



AGROMETEOROLOGICAL BULLETIN

The Weather of March 1990

Summary

High pressure drifting from the Atlantic into Europe influenced conditions except during the third week when Atlantic troughs dominated. In marked contrast to February the weather of March was exceptionally dry (except in the northwest); it was also very mild and dull.

Meteorological Situation

Wintry showers in a northwest airflow on 1st and high pressure over Ireland on 2nd were followed by the build up of an extensive high centred south of 50°N from the Atlantic to mainland Europe. A mild southwest to west airstream was generated over the country. Outbreaks of rain and drizzle from troughs passing by the country occurred, heaviest in the north and west. As the high declined more fully these troughs crossed down over the country on 8th, 11th and 13th giving rise to widespread rain.

Following this a system of extensive troughs in the Atlantic and high pressure residing over the continent effected a backing of the airflow to a more southerly direction and a general increase in strength. Conditions were very mild but rain continued in the northwest from passing troughs. The cold front finally crossed Ireland on 18th and a cooler westerly set in. A further influx of mild air occurred on 20th but again it was replaced on the 21st as winds veered to the west and northwest.

After this high pressure in the Atlantic gradually drifted eastwards towards Ireland becoming dominant by 25th. Subsequently the high continued to influenced conditions even as it drifted in over Europe although a temporary decline of pressure permitted occasional weak rainbelts to get through.

Precipitation

Amounts were generally very low except in the north and northwest. They varied from 15% of normal at Roche's Point to 124% at Claremorris. Wettest days were the 4th, 8th(9th in northwest), 13th, 24th and 26th. The number of rain days varied from 26 in the west to 8 in the east.

Sunshine and Radiation

Amounts were below normal in all areas, varying from 42% of normal at Belmullet to 87% at Casement. Global radiation varied 106% of normal at Dublin Airport to 81% of normal at Valentia.

Temperature

Mean air temperature was well above normal. It varied from 2.7°C above at Dublin Airport to 1.4°C above at Roche's Point. The coldest spell occurred on 1st/2nd when lowest air and the grass minimum temperature were respectively -3.3°C at Dunsany and -9.4°C at Kilkenny and the next coldest spell on 28th with -2.0°C and -7.6°C at Fermoy. The warmest spell was centred on 16th.

Wind

Strong winds with gale gusts occurred frequently up to 25th, being most extensive on 1st, 3rd, 11th, 13th to 15th, 21st, 23rd/24th.

