| | |
|---|---|
| **Project title:** | Bulb onions from sets: Control of white rot by set, soil and foliar treatments |
| **Report:** | Final Report (January 1998) |
| **Project number:** | FV 4d |
| **Project leader:** | Dr C D Paterson<br>HRI-Kirton<br>Kirton<br>Boston<br>Lincs<br>PE20 1NN |
| **Report author:** | R L Wood, as above |
| **Location:** | Lincolnshire |
| **Project Co-ordinator:** | Mr D O'Connor |
| **Date commenced:** | 1 February 1997 |
| **Date completed:** | 31 January 1998 |
| **Keywords:** | Onions, white rot, sclerotium cepivorum, tebuconazole, folicur |

**FV 4d**

**CONTENTS**

# PRACTICAL SECTION FOR GROWERS

## Objectives and background

This project set out to test possible uses of Folicur (tebuconazole) to control white rot in onions, concentrating in particular on its use with sets. Three methods of application were tested; set treating, in-furrow spray application at planting or foliar sprays (2 applications), individually and in combination.

## Summary of results

White rot levels were high in this trial with untreated control plots reaching 95% of plants infected by the end of July. Untreated control plots and foliar sprays alone had the highest incidence of white rot and the lowest yields. All treatments combined at the higher rates tested had 45% of plants infected, so on this highly infected site no treatment gave total effective control. However, set treatment and in-furrow sprays, to a lesser extent, delayed the development of white rot considerably and reduced the final levels by about half.

## Action points for growers

In the light of this trial data, albeit one year's work, it would seem pertinent to seek off-label approval for set treating and an in-furrow application.

Future work should target:

1. Concentration rates of solution used in set treating

2. Using lower rates of active ingredient for in-furrow applications on untreated sets, thus allowing the chance to use a foliar spray if needed.

3. Using high volume spray later in the season on treated sets to provide better white rot control up to harvest

If set treating or in-furrow applications prove to be popular methods of white rot control, then the possibility of enhanced degradation should not be overlooked.

## Practical and financial benefits from study

The work has clearly demonstrated the potential for white rot control with tebuconazole with set and in-furrow treatments proving more effective than foliar sprays. More work is required to develop appropriate methods of application and rates for the use of this chemical in future.

## EXERIMENTAL SECTION

## INTRODUCTION

White rot (*Sclerotium cepivorum*) remains a major disease affecting bulb onions and other members of the allium genus.

HDC funded projects FV 4b and 4c in 1995 and 1996 investigated seed treatments of tebuconazole (as Raxil - UK 226) supplemented with stem base or foliar sprays of Folicur (tebuconazole). Excellent control was achieved with these treatments in salad onion experiments carried out in North Kent whilst less effective control was obtained in experiments in Lincolnshire on bulb onions with similar treatments. This work led to the new off-labels for tebuconazole as a seed treatment and stem-based spray.

In New Zealand, a good degree of control of white rot has been achieved from a procymidone (Sumislex) seed treatment supplemented by in-furrow sprays of tebuconazole with or without foliar sprays of procymidone, tebuconazole or triadimenol (Fullerton, Stewart & Slade, 1995). However, procymidone seed treatments are not permitted in the UK and the manufacturer, Sumitomo Chemical Company, has indicated that they do not intend to introduce this produce into the UK because of the limited market size.

In Australia, an in-furrow spray of tebuconazole at sowing was found to be the most effective treatment and was more effective than procymidone (Ryler & Obst, 1995).

The above work has shown that soil treatments and foliar sprays of tebuconazole should be tested. The objectives of this project are to evaluate the efficacy of set dipping, in-furrow application soil treatments and foliar sprays on bulb onions from sets.

There is currently an off label approval for foliar sprays of 1 l/ha Folicur in a minimum of 200 l/ha water, maximum total dose of 2 l/ha.

