

GENERAL REPORT ON WEATHER CONDITIONS FOR THE YEAR 1945

Rainfall.

1945 is the most disastrous year for the sugar industry in this respect in the records of this Experiment Station, and probably in the history of the sugar industry in this country.

This is due not to a record low total rainfall, although it is amongst the lowest, but to a combination of low rainfall with a very unfavourable distribution of rain.

The total for the year at this station is 28.50 inches, and the average of 44 recording stations in the sugar-growing area is 31.99 inches.

Of this total of 28.50 inches, no less than 15.11 inches fell during the months of February and March, leaving only 13.39 inches for the remaining ten months.

The average rainfall at this station during the 20 years that records have been taken is 36.76 inches, and the calculated rainfall for this site for the 59 years that records have been made for Mount Edgecombe by Natal Estates Ltd. is now 37.08 inches.

The latter average is arrived at by multiplying the average rainfall at Natal Estates factory by a factor 0.920 that has been found to be very constant and regular for the ratio of the rainfall of this Experiment Station to that of the factory, about a mile to the south-west, and using this figure for the 39 years before the Experiment Station was started.

The year began with a rainfall of 3.02 inches in January; this is not much below the average rainfall for the month, which is 3.68 inches, but the average rainfall for January is apt to be deficient for the sugarcane crop if there has been a shortage in preceding months. On this occasion the rainfall for December, 1944, was only 1.23 inches, the lowest ever recorded at Mount Edgecombe for the month, and the rainfall for November was also much below the average.

Consequently drought conditions became established as early as January, especially since the first soaking rain of the month was not until the 31st. There was then a spell of four successive days with rainfalls of over one inch, totalling 6.05 inches; this is the highest total over a series of consecutive days since the seven days ending 12th November, 1940, when there were 6.43 inches.

The rainfall for February after the 3rd, totalled only 1.05 inches, of which none fell after the 17th, so that conditions were becoming decidedly dry again towards the end of the month.

However, the rainfall for March was abundant and well distributed, totalling 9.33 inches, the highest for March since 1927 and the highest for any month since November, 1936.

March was the only month of the year with a satisfactory rainfall throughout.

Thereafter, every month had a rainfall below the average. June had only 0.16 inches, the lowest for the month since 1928, and July had only 0.01 inches, the lowest recorded for any month at this station.

August was very little better, and by this time drought conditions had become acute and continued to increase in severity up till the end of the year.

The period of 84 days from 2nd June to 25th August had only six extremely light showers at long intervals, totalling 0.06 inch of rain in all for the period.

The total for November was only 0.86 inch, or about one-fifth of the average and the only occasion on which the rainfall for this month had been less than one inch during the 59 years of weather records at Mount Edgecombe.

December was little better, the total being 1.56 inches in slight and valueless showers until the 30th, when there was a heavy thunder shower and 1.19 inches of rain fell in about half an hour. This was the first useful rain since 22nd May, and the first rainfall of over an inch in a single day since 12th April.

The rainfall for the last nine months of the year was only 10.37 inches or 43 per cent. of the average, and the combined rainfall for the two most important months of November and December was 3.69 inches, the lowest ever recorded at this station for the period, the previous absolute minimum being 4.00 inches for November and December of the previous year.

This drought of unprecedented length and severity may be said to have begun in November, 1944, and continued, with only short intermissions at the beginning of February, 1945, and throughout March, until the end of 1945.

From May onwards growth of crops practically ceased at this Experiment Station.

There was a total of 105 rain days in 1945, the same as in 1944, which is below the average by 11 days and was only lower in 1937, when there were 101 rain days.

Not only was the number of rain days low, but the average rainfall for each was 0.271 inch, which is

much below the general average per rain day at this station of 0.314 inch.

A feature of the latter part of the year was the number of days with very slight showers or drizzles of rain. Thus during the four months ending 29th December there were 52 days with a measurable rain amounting to 0.01 inch or more, totalling only 5.13 inches or less than 0.1 inch per rain day.

Put another way, during the first half of the year the rainfall was 21.92 inches on 47 days, or 0.466 inch

per day; while during the latter half the rainfall was 6.58 inches on 58 days or only 0.113 inch per day.