TABLE 1

MARCH 1990

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 ⁻¹)	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	0.3	-	1	0	10.7	4.3	7.5	-	-1.5	2	1	36	-	4	-	-2.2	3	3	-	-	22.0	-	5.8	-	-
	11-20	2.8	-	2	1	12.7	6.7	9.7	-	1.5	12	0	54	-	10	-	-4.1	12	1	-	-	20.0	-	6.0	-	-
	21-END	6.2	-	4	3	11.9	4.0	8.0	-	-1.3	28	1	43	-	7	-	-5.5	28	3	-	-	46.9	-	4.2	-	-
	MONTH	9.3	18	7	4	11.8	5.0	8.4	-	-1.5	2	2	133	-	21	-	-5.5	28	7	-	-	88.9	-	5.3	-	4
Shannon Airport Co. Clare	1-10	14.8	-	7	6	10.8	5.8	8.3	-	-0.4	2	1	42	-	5	-	-7.1	2	3	7.0	-	16.5	-	6.3	7	-
	11-20	7.5	-	3	3	13.3	7.5	10.4	-	3.5	12	0	60	-	13	-	-2.5	12	1	9.3	-	14.1	-	5.9	6	-
	21-END	9.2	-	5	3	12.3	6.4	9.4	-	3.6	28	0	55	-	9	-	-2.0	28	1	9.3	-	42.4	-	4.5	3	-
	MONTH	31.5	51	15	12	12.1	6.5	9.3	+2.3	-0.4	2	1	157	143	27	159	-7.1	2	5	8.5	+1.5	73.0	68	5.5	16	40
Cork Airport Co. Cork	1-10	2.8	-	4	1	9.7	4.8	7.2	-	-1.3	2	2	33	-	2	-	-4.7	2	3	6.6	-	18.6	-	8.2	4	-
	11-20	15.8	-	7	3	11.2	7.1	9.2	-	4.2	12	0	48	-	4	-	-0.1	12	1	9.0	-	14.4	-	8.9	9	-
	21-END	6.6	-	6	2	11.2	4.8	8.0	-	0.5	28	0	41	-	4	-	-2.4	28	1	8.6	-	46.2	-	6.0	3	-
	MONTH	25.2	24	17	6	10.7	5.5	8.1	+1.8	-1.3	2	2	122	144	10	143	-4.7	2	5	8.1	+1.7	79.2	73	7.6	16	37
Fermoy (Coolnakilla) Co. Cork	1-10	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	-	N/A	N/A	-	-	N/A	-	N/A	-	-
	11-20	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	-	N/A	N/A	-	-	N/A	-	N/A	-	-
	21-END	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	-	N/A	N/A	-	-	N/A	-	N/A	-	-
	MONTH	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	-	N/A	N/A	-	-	N/A	-	N/A	-	N/A
Fermoy (Moore Park) Co. Cork	1-10	0.4	-	1	0	11.1	3.3	7.2	-	-3.0	2	2	35	-	5	-	-8.5	2	5	-	-	19.8	-	4.8	-	-
	11-20	10.2	-	4	3	12.5	6.5	9.5	-	-1.4	12	1	53	-	10	-	-8.5	12	4	-	-	20.8	-	4.4	-	-
	21-END	5.0	-	4	3	11.8	3.8	7.8	-	-2.0	28	1	41	-	6	-	-7.6	28	5	-	-	42.1	-	4.1	-	-
	MONTH	15.6	20	9	6	11.8	4.5	8.1	-	-3.0	2	4	129	-	21	-	-8.5	12	14	-	-	82.7	-	4.4	-	17
Roches Point Co. Cork	1-10	0.7	-	1	0	9.3	5.1	7.2	-	0.0	5	0	35	-	3	-	-3.5	2	3	7.3	-	16.6	-	7.3	5	-
	11-20	7.9	-	5	1	11.7	8.1	9.9	-	4.5	12	0	55	-	6	-	-0.6	12	1	9.8	-	19.0	-	7.9	6	-
	21-END	2.5	-	3	1	11.4	6.0	8.7	-	2.7	28	0	48	-	4	-	0.5	28	0	9.5	-	46.1	-	6.0	4	-
	MONTH	11.1	15	9	2	10.8	6.4	8.6	+1.4	0.0	5	0	138	131	13	186	-3.5	2	4	8.9	+1.5	81.7	74	7.0	15	35
Glencolumbkille Co. Donegal	1-10	64.4	-	10	8	9.4	4.4	6.9	-	0.4	1	0	28	-	1	-	-1.2	2	2	-	-	N/A	-	5.7	-	-
	11-20	57.7	-	9	8	11.2	6.8	9.0	-	3.2	19	0	47	-	5	-	-1.3	12	1	-	-	N/A	-	4.9	-	-
	21-END	21.3	-	10	7	10.7	5.2	7.9	-	2.0	25	0	41	-	4	-	-0.6	25	1	-	-	N/A	-	5.0	-	-
	MONTH	143.4	-	29	23	10.5	5.5	8.0	-	0.4	1	0	115	-	10	-	-1.3	12	4	-	-	N/A	-	5.2	-	N/A