## MATERIALS & METHODS

| | |
|---|---|
| Site | HRI Kirton, Boston, Lincolnshire, in a field with a long history of white rot. |
| Design | Randomised block with 9 treatments and 6 replicates. Each plot measured 1.83 x 7.5m (5 rows planted at 0.3m). Treatments were either compared with the untreated control, or in a second analysis using the complete treatment structures, which considered the main effects of treated v untreated sets, different levels of in-furrow treatment and the presence/absence of foliar sprays. Where appropriate percentages were transformed using an angle transformation for statistical analysis. |
| Husbandry | Cultivar: Hysam from sets<br>Planting date: 12 March<br>Harvest date: 18 August |

All subsequent crop husbandry was according to local practice (see Appendix 1).

Treatments

| Treatment code | Folicur Treatments Set treatment[a] | In-furrow treatment[b] | Foliar spray[b] |
|---|---|---|---|
| 1 | Untreated | - | - |
| 2 | Untreated | 0.50 l ai/ha | - |
| 3 | Untreated | - | 2 x 0.25 l ai/ha |
| 4 | Treated | - | - |
| 5 | Treated | 0.25 l ai/ha | - |
| 6 | Treated | 0.50 l ai/ha | - |
| 7 | Treated | - | 2 x 0.25 l ai/ha |
| 8 | Treated | 0.25 l ai/ha | 2 x 0.25 l ai/ha |
| 9 | Treated | 0.50 l ai/ha | 2 x 0.25 l ai/ha |

[a] Set treatment using 0.5% Folicur solution for 20 minutes then dried overnight at 20°C
[b] As Folicur

The in-furrow applications were made immediately prior to planting in a 10 cm band using a water volume of 1000 l/ha. The sets were scattered in the furrows by hand and then covered with soil using rakes. Foliar sprays were made on 14 May (9 weeks post planting), and 17 June (14 weeks post planting). These treatments were applied in 400 l/ha water using a hand held Oxford Precision Sprayer. Soil conditions were damp at application (see meteorological data, Appendix 2).

Assessments

Emergence counts were made on 16 and 21 April and 1 May. White rot incidence counts were made on 15 May, 3 June, 16 June, 9 July and 31 July. These assessments were made on 5 fixed one-metre lengths at random, one per row, in each plot. Plants suspected of having white rot were lifted to confirm disease presence. Plants having white rot were removed from the plot to ensure they were recorded only once.

An area of 5.5 m by five rows was lifted from each plot at maturity excluding the white rot count areas. At this stage bulbs showing symptoms of white rot were counted and removed, only sound bulbs were dried and stored before grading for yield data.

Data are presented in the text as actual percentages and as angle transformation (in brackets). The angular transformation is used in the statistical analysis to stabilise the variance thereby making the assumptions (and therefore the recommendations) more valid.

## RESULTS

In order to ensure the pre-planting dip was not phytotoxic, sets were dipped in one of three solutions: 0.25%, 0.5% or 1.0% Folicur. After a 20 minute dip, sets were dried overnight then planted in modular trays containing a peat medium for rooting comparisons with untreated sets. Those sets dipped in a 1.0% Folicur solution produced less root, whilst those in 0.25% and 0.5% only produced marginally less root than undipped sets.

Emergence

Table 1. Effect of treatment dip and furrow application on emergence

| | Number of plants per 5m row (5 x 1m) Assessment Date | | |
|---|---|---|---|
| Treatment code | 16 April | 21 April | 1 May |
| Untreated sets, no furrow application (1, 3) | 24.4 | 30.1 | 39.8 |
| Untreated sets, 0.5 l ai/ha furrow application (2) | 27.0 | 27.0 | 35.8 |
| Treated sets, no furrow application (4, 7) | 24.0 | 31.1 | 40.9 |
| Treated sets, 0.25 l ai/ha furrow application (5, 8) | 25.6 | 32.1 | 40.1 |
| Treated sets 0.5 l ai/ha furrow application (6, 9) | 24.1 | 27.8 | 38.8 |
| SED (40df) untreated sets and furrow application v any other treatment | 1.79 | 2.11 | 2.36 |
| SED (40df) comparing treatments other than untreated sets and furrow applications | 1.46 | 1.72 | 1.93 |

Results from Table 1 indicate that there was no significant difference between treatments on emergence for the first and final assessment dates. The emergence count for treated sets with 0.5 l ai/ha furrow application was lower than for other treated set plots at the second assessment date.