Thus the cause of the abnormal drought is to be found not so much in the infrequency of rain as in the very scanty falls per rain day during the latter half of the year.

Following is the Experiment Station rainfall by months compared with the average of the past 20 years:—

	1945.					Mean 1926-1945 inclusive.					
	Total for month in inches.	Aggregate from 1st January.	Per cent. of aggregate.	No. of rain days.	Average rainfall per rain day in ins.	Total for month in inches.	Aggregate from 1st January.	No. of rain days.	Average rainfall per day.	Per cent. of wet days.	Average rainfall per rain day.
January ...	3.02	3.02	81.2	14	0.216	3.68	3.68	14	0.119	45	0.263
February ...	5.78	8.80	105.9	8	0.722	4.65	8.33	12	0.165	42	0.388
March ...	9.33	18.13	136.2	13	0.718	5.21	13.54	12	0.168		0.434
April ...	1.69	19.82	126.2	4	0.422	2.37	15.91	8	0.079	27	0.296
May ...	1.94	21.76	119.0	5	0.388	2.55	18.46	6	0.082	19	0.425
June ...	0.16	21.92	107.4	3	0.053	2.02	20.48	4	0.067	13	0.505
July ...	0.01	21.93	99.9	1	0.010	1.47	21.95	5	0.047	16	0.294
August ...	0.17	22.10	94.8	4	0.042	1.30	23.25	6	0.041	19	0.217
September .	0.83	22.93	90.2	8	0.104	2.04	25.29	8	0.068	27	0.255
October ...	1.88	24.81	86.5	17	0.111	3.18	28.47	14	0.103	45	0.227
November .	0.86	25.67	77.9	12	0.072	4.11	32.58	14	0.137	47	0.294
December...	2.83	28.50	76.6	16	0.177	4.18	36.76	15	0.135	48	0.279
Total...		28.50		105	0.271		36.76	117	0.101	32	0.314

Table of Rainfall and Mean Temperature.

Year.	Rainfall in inches.	Per cent. of present mean.	Number of rain days.	Average fall per rain day.	Mean shade temperature.
1926 ...	25.42	69.15	116	0.219	—
1927 ...	42.46	115.51	128	0.332	—
1928 ...	27.56	74.97	114	0.242	67.8
1929 ...	43.83	119.23	129	0.340	67.5
1930 ...	30.03	81.69	123	0.244	67.8
1931 ...	28.01	76.20	112	0.250	68.8
1932 ...	41.36	112.51	126	0.328	69.1
1933 ...	27.14	73.83	109	0.249	68.9
1934 ...	39.42	107.24	127	0.310	68.9
1935 ...	53.25	144.86	111	0.480	66.8
1936 ...	45.36	123.39	110	0.412	67.9
1937 ...	33.21	90.34	101	0.329	68.8
1938 ...	37.97	103.13	117	0.325	68.7
1939 ...	42.87	116.62	134	0.320	68.1
1940 ...	37.31	101.50	108	0.345	69.9
1941 ...	24.35	66.24	107	0.227	69.9
1942 ...	45.41	123.53	116	0.391	69.4
1943 ...	51.32	139.61	124	0.414	68.2
1944 ...	30.32	82.48	105	0.289	69.5
1945 ...	28.50	77.53	105	0.271	68.9
Means	36.76	99.98	116	0.314	68.6

The highest rainfall for any single day during the year was 2.60 inches on 3rd March. This was the only day with a rainfall of over 2 inches.

There were rains totalling over one inch also on 31st January, 1st, 2nd and 3rd February, 2nd, 17th and 31st March, and 12th April, but no more thereafter until 30th December.

The total rainfall for the years 1944 and 1945 combined is 58.82 inches, the lowest for any two consecutive years at this station since 1930-31, when it was 58.04 inches. In the latter case, however, the distribution of rainfall was not particularly unfavourable. It resulted, however, in a marked falling off in sugar production for the season 1931-32, a natural consequence of every prolonged period of deficient rainfall, and which is therefore to be expected in this instance.

District Rainfall Returns.

Every one of the 44 stations included in our returns showed a rainfall below the average, the deficiency ranging from 14.97 inches at Renishaw to only 0.78 inch at Mtunzini.

