

# METEOROLOGICAL SERVICE



METEOROLOGICAL OFFICE,  
ROSSLARE,  
CO. WEXFORD

AGMETBL (02)460

APRIL 1985

## AGROMETEOROLOGICAL BULLETIN

### The weather of April

There were spells of rain from frontal troughs in a mild south to southwest airflow from 1st to 6th. Mainly showers occurred from 7th to 9th in a northwesterly airflow as a depression moved in over Britain from the south of Ireland. A westerly airflow dominated subsequently, giving changeable conditions with cloudy weather and spells of rain followed by bright periods and showers.

A ridge of high pressure on the 14th preceded the onset of a mild southwest airflow, but rising pressure from a high pressure cell over France increasingly confined rain outbreaks from the passing troughs to western and northwestern regions. As the continental cell of high pressure declined, and as a second high drifted eastwards over the North Atlantic, a rather cold northerly airflow set in over Ireland on 19th. There were showers, mainly in the north and west on 20th. The winds gradually veered to the northeast and freshened as the high pressure intensified over Scotland. There was an easing of the harsh northeast winds on 24th, as a ridge developed over the country. Under the influence of this high pressure, the period from 21st to 25th was dry.

As the ridge declined, troughs set in, first from the northeast but later from northwest, which gave some showers on 26th and early on 27th. Following this development, cloudy conditions and spells of drizzle in a westerly airflow prevailed but cooler and fresher conditions set in on 30th.

#### Precipitation:

Monthly rainfall amounts were very variable. Amounts varied from 142% of normal at Ballinamore to 78% at Dunsany (Grange). Heaviest falls occurred on 1st, 4th, and 7th, especially in the south, 11th (wettest day of the month generally) and 13th in northern and north midland areas. Because of the relatively dry second half of the month, moderate soil moisture deficits had developed at most stations (see Table 3) by the end of the month.

#### Temperature:

Despite the rather cold conditions at times, mean monthly air temperature was generally above normal, varying from 1.0C above at Shannon Airport to normal at Belmullet. Soil temperatures (100mm) varied from 1C to 2C above average in the first ten days and the period 16th-20th, and from 0.5C to 1.0C below average in the remaining periods. There was air frost with sharp to severe ground frost on 24th and 28th; ground frost occurred to a lesser extent at other times, notably 9th, 12th and 20th.

#### Sunshine and Radiation:

Total duration of bright sunshine was below to well below normal apart from some southern and western areas; duration varied from 103% of normal at most southern stations to 75% at Casement Aerodrome. Global radiation was near average at Dublin Airport and Valentia Observatory but well below average (87%) at Kilkenny.

#### Wind:

Gales occurred in coastal and elevated areas on 11th and 13th; strong winds and gale gusts occurred from 1st to 4th, 7th in the south and west, 11th to 14th, 20th/21st and 27th.

#### Summary:

Over 80% of the month's rainfall supply had occurred at most stations by the 14th; a number of stations, mainly in the north and midlands, recorded well above normal monthly rainfall, however. Temperatures were above normal overall but the last ten days were rather cold. Sunshine was below normal.

The data contained in this Bulletin are Provisional. Some of the material in Table 1 will be published in its final form in the Monthly Weather Report; final values of Global Radiation at stations in Table 2 will be published in the annual Solar Radiation Observations.