White Rot

White rot was slow to develop with only untreated plots (1 and 3 at this time) showing up to 5% infected plants on 15 May, levels on other plots were much lower. Figure 1 shows the cumulative increase in infected plants for selected treatments. Levels of white rot increased steadily from 15 May to 31 July on untreated plots, reaching 95% infected plants. Treatment of sets restricted the development of white rot until after the 9 July count, after which a rapid increase was seen. The in-furrow spray was less effective than the set treatment initially but by 31 July this difference was not significant. The field spray applied to untreated sets gave a small measure of control (approx. 10% less infection) but this effect had gone by the final count.

Table 2. Effect of set treatment on cumulative % by number onions with white rot at various assessment dates

| | % infected plants<br>Assessment dates | | | |
|---|---|---|---|---|
| Treatment (code) | 3 June | 16 June | 9 July | 31 July |
| Untreated sets (1,2,3) | 27.6 | 49.3 | 63.5 | 81.6 |
| Treated sets (4-9) | 3.6 | 11.0 | 16.8 | 47.4 |
| SED (40df) | 2.91 | 4.27 | 5.51 | 5.66 |

As the season progressed, the cumulative % of infected onions increased. Treated sets had significantly lower numbers of infected onions compared with untreated sets at all assessment dates.

Fig 1 Cummulative % of plants with white rot, selected treatments only, untreated,furrow spray only, field sprays only, set dip only and all treatments combined at high rate.