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

MARCH 1990

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)															BRIGHT SUNSHINE		WIND		P.E. (PENMAN) (mm)													
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR										GROUND		SOIL (10cm)																				
						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	TOTAL NO. OF HOURS	% OF AVERAGE	MEAN SPEED (ms ⁻¹)		DAYS WITH GALE GUSTS												
Glenties Co. Donegal	1-10	48.3	-	10	8	9.4	4.8	7.1	-	-0.8	1	1	31	-	1	-	-6.6	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	54.1	-	8	7	11.2	7.1	9.2	-	3.1	19	0	48	-	5	-	-3.4	12	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	21-END	12.5	-	8	6	10.8	5.1	7.9	-	0.1	25	0	41	-	4	-	-3.3	25	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	MONTH	114.9	107	26	21	10.4	5.7	8.1	-	-0.8	1	1	119	-	11	-	-6.6	2	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Malin Head Co. Donegal	1-10	35.7	-	9	8	8.8	4.9	6.8	-	1.3	1	0	27	-	1	-	0.1	2	0	6.3	-	8.9	-	13.5	10	-	-	-	-	-	-	-	-	-	-	-	-	-
	11-20	25.3	-	9	8	12.0	7.6	9.8	-	4.5	19	0	54	-	8	-	2.2	19	0	8.6	-	16.1	-	11.8	9	-	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	8.3	-	6	2	10.3	6.3	8.3	-	2.3	24	0	43	-	2	-	2.1	24	0	8.0	-	33.8	-	10.4	8	-	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	69.3	98	24	18	10.3	6.2	8.3	+1.9	1.3	1	0	123	150	11	183	0.1	2	0	7.7	+1.6	58.8	55	11.9	27	52	-	-	-	-	-	-	-	-	-	-	-	
Casement Aerodrome Co. Dublin	1-10	4.0	-	4	2	10.0	4.8	7.4	-	-1.5	2	2	35	-	4	-	-3.1	2	2	6.2	-	13.7	-	10.7	10	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	0.4	-	1	0	13.0	6.9	9.9	-	3.5	12	0	56	-	12	-	1.1	12	0	8.7	-	28.0	-	10.4	8	-	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	6.3	-	4	2	11.7	3.9	7.8	-	-1.6	28	1	41	-	5	-	-5.4	28	2	7.9	-	49.8	-	6.9	5	-	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	10.7	22	9	4	11.6	5.2	8.4	+2.4	-1.6	28	3	132	152	20	154	-5.4	28	4	7.6	-	91.5	87	9.3	23	53	-	-	-	-	-	-	-	-	-	-	-	-
Dublin Airport Co. Dublin	1-10	4.9	-	4	2	10.3	5.1	7.7	-	-1.2	2	1	38	-	4	-	-4.3	2	4	6.3	-	17.4	-	8.9	8	-	-	-	-	-	-	-	-	-	-	-	-	-
	11-20	0.6	-	1	0	13.4	7.5	10.5	-	3.1	12	0	61	-	14	-	-1.5	12	1	9.1	-	20.2	-	7.5	6	-	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	4.7	-	4	2	12.0	4.9	8.5	-	0.5	28	0	47	-	7	-	-3.0	28	3	8.7	-	53.1	-	5.8	3	-	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	10.2	20	9	4	11.9	5.8	8.9	+2.7	-1.2	2	1	146	168	25	227	-4.3	2	8	8.1	+1.9	90.7	82	7.3	17	55	-	-	-	-	-	-	-	-	-	-	-	-
Kinsealy Co. Dublin	1-10	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	N/A	N/A	-	-	-	N/A	-	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	N/A	N/A	-	-	-	N/A	-	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21-END	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	N/A	N/A	-	-	-	N/A	-	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
	MONTH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	N/A	N/A	-	-	-	N/A	-	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
Galway Co. Galway	1-10																																					
	11-20																																					
	21-END																																					
	MONTH																																					