Generally speaking, the drought was more severe

on the South Coast than further north, as the following table shows:—

	Average rainfall for 1945 in inches.	Average for years 1929/1945 inclusive in inches.	1945 rainfall as per cent. of average.
South Coast: mean of 9 stations south of the Umgeni River	30.50	41.56	73.39
North Coast: mean of 21 stations between the Umgeni and Tugela Rivers	31.41	40.13	78.27
Zululand: mean of 14 stations north of the Tugela River...	33.83	43.17	78.36
Total averages... ..	31.99	41.39	77.29

The lowest rainfall recorded for 1945 was 24.35 inches at Renishaw on the South Coast, which is only 61.9 per cent. of the average for this station. Two other stations had a rainfall of less than 27 inches for the year, Milkwood Kraal estate of Natal Estates Ltd., 26.70 inches, and Eteza, near the Umfolozi River, with 26.90 inches.

Only two stations had a rainfall of more than 38 inches, Mtunzini with 50.98 inches and Eshowe with 45.40 inches. These are the only two stations in our records with average rainfalls of over 50 inches, 51.76 inches and 52.19 inches respectively.

Temperatures.

The mean temperature for the year was 68.9°, which is only slightly above the 18-year average for this station of 68.6°. This excess is much less than might have been expected from the lack of rainfall and relatively low atmospheric humidity.

The screen temperatures by months in degrees Fahrenheit are as follows:—

	1945.				1928-1945 inclusive.			
	Maxi-mum.	Mini-mum.	Mean.	Daily range.	Maxi-mum.	Mini-mum.	Mean.	Daily range.
Jan. ...	80.5	66.1	73.3	14.4	81.4	67.0	74.2	14.4
Feb. ...	83.2	68.8	76.0	14.4	81.8	67.3	74.6	14.5
March.	79.6	65.0	72.3	14.6	80.3	65.5	72.9	14.8
April...	79.0	62.3	70.7	16.7	78.3	61.9	70.1	16.4
May ...	76.4	55.1	65.7	19.3	75.9	56.7	66.3	19.2
June...	72.0	51.0	61.5	21.0	72.6	52.7	62.6	19.9
July ...	73.7	52.4	63.0	21.3	71.7	52.0	61.8	19.7
August	73.4	52.9	63.2	20.5	72.8	53.8	63.3	19.0
Sept....	77.6	60.1	68.9	17.5	74.3	57.0	65.6	17.3
Oct. ...	75.4	60.9	68.2	14.5	76.2	60.7	68.4	15.5
Nov....	79.6	63.0	71.3	16.6	78.0	63.2	70.6	14.8
Dec. ...	80.4	64.8	72.6	15.6	80.3	65.6	73.0	14.7
Means	77.6	60.2	68.9	17.4	77.0	60.3	68.6	16.7

Thus the mean temperatures for January, March, May, June, August, October and December were below the average, the slight excess in temperature over the year being accounted for by marked increases over the average for February, July, and especially September. The mean temperature for September is the highest in our records for that month, and October was cooler than September for the first time.

As usual, February was the warmest month, but June was the coolest month as in the previous year, and not July as usual.

The mean daily range of temperature was considerably above the average from June onwards with the exception of October, no doubt because of the low rainfall and humidity and relative freedom from cloud. The daily range was as low as 4.5° on 2nd February and as high as 31.5° on 27th April.

The two highest shade temperatures for the year were 97° on 29th September and 97.5° on 1st October during a brief and unseasonable heat wave at that time. There were no other shade temperatures higher than 92.5°, recorded on 27th April.

The minimum temperatures were also very moderate, the lowest screen temperatures being 45.5° on 23rd May and 45° on 14th June. The absolute grass minimum thermometer reading was 38° on 18th June, but this instrument was not in order for a considerable part of May and June.

There were no indications of frost at any time.

The average earth thermometer readings for the year were 72.4° at 1 foot depth, 73.7° at 2 feet and 73.8° at 4 feet. These are considerably above the average, no doubt because of the excessive dryness of the soil and atmosphere. This was particularly the case during the last four months of the year, which were abnormally dry.

These records show that it would have been profitable to irrigate cane freely for increased growth during every month except June, July and August.

Atmospheric Conditions.