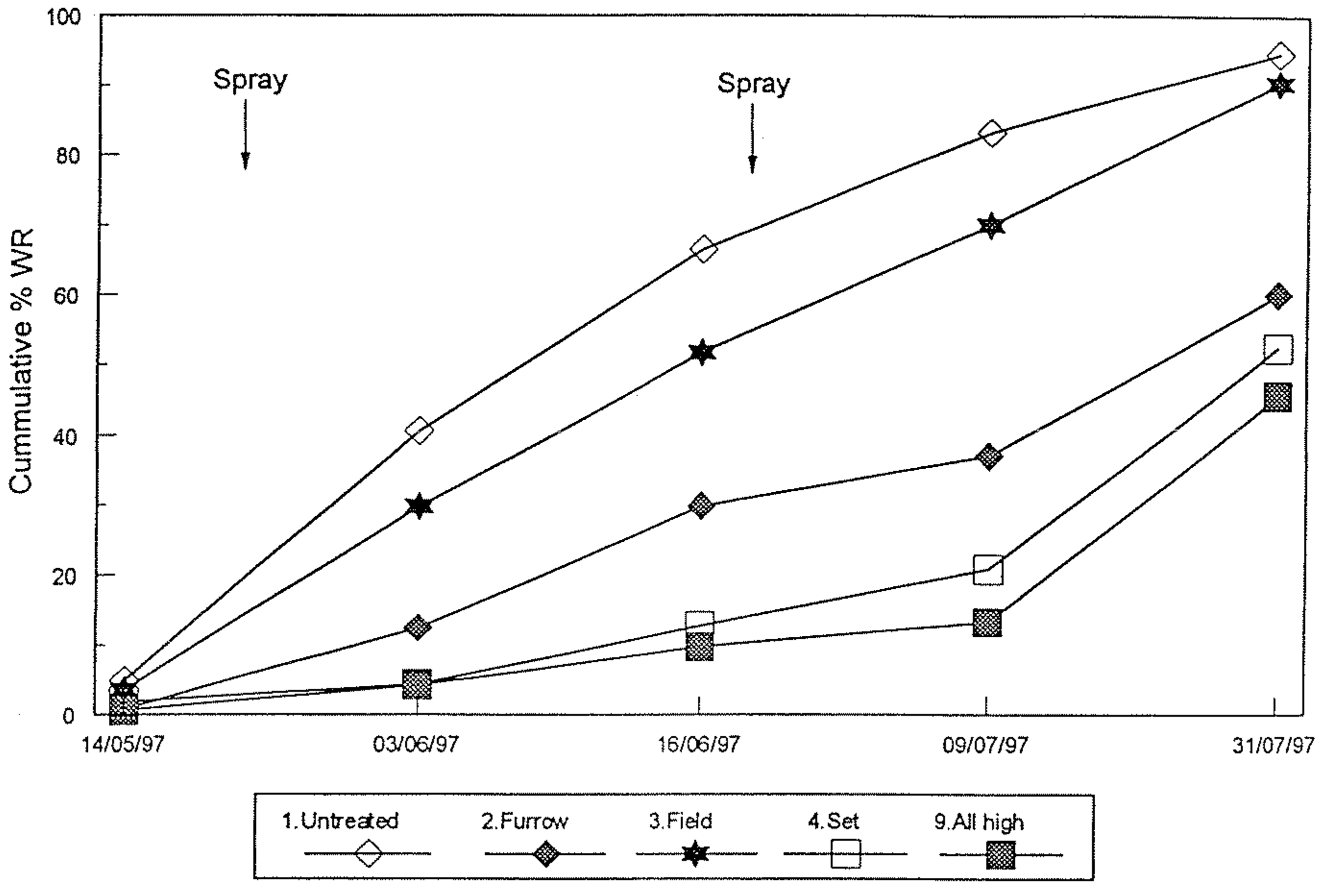

Table 3. Effect of in-furrow application on cumulative % (angular transformation) by number of onions with white rot at various assessment dates

| Treatment (code) | % infected plants (angular transformation) Assessment dates 3 June | | 16 June | | 9 July | | 31 July | |
|---|---|---|---|---|---|---|---|---|
| Untreated sets, no in-furrow application (1,3) | 40.6 | (39.5) | 66.5 | (54.9) | 83.2 | (67.5) | 94.7 | (76.4) |
| Untreated sets plus 0.5l ai/ha in furrow application (2) | 12.5 | (19.2) | 29.8 | (32.6) | 37.1 | (37.2) | 59.8 | (50.9) |
| Treated sets, no in-furrow application (4,7) | 3.7 | (9.8) | 12.0 | (19.2) | 18.8 | (24.4) | 49.2 | (44.5) |
| Treated sets, 0.25l ai/ha in-furrow application (5,8) | 4.1 | (10.2) | 12.1 | (20.0) | 16.9 | (23.7) | 46.5 | (42.9) |
| Treated sets, 0.5l ai/ha in-furrow application (6,9) | 3.1 | (9.1) | 8.8 | (16.2) | 14.8 | (22.0) | 46.5 | (43.0) |
| SED (40df) untreated v treated | | (2.78) | | (3.08) | | (4.16) | | (3.94) |
| SED (40df) within untreated | | (3.21) | | (3.56) | | (4.80) | | (4.55) |
| SED (40df) within treated | | (2.27) | | (2.52) | | (3.40) | | (3.22) |

White rot incidence was significantly higher for the untreated controls with no in-furrow application, at any assessment, than for treated sets, with over 90% infected by harvest (Table 3). Untreated sets with a 0.5 l ai/ha in-furrow application had a significantly higher incidence of white rot up to 9 July when compared with treated sets (with or without additional in-furrow applications).

At the final count there was no significant difference between untreated sets with a 0.5 l ai/ha in-furrow application and the treated sets, with or without an in-furrow application.

