SECTION 2 - GENERAL INFORMATION ABOUT THE AREA

2.1 Area and Location

The area of 17,110 hectares surveyed and described in this report covers 227 allotments in parts of the parishes of Kalkee, Wail, Dimboola and Kewell West, in County Borung, Wimmera Region. It is bordered on the North-west by 12 kilometres (7.5 miles) of the Kalkee Road and on the west by 10 kilometres (6.0 miles) of the Western Highway. The location and boundary of the surveyed area is shown in Figure 1.

2.2 Climate

2.2.1 Rainfall

Rainfall data available from Dimboola, Warracknabeal and Horsham are representative of the survey area and indicate the variation within the area.

Generally rainfall distribution over the area in summer is more variable than during the other seasons. Average total rainfall figures for the area, over the summer, autumn, winter and spring periods, are 62, 75, 125, and 113mm, respectively. Average distribution of rainfall throughout the year is shown by the graph (Figure 2). Total annual rainfall for Dimboola is 400mm, for Warracknabeal 378mm and for Horsham 439mm.

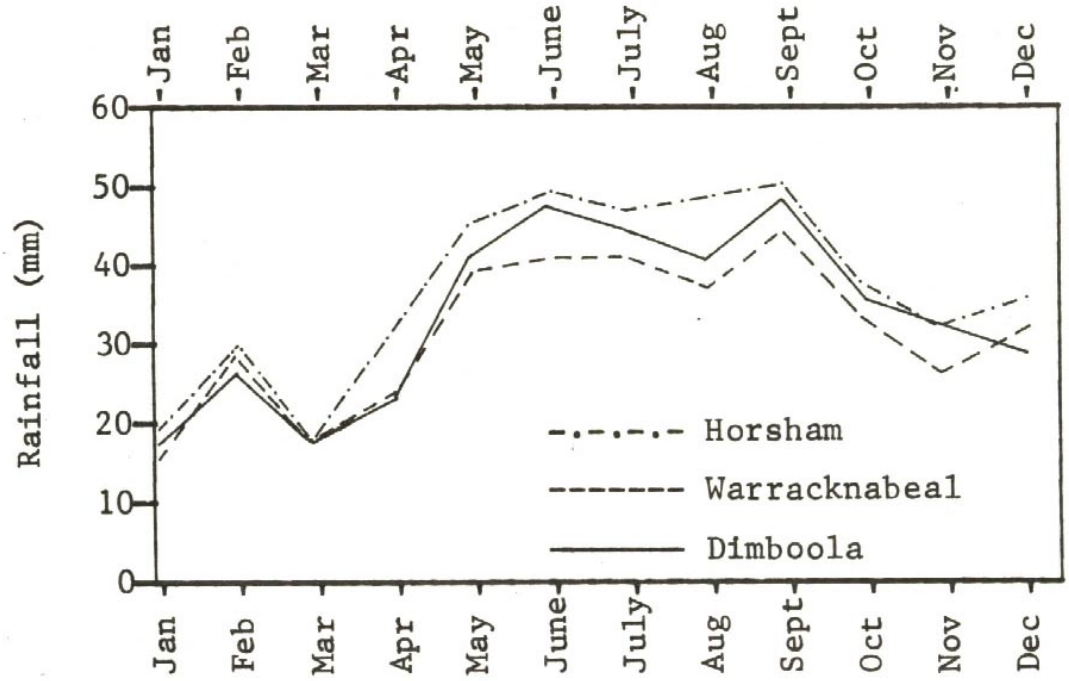

Figure 2 - Distribution of the annual (30 years' average) rainfall for Dimboola, Warracknabeal and Horsham

In addition to average monthly rainfall, the percentage chances of receiving specified amounts or more for each moth, the percentage chances of receiving rainfall equal to or greater than the effective amount* for each month and the monthly figures for maximum rainfall in 24 hours are given in Table 1.

