17	0	0	6	17	23	172	284	456
Thodupuzha	831	678	97	636	16	239	113	875	988	944	1553	2497
IDUKKI	1028	973	105	675	16	243	121	918	1039	1149	1891	3040
Kothamangalam	416	560	56	186	0	4	56	190	246	472	750	1222
Muvattupuzha	791	982	121	446	6	29	127	475	602	918	1457	2375
Cochin	189	131	118	283	13	94	131	377	508	320	508	828
Kanayannur	557	456	315	739	24	228	339	967	1306	896	1423	2319
Kunnathunadu	1331	1481	134	832	1	14	135	846	981	1466	2327	3793
Alwaye	539	658	51	251	6	37	57	288	345	596	946	1542
Parur	707	553	115	592	31	205	146	797	943	853	1350	2203
ERNAKULAM	4530	4821	910	3329	81	611	991	3940	4931	5521	8761	14282
Kodungalloor	543	917	1	37	1	9	2	46	48	545	963	1508
Mukundapuram	1393	2229	19	226	7	51	26	277	303	1419	2506	3925
Trichur	1073	1894	0	1	0	0	0	1	1	1073	1895	2968
Thalappally	551	972	0	1	0	0	0	1	1	551	973	1524
Chavakkad	1323	2335	0	0	0	0	0	0	0	1323	2335	3658
TRICHUR	4883	8347	20	265	8	60	28	325	353	4911	8672	13583
GRAND TOTAL	26936	34979	4367	17481	1055	6728	5422	24209	29631	32358	59188	91546

NOTE: 1. The number of palms are given in thousands
2. 'N.B.' stands for Non-bearing and 'B' for Bearing palms

ANNEXURE - II

PERCENTAGE OF NON-BEARING AND BEARING PALMS UNDER VARIOUS CATEGORIES OF DISEASE

Taluk / District	NON-BEARING PALMS					BEARING PALMS					Total Overall Diseased
	RWF	DE	DA	DA	Total diseased	RWF	DE	DA	DA	Total Diseased	
1	2	3	4	5	6	7	8	9	10		
Neyyattinkara	100.00	0.00	0.00	0.00	0.00	99.42	0.58	0.00	0.00	0.58	0.36
Trivandrum	99.94	0.03	0.03	0.06	0.06	98.76	0.90	0.34	1.24	0.79	0.79
Nedumangad	98.75	0.90	0.35	1.25	1.25	91.89	6.08	2.03	8.11	5.51	5.51
Chirayinkil	100.00	0.00	0.00	0.00	0.00	99.42	0.45	0.13	0.58	0.37	0.37
Trivandrum	99.69	0.22	0.09	0.31	0.31	97.54	1.88	0.58	2.46	1.52	
Quilon	82.32	11.53	6.15	17.68	17.68	65.24	23.26	11.50	34.76	27.68	
Kottarakkara	94.11	5.09	0.80	5.89	5.89	79.54	16.30	4.16	20.46	14.43	
Kumathur	72.65	17.56	9.79	27.35	27.35	58.34	32.58	9.08	41.66	35.74	
Pathanapuram	90.19	7.21	2.60	9.81	9.81	66.62	20.87	12.51	33.38	23.70	
Karunagappally	63.86	34.08	2.06	36.14	36.14	46.56	38.58	14.86	53.44	46.28	
Quilon	83.03	13.49	3.48	16.97	16.97	68.13	22.68	9.19	31.87	28.55	