Statistically, there was no further reduction in white rot by applying either 0.25 or 0.5 l ai/ha in-furrow applications to treated sets, at any assessment date.

Table 4. Effect of set dip, in-furrow application and foliar sprays on cumulative % (angular transformation) white rot at assessment dates

| | % onions infected (angular transformation) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Treatment code | 3 June | | 16 June | | 9 July | | 31 July | |
| 1 | 40.63 | (39.53) | 66.5 | (54.90) | 83.2 | (67.5) | 94.7 | (76.4) |
| 2 | 12.45 | (19.20) | 29.8 | (32.62) | 37.1 | (37.2) | 59.8 | (50.9) |
| 3 | 29.78 | (32.74) | 51.7 | (45.98) | 70.3 | (57.7) | 90.4 | (74.9) |
| 4 | 4.39 | (11.35) | 12.7 | (20.34) | 20.8 | (26.9) | 52.2 | (46.3) |
| 5 | 4.70 | (12.15) | 12.0 | (19.95) | 14.1 | (21.8) | 44.4 | (41.6) |
| 6 | 2.08 | (7.58) | 8.0 | (16.24) | 16.4 | (23.3) | 47.6 | (43.7) |
| 7 | 2.95 | (8.27) | 11.3 | (18.04) | 16.7 | (22.0) | 46.2 | (42.8) |
| 8 | 3.49 | (8.26) | 12.2 | (20.07) | 19.8 | (25.7) | 48.6 | (44.2) |
| 9 | 4.18 | (10.55) | 9.7 | (16.21) | 13.3 | (20.7) | 45.4 | (42.3) |
| SED (40df) | | (3.21) | | (3.56) | | (4.80) | | (4.55) |

Individual treatment results from Table 4 indicate that the highest incidence of white rot at all assessment dates was from treatments 1 (untreated sets no in furrow drench or folier spray) and 3 (untreated sets no in furrow drench 2 x 0.25 l ai/ha folier spray) up to and including 9 July. Treatments 4-9 inclusive (all treated sets) had the lowest cumulative % by number of infected onions, with no significant difference between treatments. At harvest, there was no significant difference between treatments 2 (Untreated sets 0.5 l ai/ha in furrow drench, no folier spray), 4 (treated sets no in furrows drench or folier treatment), 5 (treated sets 0.25 l ai/ha in furrow treatment), 6 (treated sets 0.5 l ai/ha in furrow drench no folier spray), 7 (treated sets no in furrow drench 2 x 0.25 l ai/ha folier spray), 8 (treated sets 0.25 l ai/ha in furrow drench and 2 x 0.25 l ai/ha folier) and 9 (treated sets spray 0.5 l ai/ha in furrow drench and 2 x 0.25 l ai/ha folier spray), all having the lowest levels of white rot.

There was no significant difference between the untreated control and untreated sets given 2 x 0.25 l ai/ha foliar sprays for cumulative % white rot, by harvest.

Yield and Plant Density

Table 5. Effect of treatment on total and marketable yield t/ha, yield over 60mm, and plant density at harvest

| Treatment code | Yield t/ha | | | Sound bulbs at harvest, plants/$m^2$ | % plants sound at harvest[a] |
|---|---|---|---|---|---|
| | Total yield | Marketable yield | >60mm | | |
| 1 | 16.3 | 14.4 | 11.7 | 20.8 | 47.7 |
| 2 | 30.9 | 28.2 | 23.8 | 36.1 | 82.5 |
| 3 | 14.4 | 12.8 | 10.5 | 18.2 | 41.6 |
| 4 | 31.0 | 27.9 | 24.3 | 34.3 | 78.4 |
| 5 | 31.5 | 29.8 | 26.1 | 34.1 | 78.1 |
| 6 | 26.3 | 24.3 | 20.5 | 30.2 | 71.9 |
| 7 | 32.0 | 30.7 | 26.1 | 35.8 | 81.9 |
| 8 | 35.0 | 33.3 | 29.6 | 35.8 | 82.0 |
| 9 | 33.7 | 32.2 | 28.3 | 38.2 | 87.3 |
| SED (40df) | 3.27 | 3.56 | 3.40 | 2.89 | N/A |