Killarney (Muckross House) Co. Kerry	1-10	11.2	-	6	3	10.6	5.7	8.2	-	-1.8	2	1	41	-	3	-	-6.0	2	2	-	-	17.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	36.9	-	7	5	12.5	8.1	10.3	-	5.5	20	0	59	-	11	-	2.0	19	0	-	-	16.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	12.9	-	8	4	11.6	6.1	8.8	-	0.5	28	0	50	-	7	-	-4.1	28	1	-	-	34.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	MONTH	61.0	46	21	12	11.6	6.6	9.1	-	-1.8	2	1	150	-	20	-	-6.0	2	3	-	-	68.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND			SOIL (10cm)				TOTAL NO. OF HOURS	% OF AVERAGE	MEAN SPEED (ms ⁻¹)	DAYS WITH GALE GUSTS			
						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
Cahirciveen (Valentia Obsy.) Co. Kerry	1-10	20.4	-	6	4	10.7	6.6	8.6	-	-0.5	2	1	44	-	4	-	-3.6	2	2	7.7	-	8.9	-	7.5	6	-
	11-20	20.4	-	8	5	12.1	7.6	9.8	-	4.0	12	0	55	-	8	-	1.8	12	0	9.9	-	9.4	-	7.9	9	-
	21-END	9.4	-	7	4	12.1	6.7	9.4	-	3.2	28	0	55	-	8	-	-0.2	28	1	9.9	-	42.8	-	5.3	4	-
	MONTH	50.2	44	21	13	11.6	7.0	9.3	+1.5	-0.5	2	1	154	126	19	112	-3.6	2	3	9.2	+1.3	61.1	58	6.9	19	36
Ardfert (Liscahane) Co. Kerry	1-10	5.9	-	5	2	11.2	5.4	8.3	-	-1.5	2	1	42	-	5	-	-6.6	2	3	-	-	-2.5	-	-	-	-
	11-20	14.3	-	8	3	13.2	7.7	10.4	-	2.5	12	0	61	-	13	-	-2.5	12	2	-	-	21.2	-	-	-	-
	21-END	10.8	-	7	3	11.8	6.0	8.9	-	-1.0	28	1	51	-	7	-	-3.4	28	1	-	-	45.4	-	-	-	-
	MONTH	31.0	-	20	8	12.1	6.4	9.2	-	-1.5	2	2	154	-	25	-	-6.6	2	6	-	-	91.4	-	-	-	-
Lullymore Co. Kildare	1-10	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	N/A	N/A	-	-	N/A	-	N/A	-	-	-
	11-20	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	N/A	N/A	-	-	N/A	-	N/A	-	-	-
	21-END	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	N/A	N/A	-	-	N/A	-	N/A	-	-	-
	MONTH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	N/A	N/A	-	-	N/A	-	N/A	-	N/A	N/A
Kilkenny Co. Kilkenny	1-10	4.0	-	3	2	10.8	4.9	7.8	-	-2.4	2	1	40	-	5	-	-9.4	2	4	6.6	-	23.4	-	5.7	3	-
	11-20	4.1	-	3	1	12.6	6.2	9.4	-	-0.5	12	1	52	-	10	-	-6.4	12	4	8.9	-	19.8	-	5.7	6	-
	21-END	6.5	-	3	3	12.2	4.5	8.3	-	0.2	28	0	46	-	7	-	-4.3	29	3	8.7	-	42.5	-	3.6	3	-
	MONTH	14.6	26	9	6	11.9	5.2	8.5	+2.3	-2.4	2	2	137	147	22	157	-9.4	2	11	8.1	+2.1	85.7	83	5.0	12	39
Mooncoin (Silverspring) Co. Kilkenny	1-10	0.7	-	2	0	11.3	4.4	7.8	-	-3.0	3	2	39	-	5	-	-8.8	3	5	-	-	25.3	-	-	-	-
	11-20	12.2	-	6	2	12.2	6.6	9.4	-	-1.9	12	1	52	-	8	-	-7.0	12	4	-	-	17.5	-	-	-	-
	21-END	5.3	-	4	2	12.0	3.6	7.8	-	-1.0	29	2	41	-	6	-	-5.2	29	6	-	-	44.7	-	-	-	-
	MONTH	18.2	23	12	4	11.8	4.8	8.3	-	-3.0	3	5	132	-	19	-	-8.8	3	15	-	-	87.5	-	-	-	-
Ballinamore Co. Leitrim	1-10	32.4	-	9	8	9.5	3.7	6.6	-	-2.1	2	1	28	-	1	-	-7.3	2	4	-	-	10.5	-	4.4	-	-
	11-20	33.7	-	7	6	11.9	5.8	8.9	-	0.7	12	0	47	-	7	-	-4.7	12	3	-	-	15.4	-	4.8	-	-
	21-END	9.3	-	6	2	11.2	4.6	7.9	-	-1.2	28	1	42	-	6	-	-9.1	28	3	-	-	39.6	-	3.9	-	-
	MONTH	75.4	90	22	16	10.9	4.7	7.8	-	-2.1	2	2	116	-	14	-	-9.1	28	10	-	-	65.5	-	4.4	-	28
Ardee (Boharnamoe) Co. Louth	1-10	10.3	-	7	5	10.3	3.3	6.8	-	-2.7	2	3	31	-	3	-	-3.9	2	3	-	-	-	-	-	-	-
	11-20	7.7	-	3	2	13.2	5.1	9.2	-	1.4	12	0	49	-	9	-	-0.8	12	1	-	-	-	-	-	-	-
	21-END	6.9	-	4	2	13.0	2.8	7.9	-	-0.2	28	1	43	-	9	-	-1.0	31	3	-	-	-	-	-	-	-
	MONTH	24.9	44	14	9	12.2	3.7	8.0	-	-2.7	2	4	123	-	20	-	-3.9	2	7	-	-	-	-	-	-	-