Figures given for the overall mean are weighted means

I	2	3	4	5	6	7	8	9	10
Pathanamthitta	77.24	15.38	7.38	22.76	46.22	32.89	20.89	53.78	42.13
Ranni	82.55	12.03	5.42	17.45	58.16	19.60	22.24	41.84	31.93
Adoor	92.19	6.51	1.30	7.81	73.95	15.90	10.05	25.95	19.03
Thiruvalla	71.87	19.09	9.04	28.13	27.29	36.11	36.60	72.71	59.08
Mallappally	85.51	8.59	5.90	14.49	34.85	35.17	29.98	65.15	49.54
Pathanamthitta	81.26	12.90	5.84	18.74	44.88	29.53	25.59	55.12	38.22
Karthikappally	42.89	37.93	19.18	57.11	9.44	53.24	37.32	90.56	80.25
Mavelikkara	59.69	23.66	16.65	40.31	10.95	51.36	37.69	89.05	74.06
Chengannur	85.80	9.41	4.79	14.20	35.20	37.52	27.28	64.80	49.25
Kuttanad	70.51	21.94	7.55	29.49	11.32	63.82	24.86	88.68	70.36
Ambalapuzha	73.86	18.98	7.16	26.14	30.99	46.23	22.78	68.01	55.73
Sherthalai	44.73	51.24	4.03	55.27	20.76	71.29	7.95	79.24	71.87
Alleppey	59.64	29.75	10.61	40.36	19.84	56.77	23.39	80.16	70.69
Changanacherry	61.48	26.42	12.10	38.52	19.43	52.84	27.73	80.57	71.62
Kanjirappally	36.85	51.67	11.48	63.15	8.35	57.60	34.05	91.65	85.62
Kottayam	54.45	33.85	11.70	45.55	17.12	51.45	31.43	82.88	74.97
Vaikom	65.81	27.78	6.41	34.19	32.63	53.72	13.65	67.37	60.33
Meenachil	30.20	62.00	7.80	69.80	3.49	77.71	18.80	96.51	90.87
Kottayam	53.19	37.38	9.43	46.81	14.44	61.56	24.00	85.56	75.63

	1	2	3	4	5	6	7	8	9	10
Peermade	94.59	4.72	0.69	5.41	48.28	43.39	8.33	51.72	34.15	
Devikulam	100.00	0.00	0.00	0.00	98.79	1.21	0.00	1.21	0.00	
Udumbancholla	96.74	3.26	0.00	3.26	94.06	5.84	0.10	5.94	5.04	
Thodupuzha	87.99	10.28	1.73	12.01	43.39	40.94	15.37	56.31	39.57	
Kulicki	94.90	4.69	0.41	5.10	64.70	27.01	8.29	35.30	34.18	
Kothamangalam	88.04	11.96	0.00	11.96	74.67	24.83	0.50	25.33	20.13	
Muvattupuzha	86.20	13.14	0.66	13.80	67.40	30.61	1.99	32.60	25.35	
Cochin	58.97	36.93	4.10	41.03	25.86	55.62	18.52	74.14	61.35	
Kanayannur	62.19	35.18	2.63	37.81	32.04	51.97	15.99	67.96	56.32	
Kunnathurad	90.79	9.11	0.10	9.21	63.65	35.75	0.60	36.35	25.86	
Alwaye	90.35	8.59	1.06	9.65	69.60	26.52	3.88	30.40	22.37	
Parur	82.85	13.54	3.61	17.15	40.92	43.87	15.21	59.08	42.80	
Ernakulam	78.61	19.64	1.75	21.39	51.43	39.91	8.66	48.57	34.52	
Kodungalloor	99.68	0.17	0.15	0.32	95.18	3.86	0.96	4.82	3.18	
Mukundapuram	98.15	1.36	0.49	1.85	88.94	9.02	2.04	11.06	7.72	
Trichur	100.00	0.00	0.00	0.00	99.98	0.02	0.00	0.02	0.03	
Thalappally	100.00	0.00	0.00	0.00	99.96	0.04	0.00	0.04	0.06	
Chavakkad	100.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	
Trichur	99.42	0.42	0.16	0.58	95.39	3.75	0.86	4.61	2.60	

ANNEXURE - III

ESTIMATED AVERAGE YIELD OF COCONUT PER PALM

TALUK / DISTRICT	AVERAGE YIELD PER PALM				OVERALL
	RWF 2	DE 3	DA 4	5	
Neyyattinkara	81	35	--	80	
Trivandrum	80	11	3	79	
Nedumangad	75	38	10	71	
Chirayinkil	74	18	9	73	
TRIVANDRUM	78	34	9	77	
Quilon	74	42	26	61	
Kottarakkara	61	32	13	55	
Kunnathur	51	36	34	44	
Pathanapuram	59	32	11	48	
Karunagappally	74	35	20	51	
QUILON	66	37	22	54	
Pathanamthitta	70	39	18	49	
Ranni	79	40	21	58	
Adoor	66	30	15	55	
Thiruvalla	96	53	33	57	
Mallappally	103	72	34	72	
PATHANAMTHITTA	78	52	27	59	
Karthigappally	77	53	17	42	
Mavelikara	93	50	29	47	
Chengannur	95	51	19	58	
Kuttanad	108	66	28	61	
Ambalapuzha	106	56	25	64	
Shertalai	74	41	18	46	
ALLEPPEY	86	48	22	49	