[a]As percentage of plants at first white rot count

The populations at harvest and also the yields are higher than might be expected from the white rot assessments. However two factors need to be borne in mind, firstly the yield and the white rot assessments were taken from separate areas within the plots and secondly white rot assessments counted infected plants, these were dug up for inspection if foliar symptoms were seen and then discarded. These results suggest that not all the infected plants would subsequently have died (if they had not already been dug up and removed). Indeed in the later stages of the growing season when the plants have many roots, the infection of one root would not be sufficient to kill the plant unless conditions were favourable for the spread of the infection to the other roots too.

The results from Table 5 show that the lowest yields in any category were from treatment 1 (untreated sets, no in-furrow application, no foliar spray) and treatment 3 (untreated sets, no in-furrow application and 2 x 0.25 l ai/ha foliar sprays).

Treatment 6 (dipped sets plus 0.5 l ai/ha in-furrow drench) had significantly lower yields than treatments 8 and 9 (treated sets plus in-furrow application plus foliar sprays) but also had a lower density of sound bulbs at harvest.

The highest total and marketable yields were from treatments 2 (untreated sets 0.5 l ai/ha in furrows drench, no folier spray), 4 (treated sets no in furrow drench or folier spray), 5 (treated sets 0.25 l ai/ha in furrow treatment, 7 (treated sets no in furrow drench 2 x 0.25 l ai/ha folier spray), 8 (treated sets 0.25 l ai/ha in furrow drench and 2 x 0.25 l ai/ha folier spray) and 9 (treated sets 0.5 l ai/ha in furrow drench and 2 x 0.25 l ai/ha folier spray), there was no significant difference between them,

Treatments 1 (untreated sets only) and 3 (untreated sets and 2 x 0.25 l ai/ha foliar application folicur) had the lowest density of sound bulbs at harvest (after white rot affected bulbs were discounted).

## DISCUSSION

Allium white rot has proved difficult to control for many years in various countries of the World. Sclerotia are found at various depths of the soil profile and are not evenly distributed. Relatively quick maturing crops may escape severe damage, particularly those having supplementary agrochemical treatments applied.

None of the treatments in this trial were totally effective at controlling white rot throughout the growing season. White rot infection appeared to be fairly uniform over the whole growing season after a slow start. The individual treatments of tebuconazole used, dipped sets, in-furrow sprays and field sprays all showed some control of white rot; dipping being better than in-furrow treatment being better than foliar sprays. Mid season (16 May) field sprays reduced the level of white rot by 22% compared with the untreated control, the in-furrow spray by 55%, and the set dipping by 81%. However, there was no additive effect on white rot levels from applying two or more of these treatments together. By the late July count these benefits were smaller, ie field spray 5% reduction, in-furrow spray 37% and set dipping 49%. The combined effect of these three treatments was a 52% reduction, this was not a significant improvement, over the set treatment alone. Fullerton *et al* (1995) had previously found no benefit from combining in-furrow applications of tebuconazole with foliar sprays in onions raised from seed in New Zealand.

Tebuconazole is not very mobile in the soil (A Walker pers com) and thus in-furrow or set treating ensures that the active ingredient is well targetted to the root zone of the developing onion set. Foliar applications have not proved successful in this trial and it is suggested that if they are needed then only very high volumes of water should be used. Onion foliage and the bulb itself may prevent a high proportion of the spray reaching the base of the bulb.

There were no phytotoxic effects observed from applying the set treatment, however there is currently no approval for this use.

## RECOMMENDATIONS

In the light of this trial data, albeit one year's work, it would seem pertinent to seek off-label approval for set treating and an in-furrow application.