Table 1 - Average monthly rainfall, effective rainfall* and rainfall intensity at selected stations within or adjacent to survey area

(a) Dimboola

Month	Average Rainfall (30 years)	Percentage changes of receiving :							Maximum rainfall in 24 hours (80 years)
		Specified amounts or more (mm)						Rainfall = or > the effective amounts*	
	mm	13	25	38	50	63	75	%	mm
		%	%	%	%	%	%		
January	17	45	25	15	8	5	2	6	59
February	27	46	27	18	13	8	5	13	130
March	18	60	33	15	6	3	1	10	127
April	24	72	52	31	15	7	4	46	49
May	41	87	67	50	33	22	12	71	59
June	47	93	83	66	42	25	16	90	41
July	44	93	76	52	30	15	7	90	30
August	40	91	75	55	31	17	8	87	46
September	47	91	71	50	30	18	10	74	56
October	35	87	68	40	22	13	9	42	61
November	32	70	42	26	16	11	7	18	55
December	28	66	36	21	12	6	2	11	69
Year	**400**								**130**

(b) Warracknabeal

Month	Average Rainfall (30 years)	Percentage changes of receiving :							Maximum rainfall in 24 hours (80 years)
		Specified amounts or more (mm)						Rainfall = or > the effective amounts*	
	mm	13	25	38	50	63	75	%	mm
		%	%	%	%	%	%		
January	16	43	26	15	9	5	3	7	107
February	28	49	34	23	16	10	6	14	77
March	18	58	35	16	8	5	4	13	105
April	24	68	42	24	14	7	4	33	60
May	39	89	69	51	33	19	9	72	58
June	41	90	75	56	35	19	8	88	42
July	41	91	73	53	27	9	3	87	38
August	37	92	73	44	25	14	8	88	37
September	44	91	67	42	26	16	9	67	47
October	33	83	63	39	23	13	9	39	73
November	26	69	45	25	14	9	6	16	66
December	31	61	33	20	13	9	6	12	44
Year	**378**								**107**

(c) Horsham

Month	Average Rainfall (30 years)	Percentage changes of receiving :							Maximum rainfall in 24 hours (80 years)
		Specified amounts or more (mm)						Rainfall = or > the effective amounts*	
	mm	13	25	38	50	63	75	%	mm
		%	%	%	%	%	%		
January	19	52	27	165	10	6	4	9	74
February	30	56	32	22	16	12	9	17	107
March	18	60	36	22	12	7	5	18	93
April	31	77	53	38	25	14	7	48	60
May	45	91	73	54	39	27	16	78	35
June	49	96	82	68	50	32	21	93	47
July	47	96	83	61	36	16	7	95	33
August	48	95	81	60	35	20	11	92	35
September	49	95	77	57	40	24	13	55	42
October	37	90	73	50	35	22	13	55	42
November	32	75	53	34	22	13	8	27	86
December	34	66	40	29	21	14	8	20	78
Year	**439**								**107**

*Effective rainfall is defined as the amount of rain necessary to start germination and to maintain growth above the wilting point. It has been related to evaporation and this relationship has been used in calculating theoretical values of the effective rainfall at selected stations in the region.

+Anon. (1961) – Resources Survey, Wimmera Region. Central Planning Authority, government of Victoria.

2.2.2 Temperature and Evaporation

Temperature and evaporation data are available for Horsham only. At Horsham, February is the hottest month with an average daily mean temperature of 21.7 deg C.

The average annual evaporation figure at Horsham is 1205 millimetres which exceeds the average annual rainfall by 776 millimetrics; June, July and august are the only months in which rainfall is higher than evaporation.

Average maximum, minimum and daily mean temperatures, and monthly totals for tank evaporation at Horsham over a 37 year period are given in Table 2.

Table 2 - Temperature and evaporation data for Horsham

Month	Average daily temperatures (^{o}C)			Tank evaporation (mm/month)
	Maximum	Minimum	Mean	
January	29.5	12.9	21.2	207.5
February	30.2	13.3	21.7	172.5
March	26.8	11,1	18.9	132.5
April	21.5	8.3	14.9	80.0
May	17.2	6.1	11.7	50.0
June	13.7	4.6	9.1	35.0
July	13.3	3.8	8.6	35.0
August	15.0	4.4	9.7	40.0
September	17.8	5.5	11.7	67.5
October	21.2	7.3	14.2	87.5
November	25.1	9.8	17.4	125.0
December	28.2	11.8	19.9	172.5

2.2.3 Frosts

Since 1908, severe frosts have been recorded at Horsham as early as April 14 and as late as October 16. Light frosts have been recorded from March 7 to December 9. The average frost free period at Horsham is 207 days.

2.3 Vegetation

The native vegetation of the area has been greatly changed owing to clearing for agriculture and only remnants of the original timber remain. There is no apparent relationship between these remnants and soil distribution in the area surveyed. Buloke (*Casuarina leuhammii*) is the principal tree species in the area. Grey box (*Eucalyptus hemiphloia*) has a more limited distribution.