1	2	3	4	5
Changanacherry	67	37	12	36
Kanjirappally	107	42	16	39
Kottayam	65	32	14	32
Vaikom	70	38	10	45
Meenachil	46	36	10	31
KOTTAYAM	68	36	13	35
Peermade	90	34	13	60
Devikulam	75	70	20	75
Udumbanchola	74	56	16	73
Thodupuzha	63	33	20	44
IDUKKI	67	34	20	49
Kothamangalam	91	52	30	81
Muvattupuzha	88	33	10	70
Cochin	87	52	18	55
Kanayannur	79	36	10	46
Kunnathurad	77	33	11	61
Alwaye	72	44	24	62
Parur	70	34	9	45
ERNAKULAM	80	38	12	59
Kodungalloor	64	40	36	63
Mukundapuram	89	52	30	85
Trichur	61	37	—	61
Thalappaly	51	—	—	51
Chavakkad	45	—	—	45
TRICHUR	63	50	31	63
OVERALL	72	41	19	57

ANNEXURE - IV
PALM DENSITY, CROPPING PATTERN, CULTIVATION PRACTICES ETC; ARRANGED INTO AGRO-CLIMATIC ZONES

Agro Climatic zones	Taluk	Palm density	Land irrigated	Percentage of Area under cropping types			Percentage of Area under Dry-cropes			Coreid Bug Infestation (%)		
				Mono	Mixed	Inter	Mixed farming	Digging	Ploughing		Farming	
1	2	3	4	5	6	7	8	9	10	11	12	13
I.	Guilon	83.18	4.00	36.47	22.58	17.76	23.19	95.07	0.70	1.24	27.75	5.57
II.	Karunegappally	99.52	0.00	0.72	41.51	29.57	28.21	63.12	27.22	9.66	20.72	0.00
	Karthikappally	105.23	0.00	4.13	71.73	19.12	5.02	6.43	0.48	92.36	19.85	1.85
	Mavelikara	72.30	0.00	14.09	20.39	53.60	11.92	62.72	7.56	22.34	25.69	1.85
II	Ambalapuzha	86.24	71.75	21.86	53.62	24.52	0.00	2.04	0.00	94.98	10.63	0.00
	Sherthalai	92.58	68.62	50.63	18.28	26.85	2.61	0.00	0.00	98.46	6.70	0.00
	Vaikom	48.73	13.90	15.95	50.58	31.33	0.97	89.97	0.00	9.96	25.00	0.00
	Cochin	167.31	5.32	22.23	72.73	5.06	0.00	0.00	2.70	48.20	5.73	0.00
	Parur	61.87	41.77	51.94	31.64	16.42	0.00	42.07	3.98	47.85	14.70	5.62
	Chavakkad	82.92	62.95	55.33	29.06	7.07	8.54	69.69	18.55	10.65	4.44	0.00
	Kodungalloor	85.45	71.12	49.98	40.79	9.22	0.00	44.69	0.72	46.52	2.74	0.00
III.	Trivandrum	84.21	3.10	30.82	23.36	44.62	1.20	84.59	0.00	15.23	11.94	1.01
	Chirayinkil	75.24	0.67	23.51	20.09	33.90	22.46	100.00	0.00	0.00	20.39	0.00
	Kottarakkara	44.15	0.00	12.72	29.31	17.42	40.55	84.11	0.00	0.00	30.65	0.00
	Chengannoor	57.86	0.00	16.58	4.36	71.16	0.87	89.56	0.38	2.28	14.45	0.00
	Malleppally	40.69	0.81	13.49	86.51	0.00	0.00	01.00	0.00	0.00	17.19	0.58
	Thiruvalla	55.36	5.85	16.65	74.64	8.71	0.00	97.46	0.43	0.00	17.19	0.59
	Pathanamthitta	28.50	0.00	17.09	36.70	39.38	6.83	86.17	0.00	0.00	41.45	0.00
	Adoor	35.30	0.00	5.33	-	57.39	4.71	90.75	5.83	0.00	30.14	0.00
	Changanacherry	49.04	0.00	12.39	55.11	35.50	0.00	60.07	0.00	0.00	32.13	0.00
	Kottayam	29.74	2.35	4.65	82.80	10.08	2.49	37.96	0.00	0.00	24.84	0.00