Future work should target:

1. Concentration rates of solution used in set treating

2. Using lower rates of active ingredient for in-furrow applications on untreated sets, thus allowing the chance to use a foliar spray if needed.

3. Using high volume spray later in the season on treated sets to provide better white rot control up to harvest

If set treating or in-furrow applications prove to be popular methods of white rot control, then the possibility of enhanced degradation should not be overlooked.

## ACKNOWLEDGEMENTS

The authors thank S Jessop, G Clark, G Budge, K Dennett and R Kitchen for ensuring that the recording and trial work was carried out effectively. A Mead (HRI-Wellesbourne) provided biometrics advice for this project.

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**APPENDIX 1**

Crop diary

| | |
|---|---|
| Soil Type | Silt Loam |
| Previous cropping | 1995 bulb onions<br>1996 bulb onions |
| Soil analysis | pH 7.15 P index 4<br>K index 2<br>Mg index 3 |
| Fertiliser | 90 Kg/ha N as Nitram<br>50 Kg/ha $P_2O_5$ as Triple Super Phosphate<br>85 Kg/ha $K_2O$ and Sulphate of Potash |
| Cultivation | Ploughed December 1996<br>Power harrowed immediately pre-planting |
| Planted | 12 March: in-furrow treatment applied accordingly<br>2 Kg of sets planted per plot (1.83 x 7.5m)<br>Sets scattered by hand along the furrow and soil raked over |
| Herbicides | 20 March: propachlor as 5 l/ha Ramrod plus pendimethalin as 2.45 l/ha Sovereign in 300 l/ha water<br>30 April: chlorbufam plus chloridazon as 3.4 kg/ha Alicep in 450 l/ha water |
| Irrigation | 1 April 0.5 - 0.75" (12.5 - 18mm)<br>10 April 0.5 - 0.75" (12.5 - 18mm)<br>24 April 0.5" (12.5mm) |
| Fungicide | 14 May Foliar treatments as per schedule<br>17 June Foliar treatments as per schedule |

**APPENDIX 2**

Monthly meteorological sheets for HRI Kirton for March, April, May, June, July and August 1997.

OT80119A.DOC (RLW)