TABLE 1

APRIL 1985

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND				
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND			SOIL (10cm)				TOTAL NO. OF HOURS	% OF AVERAGE	MEAN SPEED (ms <sup>-1</sup> )	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)		
						MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFFERENCE FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS ABOVE 4.4°C	% OF AVERAGE	DEGREE DAYS ABOVE 10.0°C	% OF AVERAGE	LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST						MEAN DAILY	DIFFERENCE FROM AVERAGE
Carlow (Oak Park) Co. Carlow	1-10	37.8	-	7	5	12.1	6.3	9.2	-	2.8	9	0	49	-	6	-	-1.5	9	1	-	-	28.1	-	5.0	-	-
	11-20	13.0	-	4	4	13.6	5.6	9.6	-	2.4	12	0	53	-	15	-	-0.3	20	1	-	-	56.5	-	5.7	-	-
	21-END	2.7	-	4	1	11.5	3.4	7.5	-	-1.5	28	2	35	-	5	-	-5.0	24	5	-	-	50.7	-	4.4	-	-
	MONTH	53.5	114	15	10	12.4	5.1	8.8	-	-1.5	28	2	137	-	25	-	-5.0	24	7	-	-	135.3	-	5.0	-	56
Shannon Airport Co. Clare	1-10	36.9	-	10	7	13.3	7.2	10.3	-	5.5	9	0	59	-	11	-	-1.0	9	1	9.6	-	40.4	-	5.3	3	-
	11-20	17.5	-	5	4	13.7	6.9	10.3	-	4.4	20	0	59	-	16	-	1.0	20	0	10.1	-	57.1	-	6.1	5	-
	21-END	0.7	-	3	0	13.0	5.6	9.3	-	0.5	24	0	50	-	9	-	-1.7	24	2	10.6	-	58.7	-	4.7	1	-
	MONTH	55.1	97	18	11	13.3	6.6	9.9	+1.0	0.5	24	0	168	108	36	88	-1.7	24	3	10.1	+0.4	156.2	103	5.4	9	68
Cork Airport Co. Cork	1-10	55.2	-	9	7	11.5	6.4	9.0	-	3.4	9	0	46	-	4	-	0.5	9	0	8.9	-	38.2	-	8.4	5	-
	11-20	8.5	-	4	3	12.3	5.5	8.9	-	3.0	13	0	46	-	8	-	1.1	13	0	9.2	-	69.9	-	8.4	5	-
	21-END	1.7	-	3	0	12.2	4.4	8.3	-	0.5	28	0	41	-	7	-	-4.3	28	3	9.3	-	57.4	-	6.7	5	-
	MONTH	65.4	93	16	10	12.0	5.4	8.7	+0.7	0.5	28	0	133	106	19	76	-4.3	28	3	9.1	-0.1	165.5	103	7.8	15	70
Fermoy (Coolnakilla) Co. Cork	1-10	64.9	-	10	7	11.4	5.4	8.4	-	3.5	9	0	40	-	4	-	0.5	9	0	-	-	35.4	-	6.2	-	-
	11-20	20.3	-	4	3	12.0	4.8	8.4	-	1.3	13	0	42	-	8	-	-0.4	13	2	-	-	62.5	-	6.9	-	-
	21-END	2.7	-	4	1	11.5	3.2	7.4	-	-1.0	23	3	35	-	5	-	-7.4	28	5	-	-	52.2	-	5.5	-	-
	MONTH	87.9	-	18	11	11.6	4.4	8.0	-	-1.0	23	3	117	-	16	-	-7.4	28	7	-	-	150.1	-	6.2	-	57
Fermoy (Moore Park) Co. Cork	1-10	47.3	-	8	7	12.9	5.9	9.4	-	0.9	9	0	52	-	9	-	-0.9	2	3	-	-	36.8	-	4.0	-	-
	11-20	15.1	-	5	4	13.4	6.0	9.7	-	3.1	12	0	54	-	13	-	-0.9	20	1	-	-	61.6	-	4.7	-	-
	21-END	2.4	-	2	1	13.0	4.4	8.7	-	-1.5	28	1	46	-	9	-	-5.7	24	5	-	-	62.4	-	4.5	-	-
	MONTH	64.8	114	15	12	13.1	5.4	9.3	-	-1.5	28	1	151	-	31	-	-5.7	24	9	-	-	160.8	-	4.4	-	58
Roches Point Co. Cork	1-10	39.5	-	8	7	11.7	7.5	9.6	-	5.1	10	0	52	-	5	-	1.8	10	0	9.7	-	36.0	-	7.4	5	-
	11-20	4.3	-	4	3	12.2	6.4	9.3	-	4.2	11	0	49	-	8	-	2.0	20	0	10.6	-	72.1	-	8.0	5	-
	21-END	4.0	-	2	1	12.4	6.0	9.2	-	2.0	28	0	49	-	8	-	-3.3	28	3	10.5	-	58.9	-	6.3	4	-
	MONTH	47.8	90	14	11	12.1	6.6	9.4	+0.6	2.0	28	0	150	104	21	84	-3.3	28	3	10.3	+0.4	167.0	103	7.2	14	70
Glencolumbkille Co. Donegal	1-10	33.2	-	9	8	12.5	5.7	9.1	-	3.2	7	0	47	-	7	-	-3.2	10	5	-	-	N/A	-	4.5	-	-
	11-20	24.4	-	8	6	11.6	5.3	8.4	-	2.8	12	0	41	-	6	-	-3.6	12	2	-	-	N/A	-	4.3	-	-
	21-END	19.4	-	7	4	11.1	3.6	7.3	-	0.0	24	0	33	-	3	-	-6.0	28	6	-	-	N/A	-	3.5	-	-
	MONTH	77.0	-	24	18	11.7	4.8	8.3	-	0.0	24	0	121	-	16	-	-6.0	28	13	-	-	N/A	-	4.1	-	N/A