1	2	3	4	5	6	7	8	9	10	11	12	13
IV.	Alwaye	51.69	92.15	9.95	75.96	12.40	1.63	81.00	4.15	0.00	32.60	5.12
	Kunnathunad	46.79	46.89	24.35	45.98	24.79	7.88	80.83	0.80	0.00	41.24	0.00
	Kanayannoor	52.41	20.88	27.05	64.51	6.99	1.45	17.02	0.00	27.75	25.22	0.00
	Mukundapuram	58.75	65.39	24.40	51.42	20.66	2.51	30.04	15.86	38.82	5.23	0.00
	Thelepally	36.77	34.66	17.97	47.14	30.38	4.52	69.75	7.03	2.37	10.39	0.00
	Trichur	56.42	55.09	31.75	45.33	7.86	15.07	58.81	8.58	18.82	8.59	0.00
VII.	Pathanapuram	35.71	0.00	7.95	22.61	21.63	47.34	91.30	0.89	0.00	31.55	0.00
	Kunnathur	55.96	0.00	38.45	0.00	61.55	0.00	100.00	0.00	0.00	34.02	0.93
	Ranni	20.34	0.00	9.13	50.20	40.67	0.00	83.41	0.06	0.00	30.08	0.00
	Kanjirappally	22.99	0.00	0.63	81.34	6.45	1.62	63.53	1.17	0.45	45.68	20.40
	Meenachil	21.51	0.00	3.58	51.15	34.74	10.54	45.99	0.54	1.37	31.33	0.00
	Thodupuzha	24.01	7.39	0.57	45.11	1.25	53.07	11.90	3.24	0.00	32.78	0.00
	Kothamangalam	41.37	25.79	18.94	14.59	57.40	9.07	97.90	0.60	0.00	41.77	0.00
	Muvattupuzha	31.96	13.92	14.08	51.90	30.93	2.00	39.24	1.96	0.00	29.61	0.00
	Nedumangad	59.18	1.76	1.99	51.07	28.88	16.81	67.10	0.00	6.59	29.35	0.75
IX.	Neyyattinkara	76.21	9.4	22.09	24.41	13.24	36.56	79.67	2.78	1.77	18.75	0.00
XII.	Kuttanad	96.45	0.74	12.50	56.34	31.05	0.00	86.60	0.00	13.30	13.65	0.00
X.	Devikulam	17.35	0.00	10.68	71.79	7.90	9.63	1.00	0.00	0.00	47.58	7.32
	Peermade	6.36	21.97	-	8.03	2.69	67.31	71.33	0.00	0.00	31.03	24.98
	Udumbanchola	22.44	1.35	0.45	29.01	8.59	61.95	86.38	0.00	0.00	19.00	0.00

DISTRIBUTION OF COCONUT PALMS ACCORDING TO AGE GROUP AND DISEASE INCIDENCE (In Thousands)

