

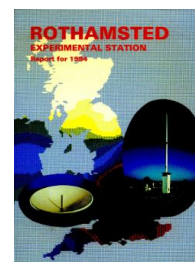
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Rothamsted Experimental Station Report for 1984

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Weather Tables

Rothamsted Research

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WEATHER TABLES

ROTHAMSTED WEATHER 1983-84

Latitude 51° 48' 30" N; Longitude 0° 21' 10" W; Altitude 128 m

	1983		1984		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
TEMPERATURE (°C)																	
Mean screen maximum	13.7	9.7	7.7	6.4	5.8	7.3	12.8	13.3	19.3	22.6	23.1	16.9	14.5	10.7	7.6	13.3	
Difference from average	-0.2	+0.7	+0.9	+0.9	-0.2	-1.6	+0.8	-2.5	+0.3	+2.1	+2.7	-1.0	+0.6	+1.7	+0.8	+0.4	
Mean screen minimum	6.4	4.5	1.9	0.2	0.0	1.5	2.1	4.8	9.1	10.3	12.1	9.7	7.3	5.1	1.7	5.3	
Difference from average	-0.1	+1.6	+0.6	+0.1	-0.2	+0.1	-1.3	-1.5	+0.1	-0.6	+1.2	+0.5	+0.8	+2.2	+0.4	+0.1	
Soil at 10 cm	9.4	6.8	4.1	2.6	2.5	3.7	6.8	10.2	15.2	17.7	17.2	12.8	9.8	7.5	4.5	9.2	
Dew point	7.5	5.2	3.0	1.0	0.8	2.0	1.4	5.7	10.5	11.5	13.3	10.4	9.4	6.3	3.5	6.3	
No. of days with ground frost	11	11	21	28	22	22	22	14	3	0	0	3	12	10	21	157	
RADIATION																	
Sunshine (h per month)	115	46	58	91	72	45	233	136	242	228	201	100	93	50	48	1539	
Difference from average	+15	-16	+12	+41	+10	-64	+93	-53	+45	+47	+34	-40	-7	-12	+2	+96	
Mean daily radiation (MJ m ⁻² day ⁻¹)	6.1	2.8	2.0	2.9	4.3	6.3	16.4	13.5	20.0	18.8	14.9	8.1	5.6	2.7	1.7	115.2	
Difference from average	+0.5	0.0	+0.3	+0.7	+0.3	-1.3	+4.9	-2.2	+2.6	+3.1	+1.7	-1.7	0.0	-0.1	0.0	+8.0	
WIND (km day ⁻¹)																	
Wind run at 2 m	242	180	247	316	255	226	193	217	156	131	142	172	187	204	163	197	
WATER (mm per month)																	
Rainfall (5 inch walled gauge)	41	50	62	96	46	63	7	79	54	14	45	94	88	106	58	750	
Difference from average	-19	-19	-7	+33	-6	+11	-40	+28	-4	-37	-16	+35	+28	+37	-11	+58	
Rain days	13	8	18	21	14	12	6	13	10	7	10	15	16	22	20	166	
Drainage through 50 cm bare undisturbed soil	19	31	57	80	34	42	1	22	17	0	0	26	60	89	55	426	
Open water (tank) evaporation	39	18	10	23	14	28	68	69	102	122	104	61	31	19	9	650	
Potential evaporation	23	5	0	3	10	28	71	67	99	106	81	44	16	5	0	530	

NOTES ON THE TABLE

1. Except for potential evaporation, all quantities are measured
2. Drainage and evaporation are measured in inches.
3. Averages are for 30 years 1951-80, except radiation 28 years 1956-83.