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NOTES ON THE TABLES IN JANUARY ISSUE



TABLE 1 (CONTINUED)

APRIL 1985

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND				
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND			SOIL (10cm)				TOTAL NO. OF HOURS	% OF AVERAGE	MEAN SPEED (ms <sup>-1</sup> )	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)		
						MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFFERENCE FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS ABOVE 4.4°C	% OF AVERAGE	DEGREE DAYS ABOVE 10.0°C	% OF AVERAGE	LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST						MEAN DAILY	DIFFERENCE FROM AVERAGE
Cahirclveen (Valentia Obsy.) Co. Kerry	1-10	54.9	-	10	9	12.5	7.6	10.0	-	3.8	9	0	56	-	9	-	1.6	9	0	10.6	-	38.1	-	6.8	5	-
	11-20	11.8	-	5	3	13.0	7.9	10.4	-	5.1	11	0	60	-	14	-	4.4	13	0	10.8	-	51.0	-	7.7	6	-
	21-END	1.2	-	2	0	12.8	6.0	9.4	-	1.0	24	0	51	-	8	-	-2.0	24	2	11.5	-	59.7	-	5.4	3	-
	MONTH	67.9	86	17	12	12.8	7.1	10.0	+0.8	1.0	24	0	168	108	31	91	-2.0	24	2	11.0	+0.7	148.8	96	6.6	14	67
Ardfert (Liscahane) Co. Kerry	1-10	45.7	-	10	10	12.7	6.9	9.8	-	2.4	9	0	55	-	9	-	-4.6	9	1	-	-	40.5	-	-	-	-
	11-20	17.4	-	5	4	13.2	6.3	9.7	-	0.8	20	0	54	-	13	-	-4.1	20	1	-	-	58.6	-	-	-	-
	21-END	2.3	-	2	1	12.2	3.0	7.6	-	-1.3	24	3	38	-	6	-	-4.8	24	7	-	-	52.1	-	-	-	-
	MONTH	65.4	-	17	15	12.7	5.4	9.1	-	-1.3	24	3	147	-	28	-	-4.8	24	9	-	-	151.2	-	-	-	-
Lullymore Co. Kildare	1-10	35.8	-	9	8	12.5	5.5	9.0	-	1.2	9	0	47	-	7	-	-2.7	9	1	-	-	23.7	-	4.3	-	-
	11-20	16.5	-	4	4	12.8	4.3	8.6	-	0.5	20	0	44	-	10	-	-1.1	12	2	-	-	49.3	-	5.2	-	-
	21-END	4.4	-	2	2	11.5	2.1	6.8	-	-4.0	28	2	32	-	5	-	-7.7	28	5	-	-	49.2	-	5.1	-	-
	MONTH	56.7	105	15	14	12.3	4.0	8.1	-	-4.0	28	2	123	-	22	-	-7.7	28	8	-	-	122.2	-	4.9	-	45
Kilkenny Co. Kilkenny	1-10	51.4	-	10	8	12.6	6.6	9.6	-	2.6	9	0	53	-	8	-	-2.5	9	1	9.1	-	26.5	-	4.3	4	-
	11-20	15.1	-	5	4	13.6	5.2	9.4	-	2.8	20	0	51	-	13	-	-0.4	19	1	9.6	-	57.6	-	4.8	5	-
	21-END	2.6	-	3	1	12.4	3.6	8.0	-	-1.9	28	2	40	-	8	-	-7.8	28	7	9.7	-	51.5	-	3.8	1	-
	MONTH	69.1	133	18	13	12.9	5.1	9.0	+0.8	-1.9	28	2	144	104	29	74	-7.8	28	9	9.5	+0.2	135.6	89	4.3	10	58
Mooncoin (Silverspring) Co. Kilkenny	1-10	46.4	-	8	8	12.4	6.8	9.6	-	3.4	9	0	52	-	7	-	-2.1	9	1	-	-	31.3	-	-	-	-
	11-20	8.6	-	5	3	13.0	5.6	9.3	-	2.5	20	0	50	-	12	-	-1.7	19	3	-	-	71.0	-	-	-	-
	21-END	1.1	-	3	0	12.9	3.8	8.3	-	-1.7	24	2	43	-	8	-	-7.0	28	6	-	-	51.9	-	-	-	-
	MONTH	56.1	94	16	11	12.8	5.4	9.1	-	-1.7	24	2	146	-	27	-	-7.0	28	10	-	-	154.2	-	-	-	-
Ballinamore Co. Leitrim	1-10	38.1	-	8	7	12.7	5.4	9.0	-	2.7	7	0	47	-	9	-	-3.6	7	4	-	-	36.7	-	3.5	-	-
	11-20	39.8	-	7	6	12.4	4.7	8.5	-	1.4	12	0	43	-	8	-	-2.4	18	5	-	-	42.3	-	4.7	-	-
	21-END	14.3	-	5	3	12.0	3.7	7.8	-	-1.1	28	1	38	-	5	-	-9.4	28	5	-	-	59.2	-	3.4	-	-
	MONTH	92.2	142	20	16	12.3	4.6	8.5	-	-1.1	28	1	129	-	22	-	-9.4	28	14	-	-	138.2	-	3.9	-	50
Ardee (Boharnamoe) Co. Louth	1-10	27.2	-	10	7	13.0	5.5	9.2	-	2.9	9	0	49	-	10	-	1.9	9	0	-	-	-	-	-	-	-
	11-20	16.9	-	6	5	13.2	4.0	8.6	-	-0.2	18	1	46	-	10	-	-0.9	18	2	-	-	-	-	-	-	-
	21-END	3.2	-	2	1	12.5	3.5	8.0	-	-2.0	24	2	40	-	7	-	-2.2	24	2	-	-	-	-	-	-	-
	MONTH	47.3	89	18	13	12.9	4.3	8.6	-	-2.0	24	3	135	-	26	-	-2.2	24	4	-	-	-	-	-	-	-