Taluk / District	NUMBER OF NON-BEARING PALMS							NUMBER OF BEARING PALMS											
	RWF		DE		DA			RWF				DE				DA			
	<3	≥3	<3	≥3	<3	≥3	>7	7-15	16-50	>50	<7	7-15	16-50	>50	<7	7-15	16-50	>50	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
Neyyattinkara	1013	1313	-	-	-	-	137	665	2353	593	-	-	1	21	-	-	-	-	
Trivandrum	514	878	-	1	-	-	233	298	1488	209	-	-	16	4	-	-	-	-	
Nedumangad	553	752	2	10	3	2	32	307	1308	321	2	17	71	40	1	2	25	18	
Chirayinkil	543	804	-	-	-	-	41	479	1272	375	-	-	8	2	-	1	1	1	
Trivandrum District	2623	3747	2	11	3	2	443	1749	6421	1490	2	17	96	67	1	3	33	18	
Quilon	544	1279	29	226	10	126	75	433	961	575	25	47	477	180	1	14	209	136	
Kottarakkara	278	1208	5	75	3	10	43	329	1075	329	1	57	251	55	-	13	69	11	
Kunnathur	340	213	64	70	15	60	38	149	430	11	3	70	275	2	-	5	86	5	
Pathanapuram	178	295	3	35	-	14	21	64	335	76	3	11	118	26	1	5	60	27	
Karunagappally	568	399	11	368	1	24	35	164	473	119	29	97	420	110	19	44	142	47	
Quilon District	1708	3394	112	804	29	234	212	1139	3274	1110	61	282	1539	373	21	81	568	226	
Pathanamthitta	130	257	12	65	2	35	4	29	272	80	1	18	201	54	1	7	124	42	
Ranni	91	144	12	22	3	13	6	17	179	32	1	8	66	5	1	7	79	3	
Adoor	298	408	6	44	-	10	19	153	689	43	2	24	148	20	-	7	91	26	
Thiruvalla	79	108	17	33	6	18	10	36	105	9	6	30	154	22	4	31	154	26	
Mallappally	148	306	20	26	8	23	18	90	269	39	6	49	269	95	10	44	193	111	
Pathanamthitta District	744	1223	67	190	19	89	57	325	1514	263	16	129	638	196	16	96	641	266	
Karthigappally	214	169	101	184	32	112	19	38	96	6	43	156	605	95	11	97	404	119	
Mavelikkara	190	84	32	81	24	55	5	14	92	6	2	50	490	8	6	26	339	32	
Changanur	146	65	10	13	3	9	4	43	133	15	7	28	150	23	5	11	115	20	
Kuttanad	126	37	16	35	6	11	8	12	33	6	12	61	209	48	1	14	78	36	
Ambalapuzha	120	130	12	52	4	20	36	51	153	29	7	31	234	79	1	8	168	58	
Sheralail	412	205	243	464	10	46	16	38	424	166	19	150	1465	578	10	21	138	78	
Alleppey District	1300	640	414	828	79	233	75	176	931	228	90	476	3153	831	34	175	1162	343	
Changanacherry	119	95	14	78	4	36	13	59	108	71	6	96	380	200	1	16	176	165	
Kanjirappally	26	20	26	39	-	14	-	1	38	-	2	29	178	66	1	14	59	85	
Kottayam	178	323	42	269	4	104	19	60	432	73	16	124	1238	379	3	38	644	368	
Yellam	131	165	17	108	3	26	19	49	389	88	4	61	692	140	0	13	153	62	
Neenachi	107	44	62	248	3	36	8	12	27	19	19	107	942	374	2	10	145	109	
Kottayam District	561	647	161	742	14	218	57	181	994	251	47	406	3436	1161	7	91	1177	693	
Peermade	15	14	-	2	-	-	4	5	15	1	-	1	20	1	-	-	3	1	
Devikulam	43	123	-	6	-	-	-	3	-	-	-	-	-	-	-	-	-	-	
Udumbanchola	91	740	13	64	1	15	8	154	403	113	10	50	408	168	1	9	149	80	
Idukki District	150	878	13	92	1	15	27	332	500	114	10	59	437	169	1	9	152	81	
Kothamangalam	84	332	11	45	-	4	114	420	22	-	23	155	8	-	1	3	-	-	
Muvattupuzha	270	251	11	110	2	4	42	125	687	128	6	43	306	81	-	3	24	2	
Cochin	107	82	36	82	6	7	9	16	89	17	7	10	182	84	4	2	59	29	
Kanayannur	216	341	52	263	7	17	12	148	242	54	10	128	456	145	1	9	158	60	
Kunnathunadu	467	864	13	121	-	1	34	401	964	82	5	153	648	26	-	-	13	1	
Alwaye	261	278	12	39	3	3	27	254	360	17	7	40	198	6	1	9	26	1	
Parur	428	279	43	72	19	12	52	87	386	28	26	78	424	64	7	22	153	23	
Ernakulam District	1833	2697	178	732	37	44	180	1145	3148	348	61	475	2369	424	13	46	436	116	
Kodungallur	264	279	-	1	-	1	65	181	565	106	-	4	30	3	-	2	6	1	
Mukundapuram	591	802	2	17	1	6	101	500	1293	335	6	51	123	46	1	4	30	16	
Trichur	352	721	-	-	-	-	118	280	1198	298	-	1	-	-	-	-	-	-	
Thalappally	172	379	-	-	-	-	9	392	491	100	-	1	-	-	-	-	-	-	
Chavakat	728	595	-	-	-	-	21	357	1503	454	-	-	-	-	-	-	-	-	
Trichur District	2107	2776	2	18	1	7	314	1690	5050	1293	6	57	153	49	1	6	36	17	
TOTAL	10834	16602	949	3418	183	872	1365	6737	21832	5045	293	1903	12015	3270	84	597	4225	1902	