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

MARCH 1990

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 ⁻¹)	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	6.3	-	5	1	11.1	4.6	7.8	-	-2.0	2	2	39	-	4	-	-6.5	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	11-20	5.3	-	5	1	12.8	6.8	9.8	-	-1.2	12	1	55	-	11	-	-5.2	12	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	21-END	12.3	-	7	3	11.4	4.4	7.9	-	-2.2	28	1	41	-	5	-	-7.1	28	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	MONTH	23.9	-	17	5	11.7	5.2	8.5	-	-2.2	28	4	136	-	21	-	-7.1	28	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Dungarvan (Carriglea) Co. Waterford	1-10	1.6	-	2	1	11.8	5.4	8.6	-	0.4	1	0	44	-	6	-	-11.6	3	8	-	-	19.5	-	4.0	-	-	-	-	-	-	-	-	-	-			
	11-20	13.7	-	6	2	12.6	7.2	9.9	-	-0.4	12	1	57	-	11	-	-9.8	4	4	-	-	25.2	-	4.7	-	-	-	-	-	-	-	-	-	-	-		
	21-END	4.2	-	4	2	12.3	4.8	8.6	-	0.2	28	0	48	-	8	-	-10.1	28	10	-	-	39.8	-	2.8	-	-	-	-	-	-	-	-	-	-	-		
	MONTH	19.5	21	12	5	12.2	5.8	9.0	-	-0.4	12	1	149	-	25	-	-11.6	3	22	-	-	85.5	-	3.8	-	-	-	-	-	-	-	-	-	-	-	-	
Mullingar Co. Westmeath	1-10	12.8	-	7	6	9.2	4.4	6.8	-	-1.6	2	2	30	-	1	-	-7.0	2	4	5.8	-	10.7	-	6.9	9	-	-	-	-	-	-	-	-	-	-		
	11-20	10.0	-	5	3	12.4	6.3	9.3	-	1.2	12	0	51	-	9	-	-1.9	12	1	8.3	-	17.2	-	6.9	6	-	-	-	-	-	-	-	-	-	-	-	
	21-END	7.2	-	4	3	11.6	3.9	7.7	-	-0.8	28	1	40	-	6	-	-5.3	28	3	7.9	-	51.4	-	4.5	3	-	-	-	-	-	-	-	-	-	-	-	
	MONTH	30.0	48	16	12	11.1	4.8	8.0	+2.4	-1.6	2	3	121	148	16	145	-7.0	2	8	7.4	+1.6	79.3	75	6.1	18	36	-	-	-	-	-	-	-	-	-	-	
J.F.K. Park Co. Wexford	1-10	1.1	-	1	1	10.4	4.3	7.4	-	-1.4	2	2	35	-	3	-	-6.4	2	4	-	-	N/A	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	8.1	-	2	2	11.8	6.9	9.3	-	2.0	12	0	50	-	6	-	-2.9	12	2	-	-	N/A	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	4.1	-	2	2	21.6	4.9	13.3	-	1.7	22	0	100	-	59	-	-3.5	22	4	-	-	N/A	-	3.5	-	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	13.3	17	5	5	14.9	5.3	10.1	-	-1.4	2	2	184	-	68	-	-6.4	2	10	-	-	N/A	-	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Clonroche Co. Wexford	1-10	1.9	-	2	1	10.3	4.2	7.3	-	-0.6	2	3	34	-	3	-	-6.8	3	4	-	-	25.8	-	3.5	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	12.2	-	6	2	11.7	6.7	9.2	-	1.1	12	0	49	-	6	-	-2.5	12	2	-	-	23.5	-	3.2	-	-	-	-	-	-	-	-	-	-	-	-	
	21-END	6.4	-	3	3	11.7	4.4	8.0	-	1.1	29	0	42	-	6	-	-6.1	29	8	-	-	54.3	-	2.3	-	-	-	-	-	-	-	-	-	-	-	-	
	MONTH	20.5	24	11	6	11.2	5.1	8.1	-	-0.6	2	3	125	-	15	-	-6.8	3	14	-	-	103.6	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Johnstown Castle Co. Wexford	1-10	1.7	-	3	1	10.2	4.9	7.6	-	0.0	1	0	35	-	1	-	-4.6	2	4	-	-	19.2	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	6.2	-	2	2	11.9	6.9	9.4	-	1.7	12	0	51	-	6	-	-2.6	12	2	-	-	19.3	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	9.3	-	4	3	11.6	4.4	8.0	-	1.2	28	0	42	-	5	-	-2.9	29	3	-	-	44.2	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	17.2	23	9	6	11.3	5.4	8.3	-	0.0	1	0	127	-	13	-	-4.6	2	9	-	-	82.7	-	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Rosslare Co. Wexford	1-10	1.2	-	4	0	10.0	5.5	7.8	-	-0.6	2	1	37	-	1	-	-3.4	2	3	7.1	-	20.6	-	6.0	5	-	-	-	-	-	-	-	-	-	-	-	
	11-20	6.2	-	4	2	11.7	7.6	9.7	-	4.6	12	0	53	-	6	-	-1.2	12	1	9.5	-	24.3	-	5.9	4	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	3.8	-	4	2	11.0	5.9	8.5	-	3.8	28	0	45	-	4	-	0.1	29	0	9.3	-	48.4	-	4.3	3	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	11.2	18	12	4	10.9	6.3	8.6	+1.8	-0.6	2	1	135	141	11	157	-3.4	2	4	8.6	+1.5	93.3	76	5.4	12	38	-	-	-	-	-	-	-	-	-	-	

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 2 GLOBAL RADIATION

STATION	PERIOD	AMOUNT MJ/m ²
Malin Head Co. Donegal	1-10	4119
	11-20	5814
	21-end	9735
	Month	19668
Dublin Airport Co. Dublin	1-10	5952
	11-20	8388
	21-end	12231
	Month	26571
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	4606
	11-20	5192
	21-end	11979
	Month	21777
Kilkenny Co. Kilkenny	1-10	7084
	11-20	7689
	21-end	11874
	Month	26647
Belmullet Co. Mayo	1-10	3691
	11-20	5563
	21-end	7952
	Month	17206
Clones Co. Monaghan	1-10	4855
	11-20	N/A
	21-end	9096
	Month	N/A
Birr Co. Offaly	1-10	5227
	11-20	7459
	21-end	11163
	Month	23849