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

APRIL 1985

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND				
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND			SOIL (10cm)				TOTAL NO. OF HOURS	% OF AVERAGE	MEAN SPEED (ms <sup>-1</sup> )	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)		
						MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFFERENCE FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS ABOVE 4.4°C	% OF AVERAGE	DEGREE DAYS ABOVE 10.0°C	% OF AVERAGE	LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST						MEAN DAILY	DIFFERENCE FROM AVERAGE
Ballinrobe (Creagh) Co. Mayo	1-10	26.1	-	10	8	12.6	5.8	9.2	-	3.1	7	0	48	-	8	-	-5.6	7	4	-	-	39.0	-	4.7	-	-
	11-20	45.6	-	9	6	12.5	5.2	8.9	-	3.6	20	0	45	-	8	-	-2.6	20	3	-	-	42.3	-	4.5	-	-
	21-END	4.8	-	6	1	12.5	4.2	8.3	-	-1.4	24	1	42	-	6	-	-9.1	24	5	-	-	54.5	-	3.6	-	-
	MONTH	76.5	114	25	15	12.5	5.1	8.8	-	-1.4	24	1	136	-	22	-	-9.1	24	12	-	-	135.8	-	4.3	-	50
Belmullet Co. Mayo	1-10	33.6	-	9	7	11.8	6.3	9.1	-	3.0	10	0	47	-	5	-	-0.9	10	1	9.5	-	40.0	-	7.0	3	-
	11-20	30.3	-	8	2	12.0	5.8	8.9	-	3.9	13	0	45	-	6	-	2.1	17	0	9.9	-	46.1	-	7.9	5	-
	21-END	8.0	-	6	3	11.5	4.9	8.2	-	0.9	24	0	40	-	4	-	-3.5	24	3	10.9	-	66.0	-	6.3	1	-
	MONTH	71.9	126	23	12	11.8	5.7	8.7	+0.0	0.9	24	0	132	95	15	58	-3.5	24	4	10.1	+0.5	152.1	93	7.1	9	58
Claremorris Co. Mayo	1-10	34.6	-	9	8	12.4	5.3	8.9	-	2.4	10	0	46	-	8	-	-2.5	10	3	8.8	-	33.1	-	6.0	4	-
	11-20	30.0	-	6	6	12.2	4.6	8.4	-	2.3	13	0	42	-	7	-	-2.1	20	3	9.0	-	39.3	-	6.4	5	-
	21-END	6.4	-	4	2	12.6	3.8	8.2	-	-0.2	28	1	41	-	7	-	-4.9	24	3	9.4	-	51.4	-	5.2	1	-
	MONTH	71.0	115	19	16	12.4	4.6	8.5	+0.6	-0.2	28	1	129	101	22	71	-4.9	24	9	9.1	+0.4	123.8	89	5.8	10	50
Glenamoy Co. Mayo	1-10	34.6	-	7	4	12.5	5.5	9.0	-	0.1	10	0	48	-	7	-	-1.5	10	2	-	-	37.7	-	4.6	-	-
	11-20	39.4	-	8	6	12.2	5.3	8.8	-	2.8	12	0	45	-	7	-	-0.9	16	1	-	-	49.4	-	5.3	-	-
	21-END	8.4	-	6	2	11.7	4.0	7.8	-	-2.0	24	1	38	-	4	-	-4.4	24	3	-	-	63.0	-	3.5	-	-
	MONTH	82.4	110	21	12	12.1	4.9	8.5	-	-2.0	24	1	130	-	18	-	-4.4	24	6	-	-	150.1	-	4.5	-	50
Dunsany (Grange) Co. Meath	1-10	26.3	-	9	7	12.2	5.3	8.8	-	1.6	9	0	45	-	7	-	-4.0	9	4	-	-	23.6	-	-	-	-
	11-20	10.9	-	4	4	12.9	4.3	8.6	-	0.4	12	0	45	-	10	-	-2.9	18	4	-	-	49.6	-	-	-	-
	21-END	4.0	-	2	2	11.1	3.5	7.3	-	-2.7	24	2	34	-	4	-	-8.6	28	5	-	-	49.0	-	-	-	-
	MONTH	41.2	78	15	13	12.1	4.4	8.2	-	-2.7	24	2	124	-	21	-	-8.6	28	13	-	-	122.2	-	-	-	-
Clones Co. Monaghan	1-10	25.7	-	9	4	12.8	5.6	9.2	-	2.3	9	0	49	-	9	-	-1.4	9	1	8.4	-	29.5	-	5.4	4	-
	11-20	31.1	-	7	6	12.4	4.3	8.4	-	0.6	12	0	42	-	8	-	-0.4	15	2	8.3	-	49.8	-	6.2	6	-
	21-END	11.7	-	5	3	11.7	3.8	7.7	-	-0.7	24	2	37	-	5	-	-5.1	28	3	8.8	-	60.1	-	4.7	2	-
	MONTH	68.5	129	21	13	12.3	4.6	8.4	+0.7	-0.7	24	2	128	103	22	73	-5.1	28	6	8.5	-0.1	139.4	100	5.4	12	56
Birr Co. Offaly	1-10	27.5	-	9	7	13.0	6.4	9.7	-	3.8	9	0	53	-	10	-	-0.9	9	1	9.5	-	36.1	-	5.0	2	-
	11-20	17.4	-	5	4	13.1	5.4	9.3	-	1.5	12	0	50	-	13	-	-1.7	12	2	9.7	-	44.1	-	5.2	4	-
	21-END	5.3	-	6	2	12.1	3.4	7.8	-	-1.8	28	2	38	-	6	-	-6.0	28	4	10.1	-	47.9	-	4.1	1	-
	MONTH	50.2	91	20	13	12.7	5.1	8.9	+0.8	-1.8	28	2	142	104	29	83	-6.0	28	7	9.8	+0.4	128.1	87	4.8	7	55