WOBURN WEATHER 1983-84

Latitude 52° 1' 5" N; Longitude 0° 35' 35" W; Altitude 89 m

	1983		1984		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
TEMPERATURE (°C)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year	
Mean screen maximum	14.1	10.1	8.2	6.7	6.1	7.6	13.2	14.1	19.7	22.8	23.4	17.2	14.9	10.7	8.3	13.7	
Difference from average	+0.1	+0.9	+1.2	+0.8	-0.2	-1.5	+1.1	-1.7	+0.6	+2.1	+3.1	-0.8	+0.9	+1.5	+1.3	+0.6	
Mean screen minimum	6.5	4.2	2.5	0.7	0.2	1.4	1.6	4.0	8.9	10.4	11.5	10.1	7.9	5.4	2.4	5.4	
Difference from average	0.0	+1.0	+1.0	+0.2	-0.2	-0.1	-1.7	-2.2	0.0	-0.5	+0.7	+1.0	+1.4	+2.2	+0.9	+0.1	
Soil at 10 cm	9.7	7.0	4.4	2.6	2.6	3.9	6.4	10.2	15.8	17.7	17.1	13.4	10.4	7.9	4.6	9.4	
Dew point	8.2	5.7	3.6	1.1	0.5	2.1	2.5	5.9	10.6	11.5	13.8	9.9	9.9	7.1	3.6	6.5	
No. of days with ground frost	9	8	14	26	18	16	20	10	1	1	2	4	6	6	21	131	
RADIATION																	
Sunshine (h per month)	110	38	40	66	55	35	223	134	158	208	184	93	94	44	61	1355	
Difference from average	+10	-24	-5	+16	-6	-72	+91	-50	-35	+32	+22	-42	-6	-18	-16	-84	
Mean daily radiation (MJ m ⁻² day ⁻¹)	6.5	N/A	N/A	N/A	4.7	6.1	16.6	16.5	19.8	19.6	15.2	8.7	6.3	2.9	2.3	N/A	
WIND (km day ⁻¹)																	
Wind run at 2 m	275	137	279	312	230	171	165	152	166	150	135	190	238	210	179	191	
WATER (mm per month)																	
Rainfall (5 inch gauge)	45	40	45	73	45	49	9	88	49	12	69	89	48	105	49	685	
Difference from average	-7	-19	-14	+20	+3	0	-36	+38	-7	-39	+2	+35	-4	+46	-10	+48	
Rain days	13	9	17	19	15	12	6	12	9	7	8	16	14	16	19	153	

NOTE ON THE TABLE

Averages are for 30 years, 1951-80.

BROOM'S BARN WEATHER 1983-84

Latitude 52° 16' N; Longitude 0° 34' E; Altitude 75 m

	1983	1984	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
TEMPERATURE (°C)															
Mean screen maximum	14.2	10.0	6.2	5.8	7.3	12.7	12.9	18.8	21.2	23.2	16.9	14.9	10.6	7.9	13.2
Difference from average	0.0	+0.8	+0.2	-0.4	-1.6	+1.1	-3.0	-0.3	+0.2	+2.1	-1.6	+0.7	+1.4	+1.3	0.0
Mean screen minimum	7.4	4.9	0.3	0.4	1.6	1.9	4.9	9.5	11.2	12.3	10.6	8.6	6.2	2.9	5.9
Difference from average	+0.2	+1.4	-0.8	-0.5	-0.5	-1.8	-1.9	-0.2	-0.4	+0.7	+0.5	+1.4	+2.7	+1.2	+0.1
Soil at 10 cm	9.5	6.8	2.2	2.2	3.6	6.7	10.3	15.4	17.9	17.7	13.2	10.3	7.6	4.2	9.3
Dew point	7.9	5.5	1.0	0.7	2.3	2.6	5.4	10.7	11.9	13.8	10.6	8.9	6.6	3.8	6.5
No. of days with ground frost	6	6	21	17	18	17	7	0	0	0	0	1	2	13	96
RADIATION															
Sunshine (h per month)	129	39	91	75	36	221	125	194	213	193	87	115	53	79	1482
Difference from average	+20	-29	+42	+13	-73	+81	-69	-7	+31	+17	-61	+6	-15	+32	-3
Mean daily radiation (MJ m ⁻² day ⁻¹)	6.36	2.69	2.96	4.24	6.14	16.20	13.45	18.04	18.03	14.98	7.83	6.39	2.67	2.13	9.42
Mean daily diffuse radiation (MJ m ⁻² day ⁻¹)	3.79	2.13	1.74	3.18	5.31	7.38	6.84	11.26	10.31	8.59	5.29	3.58	1.82	1.22	5.54
WIND (km day ⁻¹)															
Wind run at 2 m	240	145	294	202	181	166	160	150	139	144	166	209	200	174	182
WATER (mm per month)															
Rainfall (5 inch gauge)	39	55	78	49	40	17	88	94	16	44	103	57	75	39	700
Difference from average	-11	-5	+34	+15	-5	-28	+38	+43	-29	-9	+52	+7	+15	-14	+119
Rain days	15	10	20	12	17	6	9	12	10	8	19	12	16	19	160
Open water evaporation sunken tank	45	10	3	22	24	79	77	82	110	89	55	37	18	12	608
Difference from average	+8	-9	-6	+7	-15	+17	-26	-40	-15	-31	-28	0	-1	+2	-136
Open water evaporation Class 'A' pan	47	11	5	14	27	89	77	96	123	110	55	42	17	10	665
Potential transpiration	25	7	3	10	25	64	65	93	98	85	40	26	5	0	514