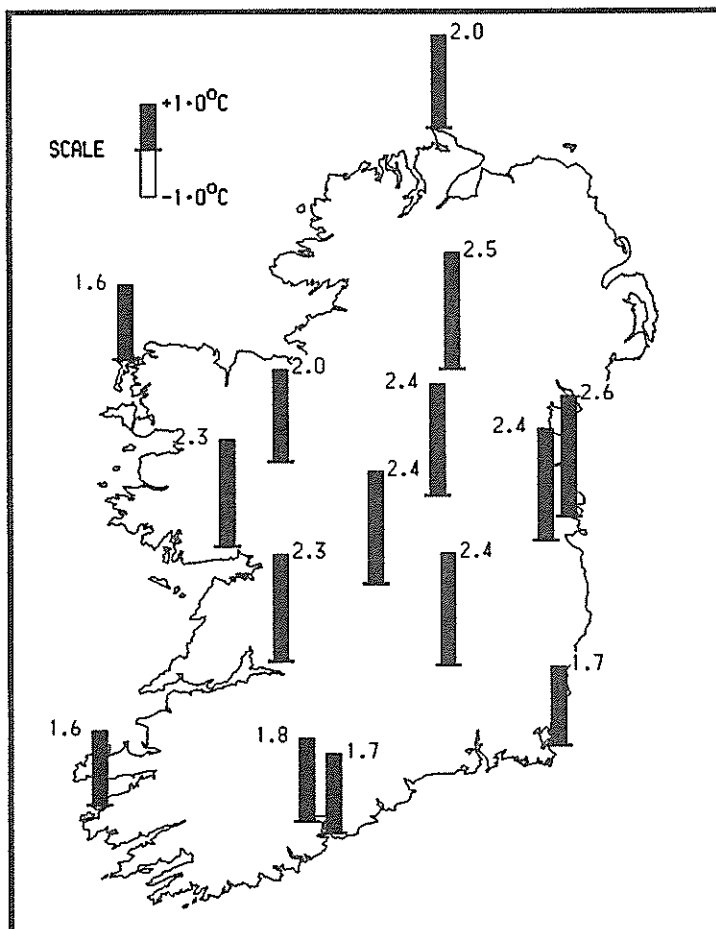
Notes on the tables in January issue

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

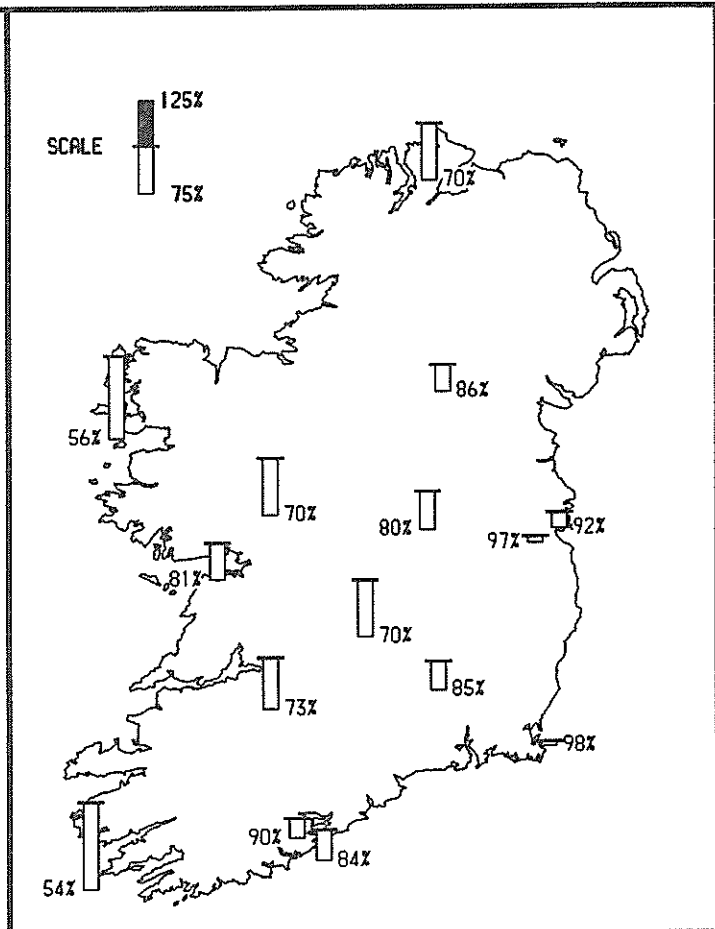
STATION	PERIOD	P.E. (mm)		SOIL MOISTURE (mm)	
		Amount	Deficit	Accumulated Deficit	Surplus
Carlow (Oak Park) Co. Carlow	1-10	2.3	2	2	
	11-20	10.8	8	10	
	21-end	10.9	5	15	
	Month	24.0	-	-	
Kinsealy Co. Dublin	1-10				
	11-20				
	21-end	N/A	N/A	N/A	N/A
	Month				
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	(-8.4)	-	0	29
	11-20	4.5	-	0	15
	21-end	12.3	3	3	--
	Month	-	-	-	--
Ballinamore Co. Leitrim	1-10	1.6	-	0	31
	11-20	10.6	-	0	23
	21-end	6.0	-	0	3
	Month	18.3	-	-	--
Glenamoy Co. Mayo	1-10				
	11-20				
	21-end	N/A	N/A	N/A	N/A
	Month				
Johnstown Castle Co. Wexford	1-10				
	11-20				
	21-end	N/A	N/A	N/A	N/A
	Month				