TABLE 1 (CONTINUED)

APRIL 1985

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND														
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND				SOIL (10cm)			TOTAL NO. OF HOURS	% OF AVERAGE	MEAN SPEED (ms <sup>-1</sup> )	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)												
						MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFFERENCE FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS ABOVE 4.4°C	% OF AVERAGE	DEGREE DAYS ABOVE 10.0°C	% OF AVERAGE	LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST						MEAN DAILY	DIFFERENCE FROM AVERAGE										
Dundrum (Knockavilla) Co. Tipperary	1-10	38.2	-	9	7	12.9	6.3	9.6	-	3.4	9	0	52	-	9	-	-1.8	10	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	23.4	-	5	4	13.3	5.3	9.3	-	2.6	12	0	50	-	12	-	-1.5	12	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	21-END	4.9	-	6	2	12.2	3.4	7.8	-	-2.5	28	2	39	-	6	-	-7.0	28	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	MONTH	66.5	-	20	13	12.8	5.0	8.9	-	-2.5	28	2	141	-	27	-	-7.0	28	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dungarvan (Carriglea) Co. Waterford	1-10	58.4	-	8	8	12.9	6.2	9.5	-	1.0	9	0	52	-	9	-	0.0	9	0	-	-	36.8	-	3.8	-	-	-	-	-	-	-	-	-	-	-	
	11-20	7.0	-	5	4	14.4	6.2	10.3	-	3.6	13	0	60	-	17	-	1.9	13	0	-	-	71.6	-	3.4	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	1.8	-	2	1	13.4	4.8	9.1	-	-1.9	28	1	50	-	10	-	-2.5	28	2	-	-	56.6	-	2.9	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	67.2	96	15	13	13.6	5.7	9.6	-	-1.9	28	1	162	-	36	-	-2.5	28	2	-	-	165.0	-	3.4	-	-	-	-	-	-	-	-	-	-	-	60
Mullingar Co. Westmeath	1-10	24.9	-	9	5	12.3	5.5	8.9	-	3.6	9	0	46	-	7	-	-0.1	9	1	8.6	-	29.9	-	5.0	3	-	-	-	-	-	-	-	-	-	-	
	11-20	23.4	-	6	5	12.6	4.7	8.7	-	1.1	12	0	45	-	10	-	-1.4	12	2	8.8	-	44.3	-	5.3	5	-	-	-	-	-	-	-	-	-	-	-
	21-END	4.4	-	4	1	11.9	3.9	7.9	-	-0.4	28	1	39	-	6	-	-3.9	28	2	9.1	-	50.5	-	4.3	1	-	-	-	-	-	-	-	-	-	-	-