The average barometer reading for the year was 29.77 inches, which is very close to the average for this station, August having the highest average with 29.92 inches and December the lowest with 29.63 inches. Generally speaking the barometer was more variable than usual, especially during the latter part of the year, associated with high and variable winds.

The highest reading for the year was 30.31 inches on 11th July during a long spell of fine weather, and the lowest 29.21 inches on 16th November during a period of high N.E. winds.

The mean relative atmospheric humidity, per cent. of saturation, was 68.4 per cent. at 8.30 a.m. and 60.3 per cent. at 1 p.m. for the year, the lowest recorded for any year at this station; the mean annual values are 72.9 at 8.30 a.m. and 63.0 at 1 p.m.

Every month was lower than the average in humidity except for February, March and September, but July with a humidity of only 57.7 per cent. at 8.30 a.m. and 49.6 at 1 p.m. and the three latter months of the year were outstanding in this respect.

The total evaporation from a free water surface was 50.64 inches, or more than 22 inches greater than the rainfall, and is the highest on record at this station. The evaporation during December was 6.23 inches or considerably more than double the rainfall, and in November 5.88 inches or nearly seven times the rainfall.

The total hours of sunshine for the year were 2,503.6 or 57.1 per cent. of hours of daylight, the highest since 1931, when it was very slightly higher.

May was as usual the sunniest month with 243.8 hours of sunshine or 76.8 per cent. of hours of daylight, and October the cloudiest month with only 168.2 hours (42.3 per cent.).

The year was exceptionally windy, especially from the middle of August to the end of December, mainly in the form of strong dry and hot winds from the north-east, contributing materially to the abnormal desiccation.

Experiment Station,
South African Sugar Association,
Mount Edgecombe.
February, 1946.

Conclusions.

The year 1945 was a very unfavourable one in weather conditions for the sugarcane crop, both in deficiency and in unfavourable distribution of rainfall. Hence there was a falling-off in yield of cane of nearly 750,000 tons of cane compared with the previous season; and the outlook for the next crop is equally unpromising in view of the limited period left for growth.

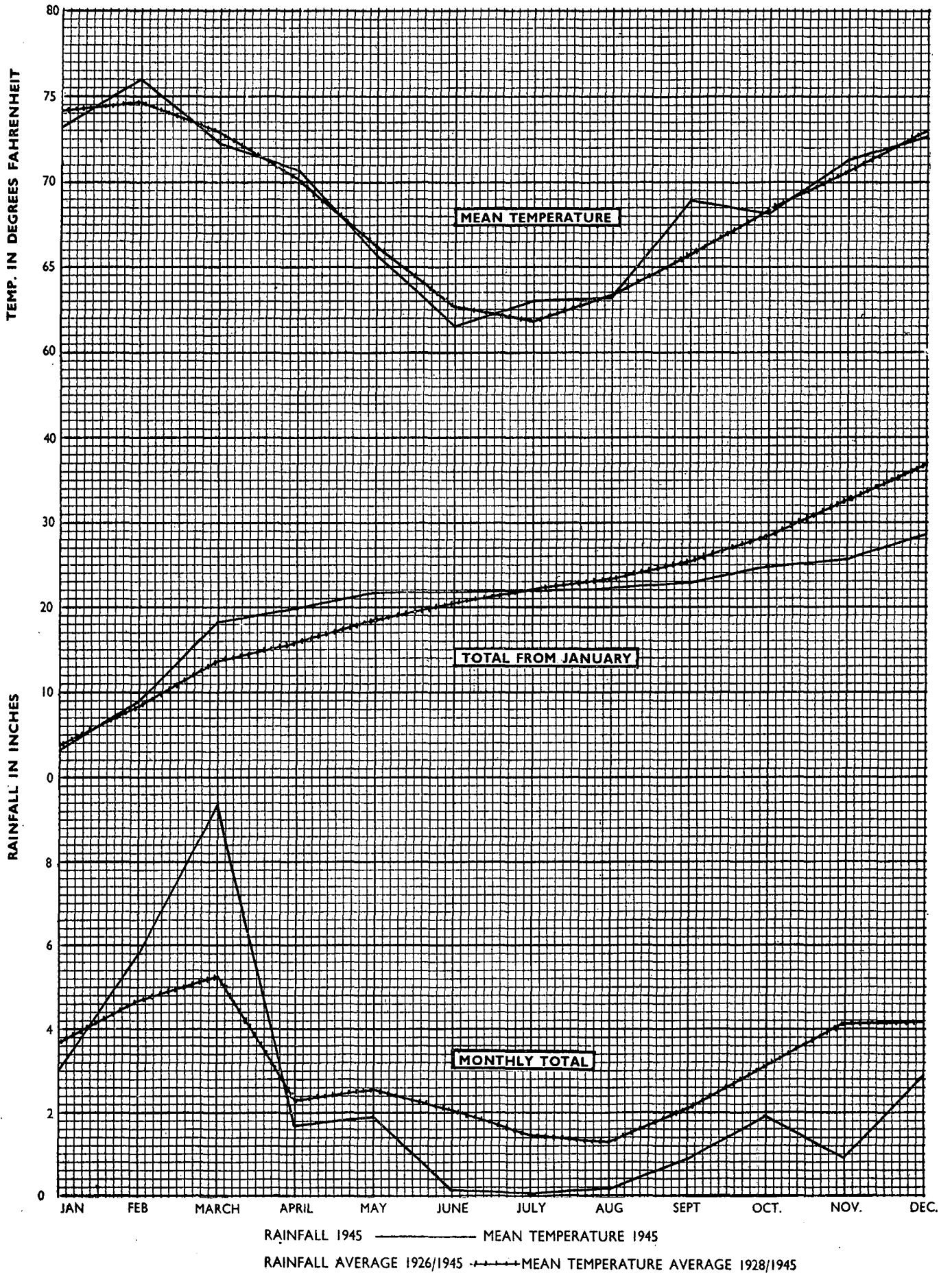
The deficiency in rainfall was associated with a very low average per rain day during the latter half of the year.