KC/

APPENDIX - I

PARTICIPANTS OF THE MEETING HELD ON 29th MAY 1984

Venue:	CPCRI Regional Station, Kayangulam
1. Shri. P. Suseelan	Director of Agriculture, Kerala, Trivandrum.
2. Shri. R. Hali	Joint Director of Agriculture (C&A), Directorate of Agriculture, Trivandrum.
3. Shri. P.K. Thampan	Director, Coconut Development Board, Cochin.
4. Shri. A.S.Pankajakshan	Dy. Director (P&M), Coconut Development Board, Cochin.
5. Dr. C.C. Abraham	Assoc. Director of Research, Kerala Agricultural University, Vellanikara
6. Shri. P.S.D. Nair	Addl. Director, Special Agricultural Development Unit, Trivandrum.
7. Shri.K. Balakrishnan Nair	Addl. Director, Department of Economics and Statistics, Trivandrum.
8. Dr. K.N. Nair	Centre for Development Studies, Trivandrum.
9. Shri. D. Narayana	Centre for Development Studies, Trivandrum.
10. Dr. G.N. Rao	Centre for Development Studies, Trivandrum.
11. Dr. K.V. Ahamed Bavappa	Director, CPCRI, Kasaragod.
12. Dr. N.P. Jayasankar	Joint Director, CPCRI Regional Station, Kayangulam
13. Dr. P.K. Das	Head, Division of Agricultural Economics CPCRI, Kasaragod
14. Dr. Chandy Kurien	Head, Division of Entomology, CPCRI Regional
15. Shri., T.S.S. Rawther	Scientist (Path.)ICPCRI Regional Station, Kayangulam.
16. Shri. M.V. George	Scientist (Stat.) CPCRI, Kasaragod.
17. Dr. S.Robert Cecil	Scientist (Soil Sci.), CPCRI (RS), Kayangulam.
18. Shri. Jose Abraham	Scientist (Stat.), CPCRI (RS), Kayangulam.

APPENDIX - II

**ABSTRACT OF THE PROCEEDINGS OF THE CONTROL ROOM MEETINGS
AND OTHER IMPORTANT DECISIONS**

The Meetings had the participation of the following personnel:

- | | | |
|-----|-----------------------------------|---|
| 1. | Shri. R. Hali | Additional Director of Agriculture, Directorate of Agriculture, Trivandrum. |
| 2. | Shri. K. Balakrishnan Nair | Additional Director, Department of Economics and Statistics, Trivandrum. |
| 3. | Shri. Abraham Varghese | Additional Director, SADU, Trivandrum. |
| 4. | Shri. A. S. Pankajakshan | Dy. Director (P&M), Coconut Development Board, Cochin. |
| 5. | Shri. N. Krishnaswamy | Plant Protection Officer, Central Plant Protection Station, Cochin. |
| 6. | Dr. K.C. George | Professor and Head, Dept. of Statistics, KAU Vellanikkara. |
| 7. | Dr. N.P. Jayasankar | Joint Director, CPCRI Regional Station, Kayangulam. |
| 8. | Shri. M.V. George | Scientist S2 (Stat.) CPCRI, Kasaragod. |
| 9. | Shri. T.S.S. Rawther | Scientist S3 (Path.) CPCRI Regional Station Kayangulam. |
| 10. | Shri. Jose Abraham | Scientist S1 (Stat.) CPCRI Regional Station, Kayangulam. |
| 11. | Shri. Thomas Joseph | Scientist S2 (Path.) CPCRI Regional Station, Kayangulam. |

Meetings were held on 27th July, 4th August and 10th August, 1984.