	MONTH	52.7	89	19	11	12.3	4.7	8.5	+0.8	-0.4	28	1	129	100	23	70	-3.9	28	5	8.8	+0.0	124.7	83	4.9	9	52	-	-	-	-	-	-	-	-	-	
J.F.K. Park Co. Wexford	1-10	45.1	-	10	8	11.7	6.6	9.2	-	2.9	9	0	48	-	5	-	N/A	5	-	-	23.3	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	6.4	-	5	4	12.9	5.6	9.2	-	3.1	12	0	49	-	10	-	N/A	6	-	-	73.0	-	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	1.7	-	2	1	12.7	4.6	8.6	-	0.0	28	0	44	-	8	-	N/A	N/A	-	-	52.9	-	4.3	-	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	53.2	87	17	13	12.4	5.6	9.0	-	0.0	28	0	142	-	23	-	N/A	N/A	-	-	149.2	-	5.5	-	-	-	-	-	-	-	-	-	-	-	63	
Clonroche Co. Wexford	1-10	61.2	-	10	9	11.3	5.7	8.5	-	1.0	9	0	42	-	3	-	-4.2	9	2	-	-	25.2	-	2.7	-	-	-	-	-	-	-	-	-	-	-	
	11-20	6.2	-	5	3	13.5	4.6	9.0	-	1.5	12	0	48	-	11	-	-4.4	12	5	-	-	70.7	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	2.3	-	4	1	12.9	3.6	8.2	-	-2.0	28	1	42	-	8	-	-8.4	28	5	-	-	57.4	-	2.2	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	69.7	103	19	13	12.5	4.6	8.6	-	-2.0	28	1	132	-	23	-	-8.4	28	12	-	-	153.3	-	2.6	-	-	-	-	-	-	-	-	-	-	51	
Johnstown Castle Co. Wexford	1-10	43.1	-	9	8	11.2	6.5	8.8	-	3.2	9	0	44	-	3	-	-2.5	9	3	-	-	22.5	-	5.4	-	-	-	-	-	-	-	-	-	-	-	
	11-20	6.3	-	5	2	12.5	5.5	9.0	-	3.2	20	0	47	-	8	-	-0.9	12	2	-	-	69.2	-	4.9	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	1.7	-	3	0	11.8	4.2	8.0	-	0.5	28	0	38	-	5	-	-5.2	28	5	-	-	59.4	-	4.2	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	51.1	81	17	10	11.8	5.4	8.6	-	0.5	28	0	130	-	17	-	-5.2	28	10	-	-	151.1	-	4.9	-	-	-	-	-	-	-	-	-	-	55	
Rosslare Co. Wexford	1-10	37.9	-	9	8	11.1	7.1	9.1	-	3.2	9	0	48	-	3	-	-0.7	9	1	9.5	-	25.2	-	6.7	6	-	-	-	-	-	-	-	-	-	-	
	11-20	4.1	-	3	2	12.4	6.0	9.2	-	3.5	12	0	48	-	8	-	0.7	12	0	10.2	-	64.3	-	6.6	5	-	-	-	-	-	-	-	-	-	-	-
	21-END	0.9	-	2	0	11.2	6.0	8.6	-	2.1	28	0	43	-	6	-	-1.3	28	1	10.5	-	48.4	-	7.7	4	-	-	-	-	-	-	-	-	-	-	
	MONTH	42.9	79	14	10	11.6	6.4	9.0	+0.5	2.1	28	0	138	101	17	81	-1.3	28	2	10.1	+0.1	137.9	77	7.0	15	63	-	-	-	-	-	-	-	-	-	