The mean temperature for the year was only slightly above the average, but there were many hot drying winds that led to conditions of extraordinarily low humidity during the latter half of the year, which also had harmful effects on the cane crop.

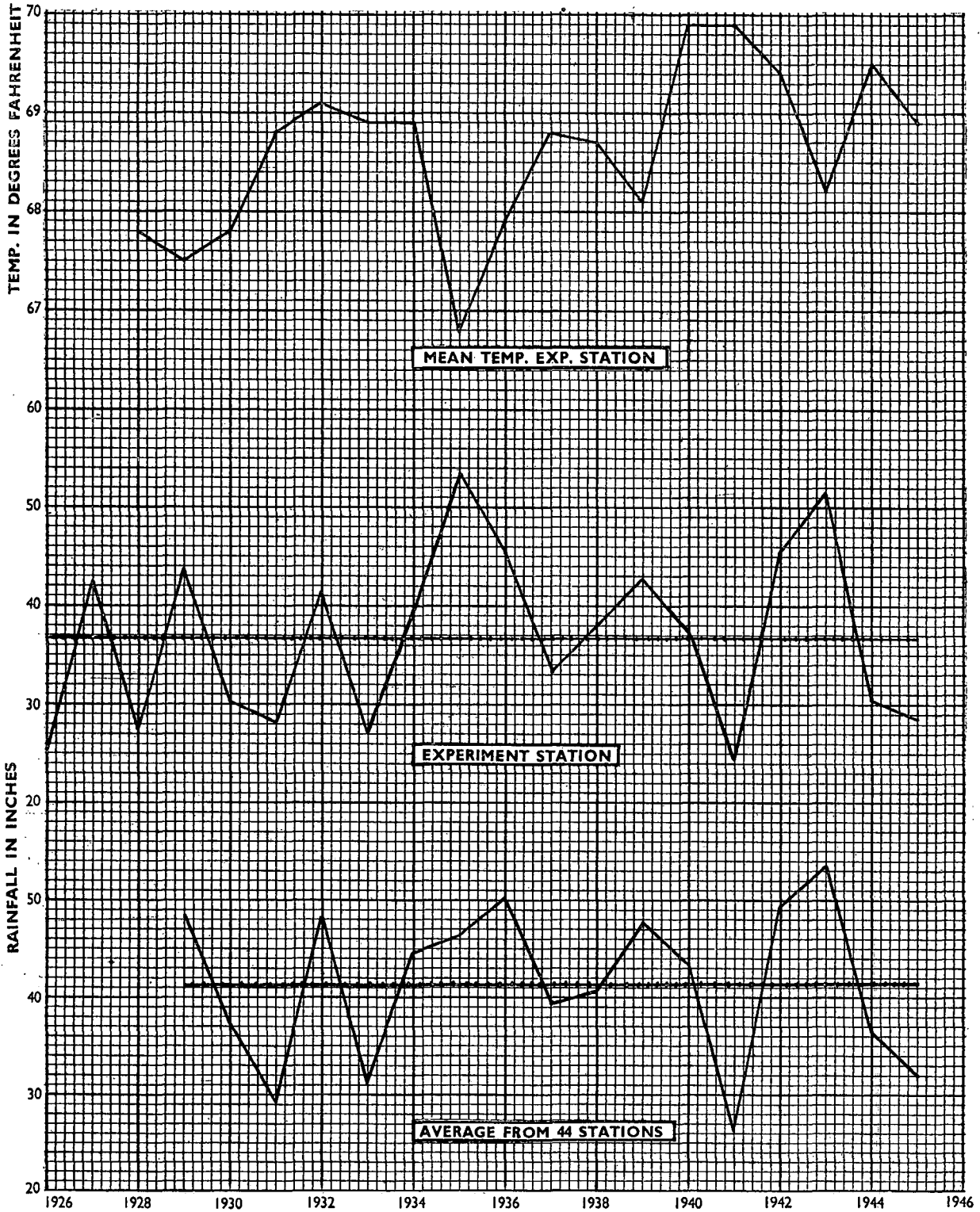
ANNUAL RAINFALL 1929-1945.