The following were the important actions:

1. All the Sub-Divisional Agricultural Officers were telegraphically alerted to rush the action plans.
2. Adequate number of descriptive pamphlets on coconut root(wilt) disease in Malayalam were printed for distribution.

3. As part of publicity, detailed press releases were issued from Trivandrum and Ernakulam. A talk by Shri.R. Hall was broadcast over the All India Radio and press conferences were convened.
4. A meeting of the Subject Matter Specialists was arranged to finalise the survey arrangements. They were provided with necessary technical and operational details.
5. A list of Scientists from the CPCRI participating in the survey was finalised and it was decided that the tabulation of the data should be started immediately and completed before 20 September 1984. The preliminary report will be prepared by end-September 1984. The report shall have the following topics:
 - i) Preface by the Director, CPCRI
 - ii) Introduction
 - iii) Survey designs including objectives, method of estimation, organisational set-up, training, collection of field data etc.
 - iv) Results of the survey
 - v) Discussions and Conclusions
 - vi) Summary
 - vii) Acknowledgements
 - viii) Appendices

A drafting committee for the purpose has been constituted with S/Shri. R.Hall (Dept. of Agriculture), A.S. Pankajakshan (Coconut Development Board), M.V. George and Dr. N.P. Jayasankar (both from CPCRI) who will prepare the report in collaboration with S/Shri. T.S.S. Rawther, Thomas Joseph and Jose Abraham (CPCRI).
6. In the context, it was also decided that the final form of the report will be published by the CPCRI with due acknowledgements to those who have contributed directly or indirectly for the successful completion of the survey.
7. The entire primary data will be passed on to the Centre for Development Studies, Trivandrum for storing and computerised analysis. The Centre for Development Studies will make a detailed analysis of the data and will keep the material ready for incorporation in the final report.

APPENDIX - III

PERSONNEL OF THE DEPARTMENT OF AGRICULTURE INVOLVED
IN THE FIELD GUIDANCE FOR THE SURVEY

<u>Name of Agricultural Sub Division</u>	<u>Name of Sub Divisional Agricultural Officer</u>	<u>Name of SMS</u>
1. Wadakkancherry	Shri. P. Bhaskaran	Shri. R. Satchit
2. Trichur	Shri. N. Narayanan	Shri. Cheriyankunju
3. Irinjalekuda	Shri. M. Radhakrishnan	Shri. T.M. Bhasi
4. Moovattupuzha	Smt. Vinodini	Shri. N.K.John
5. Alwaye	Shri. K.Purushothaman Nair	Shri. K.K.Koruthu
6. Perumbavoor	Shri. P.N. Kanakambaran	Shri. T.K. Itteara
7. Thodupuzha	Shri. M. Achutha Menon	Shri. T.Thomas John
8. Peerumedu	Shri. Thankappan Nair	Shri. A.V.Kuriakose
9. Adimali	Shri. A. Thankappan Achary	Shri. H. Krishnan
10. Palai	Shri. P.U. Prakasan	Shri. Stanislaus Simon
11. Kaduthuruthy	Shri. V.T.George	Shri. P.P.Gopi
12. Kottayam	Shri. Thomas Cherian	Shri. M.M.Kurien
13. Alleppey	Shri. S.Rajan	Shri. Y.J. Alex
14. Mavelikara	Shri. V.Thomas	Shri. Samuel Varghese
15. Cengannur	Shri. George John	Smt. Alice K. Oommen
16. Adoor	Shri. P.C.Chacko	Shri. T.George Varghese
17. Kottarakkara	Shri. P.Abdulsalam	Shri. G.Ramakrishna Pillai
18. Quilon	Shri. K.N.Unnithan	Shri. K.R.Radhakrishnan
19. Nedumangad	Shri. J.Velayudhan Nair	Shri. George Peter
20. Attingal	Shri. R.Susupalan	Shri. R.Radhakrishnan
21. Neyyattinkara	Shri. K.Gopinath	Smt. P.C.Kamalakshy Amma