TABLE 4 SOIL CLIMATE (MULLINGAR)

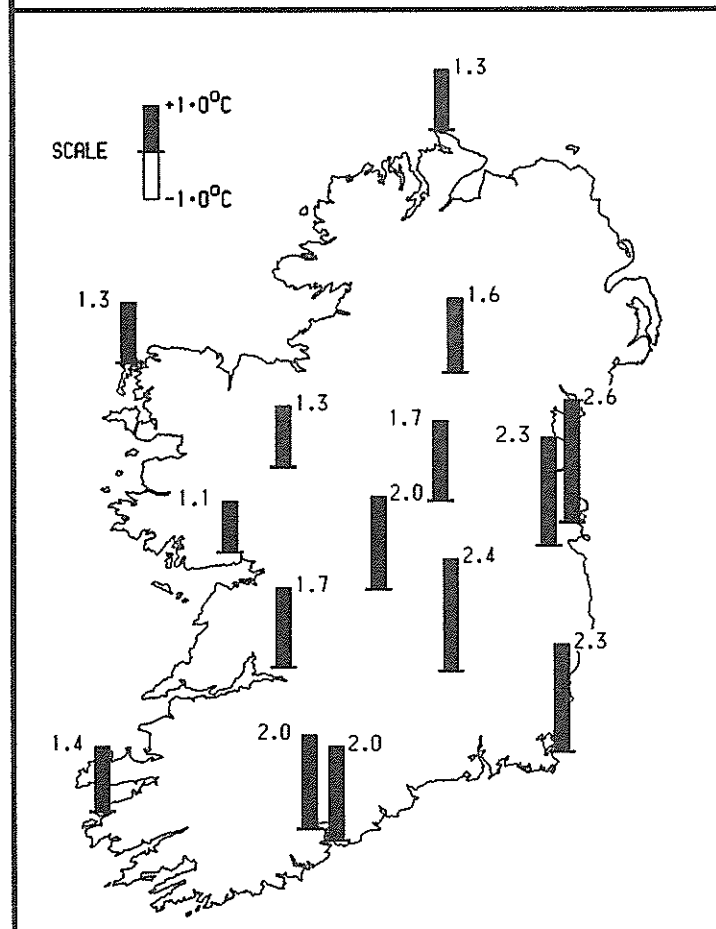
BARE SOIL TYPE	PERIOD	MEAN TEMPERATURE (°C at 100mm)			TEMPERATURE GRADIENT (to 200mm)	SOIL WATER POTENTIAL (hPa) (at depths)	
		Max.	Daily	Min.		75mm	200mm
		Peat	1-10	6.3	5.7	4.3	-0.09
11-20	9.1		8.2	6.8	-0.29	69.8	81.5
21-end	8.9		7.7	5.8	.18	100.8	110.7
Mineral	1-10	6.5	5.8	3.6	-0.16	52.0	57.0
	11-20	10.1	8.2	6.2	-0.21	62.8	70.6
	21-end	10.2	7.6	5.5	-0.16	88.2	98.1