Station.	Recorder.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938.	1939.	1940.	1941.	1942.	1943.	1944.	1945.	Average
Port Shepstone ..	Lightkeeper, S.A.R. & H. . . .	61.89	42.82	51.06	49.71	40.58	38.55	42.01	49.63	38.25	42.52	44.08	27.66	23.12	54.16	51.65	31.24	33.43	42.49
Umzumbi ..	Mrs. M. G. Lomas	56.28	34.95	40.31	42.04	36.35	37.50	43.66	51.24	40.63	42.82	42.86	27.74	23.78	51.98	44.86	26.93	31.51	39.73
Esperanza ..	Hawksworth & Sons, Ltd. . . .	57.47	42.10	36.13	38.36	32.81	46.13	43.70	44.74	36.14	41.41	47.31	30.48	19.49	44.29	63.64	39.09	35.30	41.09
Renishaw. . . .	Crookes Bros., Ltd.	58.24	37.22	31.86	41.56	34.43	42.17	42.69	46.10	44.40	36.13	46.90	31.83	25.16	43.33	46.74	35.26	24.35	39.32
Park Rynie ..	V. J. S. Crookes.	58.84	39.25	38.94	44.14	37.71	46.53	47.89	52.85	46.10	43.22	56.25	34.46	27.40	47.14	51.25	40.16	31.78	43.76
Illovo ..	Illovo Sugar Estates, Ltd. . . .	49.22	38.12	31.54	36.89	26.94	41.00	39.03	51.65	30.79	43.09	42.22	30.10	26.17	56.12	43.40	30.49	28.85	37.98
Umbogintwini ..	African Explosives & Industries, Ltd.	47.88	42.10	32.42	39.67	36.43	45.59	52.87	53.09	34.78	41.94	48.53	31.26	28.18	51.89	49.16	37.75	31.74	41.49
Durban (Berea) ..	Natal Herbarium	46.87	38.93	31.51	44.74	31.61	42.28	58.08	46.71	36.09	41.23	47.26	38.35	30.06	51.12	52.97	31.30	28.91	41.06
Durban (Point) ..	S.A. Railways & Harbours	59.97	38.92	43.68	49.45	34.42	47.45	60.93	56.35	45.84	41.89	62.57	40.99	34.95	58.91	61.86	34.04	28.63	47.14
Effingham ..	Natal Estates, Ltd.	33.52	26.17	21.33	30.56	19.63	30.57	46.86	42.28	28.25	32.40	35.33	26.75	22.15	42.90	43.83	29.80	29.03	31.84
Westbrook ..	Natal Estates, Ltd.	46.97	33.01	27.03	45.62	31.18	38.49	55.06	52.14	33.56	41.68	45.75	40.05	29.09	52.43	60.15	37.04	33.78	41.35
Milkwood Kraal ..	Natal Estates, Ltd.	35.60	26.90	23.17	33.05	22.15	31.96	43.07	36.45	23.49	34.98	36.24	34.97	23.02	45.03	48.46	27.35	26.70	32.51
Mount Edgecombe	Natal Estates, Ltd.	48.30	34.52	32.98	40.19	30.94	40.03	57.41	49.60	36.55	43.13	46.06	40.23	28.34	51.66	55.40	32.66	30.31	41.08
Mount Edgecombe	S.A.S.A. Experiment Station	43.83	30.03	28.01	41.36	27.14	39.42	53.25	45.36	33.21	37.97	42.87	37.31	24.35	45.41	51.32	30.32	28.50	37.63