NOTES ON THE TABLE

1. Except for potential transpiration, all quantities are measured.
2. Long period averages are: air temperature 1964-83; sunshine 1965-83; rainfall 1964-83; evaporation 1970-83.

SAXMUNDHAM WEATHER 1983-84
Latitude 52° 13' N; Longitude 1° 28' E; Altitude 37 m

	1983	1984	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
TEMPERATURE (°C)																		
Mean screen maximum	14.0	5.2	7.2	9.1	7.2	5.2	4.8	5.8	10.5	11.2	17.8	20.9	23.0	17.8	15.2	11.9	8.2	12.6
Difference from average	+0.5	-1.4	+0.2	-0.5	+0.2	-1.4	-1.7	-2.8	-0.4	-3.4	-0.6	+0.2	+2.1	-0.6	+1.2	+2.4	+1.2	-0.4
Mean screen minimum	6.7	0.7	3.0	4.4	3.0	0.7	1.1	1.9	2.5	5.6	8.3	10.4	12.2	9.6	8.1	6.4	2.6	5.8
Difference from average	-0.5	-1.1	+0.8	+0.1	+0.8	-1.1	-0.2	-0.5	-1.0	-1.3	-1.4	-1.4	+0.2	-0.7	+0.8	+2.3	+0.3	-0.3
Soil at 10 cm	11.0	1.9	4.4	7.3	4.4	1.9	2.8	4.7	6.9	11.1	16.0	17.2	18.7	13.2	11.4	8.8	5.4	9.8
Dew point	7.8	1.1	3.9	5.6	3.9	1.1	1.1	3.3	2.8	7.2	11.1	11.9	13.9	11.7	9.4	7.8	4.4	7.1
No. of days with ground frost	5	23	12	6	12	23	18	18	16	9	1	1	0	0	4	4	17	111
RADIATION																		
Mean daily radiation (MJ m ⁻² day ⁻¹)	5.8	2.4	1.7	2.4	1.7	2.4	3.4	6.0	14.4	11.1	16.0	15.8	15.3	7.7	5.3	2.3	1.6	8.4
WIND (km day⁻¹)																		
Wind run at 2 m	288	184	318	184	318	362	288	258	209	—	—	146	152	217	260	270	215	238
WATER (mm month⁻¹)																		
Rainfall (5 inch gauge)	51	52	40	52	40	102	48	60	22	62	35	53	33	89	63	64	57	688
Difference from average	-9	-10	-22	-10	-22	+45	+5	+13	-18	+20	-10	+3	-8	+23	+13	-5	+2	+83
Rain days	15	9	17	9	17	20	13	14	5	13	7	12	5	21	18	16	19	163
Open water (tank) evaporation	57	20	—	20	—	—	—	—	85	69	98	107	100	75	36	16	10	—

NOTES ON THE TABLE

1. All quantities are measured.
2. Temperatures were measured in °F.
3. 'Soil at 10 cm' and 'Dewpoint' are at 0900 GMT.
4. Radiation was measured with a Kipp Solarimeter.
5. Rain and evaporation were measured in inches.
6. 'Evaporation' is the mean of two open water tanks installed 17 March 1983. They are 56 cm diameter, 30 cm deep and set 15 cm in the ground. Water level is about 6 cm below the rim.
7. Long period averages are for different periods: air temperatures 1969-83; rain 1968-83.