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 2 GLOBAL SOLAR RADIATION

STATION	PERIOD	AMOUNT MJ/m <sup>2</sup>
Malin Head Co. Donegal	1-10	97.61
	11-20	133.18
	21-end	149.89
	Month	380.68
Dublin Airport Co. Dublin	1-10	91.51
	11-20	141.68
	21-end	140.00
	Month	373.19
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	113.52
	11-20	140.27
	21-end	164.80
	Month	418.59
Kilkenny Co. Kilkenny	1-10	89.46
	11-20	140.89
	21-end	133.00
	Month	363.35
Belmullet Co. Mayo	1-10	106.72
	11-20	133.96
	21-end	158.49
	Month	399.17
Clones Co. Monaghan	1-10	93.49
	11-20	122.68
	21-end	150.41
	Month	366.58
Birr Co. Offaly	1-10	101.95
	11-20	127.80
	21-end	134.09
	Month	363.84

Notes on the tables in January issue

TABLE 3 POTENTIAL EVAPOTRANSPIRATION (P.E.) AND SOIL MOISTURE

STATION	PERIOD	P.E. (mm)		SOIL MOISTURE (mm)	
		Amount	Deficit	Accumulated Deficit	Surplus
Carlow (Oak Park) Co. Carlow	1-9	-0.5	-	0	30
	10-20	17.3	-	0	4
	21-end	18.1	15	15	-
	Month	34.9	-	-	-
Kinsealy Co. Dublin	1-9	9.9	-	0	9
	10-20	19.6	2	2	-
	21-end	19.5	18	20	-
	Month	49.0	-	-	-
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	5.3	-	0	46
	11-20	15.7	-	0	14
	21-end	16.8	15	15	-
	Month	37.8	-	-	-
Ballinamore Co. Leitrim	1-10	10.3	-	0	20
	11-20	5.2	-	0	35
	21-end	17.4	3	3	-
	Month	32.9	-	-	-
Glenamoy Co. Mayo	1-9	2.8	-	0	14
	10-20	8.1	-	0	49
	21-end	14.2	6	6	-
	Month	25.1	-	-	-
Johnstown Castle Co. Wexford	1-9	2.8	-	0	24
	10-20	14.5	-	0	8
	21-end	22.4	21	21	-
	Month	39.7	-	-	-