Cornubia ..	Natal Estates, Ltd.	46.22	33.45	27.85	42.53	29.98	40.25	59.21	52.27	40.37	44.84	51.66	42.80	30.66	53.17	59.51	35.15	34.78	42.63
Burnside ..	Natal Estates, Ltd.	46.01	31.78	27.01	38.79	27.55	39.61	53.26	47.48	34.01	39.76	48.67	44.91	29.54	50.68	56.39	33.71	32.29	40.09
Blackburn ..	Natal Estates, Ltd.	48.97	34.09	23.78	37.52	24.94	33.94	48.78	45.67	34.70	35.45	49.84	36.99	22.68	43.48	51.96	29.73	28.49	37.00
Beach ..	Natal Estates, Ltd.	56.49	39.25	30.15	51.64	31.53	43.18	59.09	49.19	38.62	44.24	54.88	40.81	28.76	48.74	49.53	33.07	37.26	43.32
Saccharine ..	Natal Estates, Ltd.	48.73	32.82	29.76	38.37	29.22	42.38	51.95	55.98	32.07	36.91	42.05	38.41	23.73	46.57	51.70	34.14	32.04	39.32
Ottawa ..	Natal Estates, Ltd.	40.38	29.21	24.49	34.72	28.72	39.08	47.55	44.66	47.32	37.83	41.95	39.18	22.16	52.57	55.35	32.65	27.16	37.94
La Mercy ..	Gersigny Bros.	53.37	36.40	29.26	56.65	31.16	37.64	56.27	45.65	35.17	45.36	49.41	42.63	25.26	53.89	50.86	32.34	31.39	41.92
Tongaat ..	Tongaat Sugar Co., Ltd.	50.55	34.26	29.88	48.79	26.59	38.44	47.54	50.87	35.61	40.85	44.67	40.87	22.72	55.67	53.08	31.37	30.75	40.15
Sinembe ..	H. C. Heenan	49.78	37.02	30.36	52.71	38.64	49.99	41.84	56.80	35.17	42.07	45.80	43.53	25.25	51.64	50.42	34.15	30.86	42.12
Umlhali ..	G. P. Ladlau	50.38	40.07	20.09	49.85	35.13	41.20	53.61	56.57	40.29	56.88	58.14	39.72	29.49	54.74	52.60	37.16	34.25	44.66
Chaka's Kraal ..	Waldene Sugar Estate	42.78	33.06	22.52	43.09	30.14	35.09	43.38	46.74	32.87	38.40	42.27	30.81	21.78	47.42	44.33	31.01	32.15	36.34
Tinley Manor ..	Sir J. L. Hulett & Sons, Ltd.	51.36	33.22	30.97	47.44	35.44	41.20	50.97	56.83	38.38	46.35	48.93	41.16	24.37	47.73	47.78	32.49	27.46	41.30
Riet Valley ..	H. E. Essery	50.07	35.65	25.38	54.64	37.98	47.70	44.33	65.99	35.28	41.96	51.39	45.90	27.37	54.75	61.35	39.17	36.31	44.42
Kearsney ..	Sir J. L. Hulett & Sons, Ltd.	49.20	43.36	26.31	55.49	37.45	53.57	38.42	64.34	39.73	44.30	47.46	50.80	31.91	49.74	58.02	37.05	32.67	44.70
Darnall ..	Mrs. Mann	40.75	37.36	23.03	44.14	25.45	49.91	44.04	56.32	40.68	45.56	44.65	48.48	25.49	48.19	54.84	43.26	34.88	41.59
Darnall ..	Sir J. L. Hulett & Sons, Ltd.	42.38	40.63	24.31	52.27	29.22	48.24	40.23	52.09	39.75	43.74	43.80	47.10	25.27	46.02	52.45	38.59	28.46	40.86