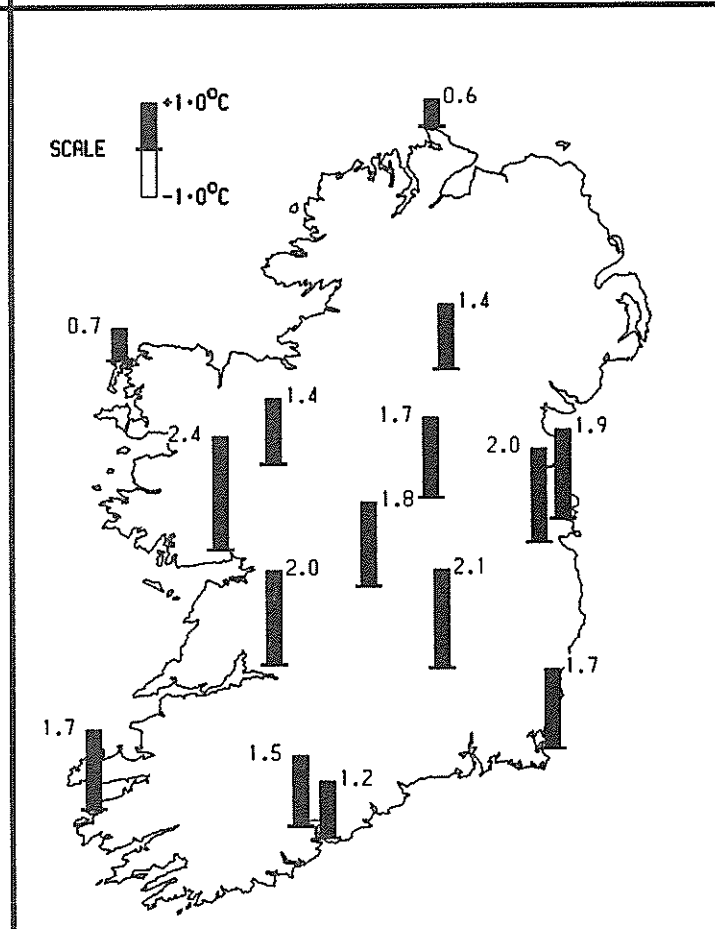
MEAN TEMPERATURE (Deviation from 1951-1980 normals)



SUNSHINE (Percentage of 1951-1980 normals)



MEAN MAX. TEMPERATURE (Deviation from 1951-1980 normals)



MEAN MIN. TEMPERATURE (Deviation from 1951-1980 normals)

PRECIPITATION VALUES FOR March 1990

MARKREE (CO. SLIGO)					LETTERKENNY (CO. DONEGAL)			
PERIOD	AMOUNT	% OF AVERAGE	RAIN DAYS NO.	WET DAYS NO.	AMOUNT	% OF AVERAGE	RAIN DAYS NO.	WET DAYS NO.
1 - 10	48.6		7	7	38.9		9	9
11 - 20	26.2		9	9	32.4		7	6
21 - END	9.7		7	3	17.3		5	5
MONTH	84.5	109	23	19	105.9	120	21	20

The Effects of a Mild Autumn on Grass Growth in the following Spring

Noel Culleton, Teagasc, Johnstown Castle, Co. Wexford

Temperatures during autumn 1989 were significantly higher than the 5 year mean for the same period (Table 1). This fact, allied with above average nitrogen levels in herbage, resulted in enhanced grass growth rates. In September and October full advantage was taken of this by extra grazing. In late October most livestock on intensive farms were taken off the land and housed. However, weather continued to be mild in November and grass continued to grow. This resulted in significant amounts of grass remaining on pastures throughout the winter. Results from a wide range of experiments suggest that this phenomenon is detrimental to spring grass growth.

When there are significant amounts of biomass present, tillering is inhibited during the winter months. Because of natural senescence of leaves, there is a build-up of dead material at the base of the sward and this tends to smother out any new tillers that may be present. Such 'winter proud' plants are also very susceptible to severe frost.

After a normal winter, there are still substantial amounts of grass on the pasture in spring and this will provide sufficient grass for the first grazing. However, because of the long-term suppression of tillering the regrowth after defoliation is quite slow, and this results in very little grass being available for subsequent grazings.

Silage swards are more open than grazing swards and if the tiller density is low enough the persistency of the sward suffers. Silage swards use the winter months to replenish their tiller numbers and if there is too much biomass present, insufficient light reaches the sward base and tillering is suppressed.

It is therefore concluded that clean relatively bare pastures should be the objective of autumn management. In normal years this is not a problem because temperatures are such that growth after the end of October is minimal. In a dry autumn, grass that grows in November can be grazed off by cattle. The main problem is a mild wet November. In this situation cattle must be taken off, because poaching must be avoided at all costs. Sheep are the ideal answer to this dilemma, in that pastures can be grazed into December without severe poaching.

It is concluded that sheep are ideal for autumn grazing and should be used more extensively by intensive dairy and beef farmers.

		Temperature °C		Soil moisture deficit (SMD) mm	
		1989	5 year average	1989	5 year average
September	1-10	13.9	13.9	68.6	35.8
	11-20	13.9	12.7	56.5	34.7
	21-30	13.8	12.4	50.9	28.1
October	1-10	12.9	11.4	44.2	13.0
	11-20	12.4	10.8	48.7	10.0
	21-31	11.1	9.7	0.0	4.7
November	1-10	8.7	8.8	0.0	0.4
	11-20	10.6	7.5	0.1	0.3
	21-30	6.2	6.2	2.2	0.7