TABLE 4

SOIL CLIMATE (MULLINGAR)

BARE SOIL TYPE	PERIOD	MEAN TEMPERATURE °C at 100mm			TEMPERATURE GRADIENT (to 200mm)	SOIL WATER POTENTIAL (hPa) (at depths)	
		Max.	Daily	Min.		75mm	200mm
		Peat	1-10	9.1	8.0	6.8	-0.2
	11-20	9.3	8.3	6.9	-0.1	63	60
	21-end	9.9	8.8	7.2	0.0	159	100
Mineral	1-10	10.0	8.4	6.6	0.0	49	50
	11-20	10.6	8.5	6.3	0.0	60	55
	21-end	11.2	8.9	6.6	+0.2	273	157

## special topic

### SOIL MANAGEMENT AND THE WEATHER

#### Introduction:

Soil management has two aims: to grow crops for profit in the short term and to maintain or improve soil structure and fertility in the long term. Good soil management must provide a suitable medium in which seeds can germinate and roots can grow and must allow all plant growth factors to operate at optimum efficiency. Weather conditions play an important role in any soil management system.

The following weather/tillage interactions have been chosen to exemplify the major role weather factors play in soil management: soil workability, soil moisture content and compaction, soil crusting or capping, and the natural drying pattern of soils and its effect on seedbed preparation.

#### Soil Workability:

Workability as a tillage concept can be defined as the ease with which operations to produce a satisfactory seedbed or to harvest a root crop can be undertaken. As these operations are influenced by transient moisture content as much as intrinsic soil properties such as clay or organic matter contents, an assessment of workability must include a time element involving the duration of good conditions for soil-engaging implements. Good soil workability implies an adequate period in most years when cultivations can be undertaken without damage to surface or subsoil horizons to achieve a reasonable tilth. Poor workability implies only short periods of good conditions and that field operations are sometimes undertaken with damaging results. Workability and trafficability are similar concepts- good trafficability means that a power unit can move over the land easily to perform necessary work with negligible damage to the soil itself.

Under Irish conditions excessive soil moisture is the main restriction for both workability and trafficability. Heavy soils especially can appear deceptively dry in Spring. A hard dry surface is often underlain by moist plastic soil which may be easily compacted by machinery traffic.

The farmer tends to judge workability in terms of recent weather and there is no doubt that season-to-season differences are often greater than those between soil types. Nevertheless, broad differences can be recognised in workability between soils. Many sandy soils are workable at any time of the year and a satisfactory seedbed can be produced easily. On clay soils timing is critical and in some seasons a tolerable seedbed can only be made with a great deal of effort. The number of possible field work days especially in the period of March/April and September/October is the main criterion governing workability.

Various soil moisture parameters have been put forward to estimate Spring work days from climatological records. In Canada research has concluded that cultivation was possible when the soil moisture content was about 90% of the field capacity value to a depth of 12cm regardless of soil moisture content in the lower zones. Other work demonstrated that the moisture content of the top 0-3cm zone needed to dry down to a moisture content which was 10% of its available water capacity (AWC) for seedbed preparation to proceed, although the moisture content below this layer (3-7cm) could be as high as 97% of AWC. On clay loam and sandy loam soils cultivation could proceed when soil had dried to 50% and 66% AWC respectively in the 0-3cm zone. The dried 2-3cm of soil at the surface was found to provide a kind of paving which increased tractor mobility and when mixed with the more moist lower soil during seedbed preparation kept the whole cultivated layer at a moisture content low enough to prevent the soil from sticking to the cultivating or planting mechanisms.

(to be continued in next issue)