Mandini ..	St. Andrews Estate	42.05	40.41	24.40	50.98	27.41	55.34	45.88	51.25	35.34	40.86	38.34	41.01	26.70	48.91	56.67	41.28	30.24	41.00
Amatikulu ..	Sir J. L. Hulett & Sons, Ltd.	42.23	40.80	21.09	47.16	29.86	47.66	43.41	47.86	35.38	37.24	47.53	50.40	27.80	48.87	55.37	39.08	28.45	40.60
Gingindhlovu ..	P. C. Lilburn	42.42	47.72	24.60	53.85	33.08	50.91	53.16	52.68	39.62	40.10	54.12	53.75	30.35	56.40	62.73	47.02	36.28	45.81
Mtunzini ..	R. D. Shaw	42.57	48.99	32.92	61.97	40.03	59.28	53.02	55.62	43.57	44.23	65.11	62.16	39.08	60.31	66.31	53.71	50.98	51.76
Eshowe ..	District Forest Officer	49.97	44.26	30.36	65.05	47.31	71.85	46.18	66.61	47.56	46.40	52.55	70.67	36.57	47.44	68.80	50.17	45.40	52.19
Felixton ..	Sir J. L. Hulett & Sons, Ltd.	59.39	44.57	38.03	69.08	31.43	58.72	50.16	58.71	51.96	38.62	54.99	61.15	30.08	53.45	52.48	48.62	37.62	49.36
Empangeni West ..	W. H. Simpson	51.61	36.82	20.56	48.32	22.92	41.08	36.40	36.62	39.10	32.93	47.01	41.24	24.50	40.74	48.47	38.05	28.64	37.35
Empangeni ..	Morris Bros.	46.05	33.56	30.35	49.58	27.72	45.60	37.28	47.54	45.31	35.99	52.02	53.46	26.79	48.11	54.13	44.67	33.98	41.89
Empangeni ..	Zululand Sugar Millers & Plant- ers.	48.95	33.80	31.98	55.34	29.55	48.72	38.18	49.48	47.87	33.49	51.79	53.11	24.54	45.06	50.05	39.56	30.78	41.90
Kulu Halt ..	S. B. Forrest	51.94	37.44	25.96	66.55	30.15	48.26	35.03	48.39	56.80	36.95	52.91	57.61	23.97	52.28	55.73	43.02	32.45	44.44
Mposa ..	W. Springorum	45.80	37.83	24.29	59.33	25.43	46.45	29.59	46.81	51.80	33.08	47.63	51.62	20.58	43.56	44.64	34.04	29.49	39.53
Kwambonambi ..	S. Larsen	55.97	42.99	28.14	64.34	29.35	64.21	34.27	41.64	49.37	33.42	42.91	53.82	20.81	47.01	50.75	36.50	28.38	42.58
Eteza ..	Haworth Bros.	41.27	36.86	31.27	59.48	29.85	44.05	25.73	42.21	49.95	35.98	41.26	61.81	22.04	41.15	54.36	33.55	26.90	39.87
Riverview ..	Umfolozi Co-op. Sugar Planters, Ltd.	34.65	38.45	22.38	51.29	25.05	37.36	21.44	35.98	39.45	36.33	39.93	54.95	16.45	38.92	50.42	36.11	33.97	36.07
		48.30	37.20	29.39	48.20	31.12	44.60	46.12	50.10	39.48	40.38	47.63	43.37	26.18	49.41	53.31	36.45	31.99	41.39

RAINFALL AND TEMPERATURE BY MONTHS



ANNUAL RAINFALL AND MEAN TEMPERATURE



RAINFALL AND MEAN TEMPERATURE

RAINFALL AVERAGE 1926/1945 and 1929/1945