APPENDIX - IV

List of CPCRI Scientists involved in the Survey and name of
Agricultural Sub-Divisions allocated

<u>Name of Scientist.</u>	<u>Sub-Divisional Agricultural Office.</u>
<u>KAYANGULAM</u>	
1. Shri. Thomas Joseph	Mavelikara
2. Dr. Chandy Kurian	Neyyattinkara
3. Shri. T.S.S. Rawther	Adoor
4. Shri. Jose Abraham	Quilon
5. Dr. A. Muralidharan	Attingal
6. Shri. N. Gopinathan Pillai	Chengannur
7. Shri. M. Kochubabu	Trichur & Irinjalakuda
8. Dr. K.V. Joseph	Thodupuzha & Moovattupuzha
9. Shri. A.S. Mathew	Alleppey
10. Dr. V.A. Abraham	Kaduthuruthy
11. Shri. P.M. Jacob	Palai
12. Dr. George V. Thomas	Kottarakkara
13. Shri. Mathew George	Adimali
14. Shri. P. Rajan	Perumbavoor & Alwaye
15. Shri. K.S. Mohan	Wadakkancherry
16. Shri. S. Subramanian	Kottayam
<u>PALODE</u>	
17. Dr. R. Radhakrishnan Nair	Nedumangad
<u>KASARAGOD</u>	
18. Shri. K. Vijayakumar	Peermedu

APPENDIX - V

SURVEY ON ROOT (WILT) DISEASE OF COCONUT IN KERALA

PROFORMA - I

- | | |
|--|--|
| 1. District | 4. Cluster No. |
| 2. Taluk | 5. Survey Subdivisions
Included in the
cluster |
| 3. Village | |
| 6. Address of the owner of
the key survey Subdivision | |

Details	Unit	Subdivisions				Total
		2	3	4	5	
1. Survey Sub Division number						
2. Area of the plot	Cents					
3. Whether irrigated (Yes/No)						
4. Crop pattern (Code) *	Code					
5. Cultural practices**	Code					
6. No. of palms affected by Oryctes	No.					
7. -do- Coreid bug	No.					
8. No. of seedlings planted during last two years	No.					
9. No. of plants survived till date	No.					

*Crop pattern (Codes)

Code 1 - Monocrop. Code 2 - Mixed crop, Code 3 - Intercrop, Code 4 - Mixed farming

** Cultural practice (codes)Code 1 - Digging, Code 2 - Ploughing, Code 3 - Forming mounds and spreading,
Code 4 - Others.

10. NUMBER OF COCONUT PALMS

Survey Subdivision number	Condition of palms	NON BEARING		BEARING				Grand Total
		Less than 3 yrs	3 - 7 yrs	Total	Less than 7 yrs	7 - 15 yrs	16 - 50 yrs	
1	RWF							
	DE							
	DA							
2	RWF							
	DE							
	DA							
3	RWF							
	DE							
	DA							
4	RWF							
	DE							
	DA							
5	RWF							
	DE							
	DA							
Grand Total	RWF							
	DE							
	DA							

RWF - Root (wilt) free palms
 DE - Diseased early
 DA - Diseased Advanced

Date of observation _____
 Name and Signature of the Agricultural Demonstrator _____
 Name and Signature of the Junior Agricultural Officer _____

SURVEY ON ROOT (WILT) DISEASE OF COCONUT IN KERALA

YIELD DATA

PROFORMA II

- | | |
|---|---------------------------------------|
| 1. District | 4. Cluster No |
| 2. Taluk | 5. Survey/Sub-division
of key plot |
| 3. Village | |
| 6. Address of the owner of
the key survey Sub-division | |

Category of the palm selected	Number of nuts counted (5 Months & above)			
	Palm 1		Palm 2	
	Age (years)	No. of nuts	Age (years)	No. of nuts
Root (Wilt) Free				
Diseased early				
Diseased advanced				

Date of observation	Name and Signature of the Agricultural Demonstrator
	Name and signature of the Junior Agricultural Officer.