HRI KIRTON

WEATHER DIARY

MARCH 1997

| DAY | CLOUD | WIND DIRECTION | WIND SPEED | VISIBILITY | PRESENT WEATHER | DRY BULB | WET BULB | REL HUMIDITY | SCREEN MAX | SCREEN MIN | GRASS MIN | 5 CM SOIL | 10 CM SOIL | 20 CM SOIL | 30 CM EARTH | 50 CM EARTH | 100 CM EARTH | DAILY RAIN | CUM RAIN | STATE OF GROUND | SUN HOURS | WIND RUN KM/DAY | TOT SNOW LYING | LIGHT ENERGY | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | SSW | 5 | 7 | 02 | 6.8 | 5.9 | 87 | 12.1 | 2.8 | (3.1) | 4.9 | 4.6 | 4.8 | 6.3 | 6.5 | 6.6 | 1.4 | 1.4 | 1 | 4.2 | 514 | 0.0 | 1.46 | Cloudy start but cleared to give outbreaks of sunshine late a.m. to mid p.m. |
| 2 | 5 | W | 3 | 7 | 02 | 7.2 | 5.9 | 81 | 11.0 | 6.5 | 4.9 | 5.0 | 7.9 | 7.8 | 6.8 | 6.7 | 6.6 | 0.0 | 1.4 | 1 | 5.8 | 324 | 0.0 | 1.83 | Intermittent moderate rain overnight, cloudy early breaking up to give sunny bright p.m. |
| 3 | 8 | SSW | 3 | 7 | 02 | 4.8 | 3.8 | 84 | 8.8 | 1.0 | (3.7) | 3.5 | 3.0 | 4.0 | 6.3 | 6.7 | 6.6 | 0.0 | 1.4 | 1 | 3.0 | 142 | 0.0 | 1.31 | Very thin high cloud with misty sunshine early a.m., cloudy most of the day. |
| 4 | 8 | E | 4 | 6 | 03 | 5.6 | 4.6 | 84 | 7.6 | 1.2 | (5.2) | 4.0 | 3.8 | 4.2 | 6.0 | 6.3 | 6.7 | 1.4 | 2.8 | 1 | 0.0 | 166 | 0.0 | 0.43 | Cloudy all day, intermittent slight drizzle mid a.m. and throughout the day. |
| 5 | 8 | SSW | 3 | 7 | 02 | 7.0 | 6.9 | 99 | 11.9 | 5.5 | 3.1 | 6.9 | 6.6 | 6.3 | 6.2 | 6.4 | 6.7 | 2.1 | 4.9 | 2 | 5.0 | 250 | 0.0 | 1.82 | Cloudy in the early a.m. breaking up to give sunny spells, intermittent slight rain from early evening. |
| 6 | 1 | N | 2 | 7 | 02 | 4.0 | 3.2 | 87 | 9.5 | 0.0 | (8.3) | 2.7 | 2.9 | 4.9 | 6.6 | 6.7 | 6.7 | Trace | 4.9 | 2 | 8.0 | 246 | 0.0 | 2.23 | Early frost. Clear, bright sunny day |
| 7 | 8 | S | 3 | 5 | 05 | 7.6 | 7.0 | 91 | 10.6 | 3.5 | (0.6) | 6.5 | 6.0 | 5.9 | 6.5 | 6.7 | 6.8 | 0.0 | 4.9 | 1 | 0.0 | 220 | 0.0 | 0.71 | Cloudy all day |
| 8 | 8 | NE | 4 | 5 | 03 | 7.0 | 6.4 | 91 | 9.7 | 6.9 | 5.2 | 7.0 | 7.0 | 7.2 | 7.1 | 7.0 | 6.9 | 0.0 | 4.9 | 1 | 1.2 | 233 | 0.0 | 0.92 | Cloudy most of the day, a little sunshine mid p.m. but cloud returning. |
| 9 | 8 | N | 2 | 5 | 02 | 8.7 | 6.4 | 69 | 12.4 | 5.4 | 4.5 | 6.5 | 6.5 | 6.6 | 7.1 | 7.1 | 6.9 | Trace | 4.9 | 1 | 2.3 | 203 | 0.0 | 1.40 | Cloudy most of the day, some sunshine mid p.m. |
| 10 | 8 | SSW | 2 | 2 | 45 | 6.1 | 6.1 | 100 | 11.0 | 4.8 | (0.3) | 7.4 | 7.0 | 6.9 | 7.2 | 7.1 | 7.0 | Trace | 4.9 | 1 | 3.5 | 117 | 0.0 | 1.70 | Fog in the morning gradually cleared to give bright but hazy p.m. |
| 11 | 0 | S | 2 | 3 | 42 | 5.0 | 5.0 | 100 | 16.8 | 1.0 | (2.4) | 5.5 | 5.0 | 5.7 | 7.3 | 7.4 | 7.1 | 0.0 | 4.9 | 1 | 8.2 | 212 | 0.0 | 2.15 | Fog rapidly clearing to give sunny day. |
| 12 | 8 | S | 3 | 1 | 45 | 4.9 | 4.9 | 100 | 15.1 | 3.0 | 0.0 | 6.2 | 5.9 | 6.4 | 7.4 | 7.5 | 7.1 | 0.0 | 4.9 | 1 | 5.3 | 195 | 0.0 | 1.89 | Thick fog clearing mid a.m. to give sunny day |
| 13 | 5 | SW | 3 | 7 | 03 | 9.5 | 8.5 | 87 | 13.0 | 4.7 | (0.5) | 7.1 | 6.6 | 6.6 | 7.6 | 7.6 | 7.3 | 0.2 | 5.1 | 1 | 6.9 | 292 | 0.0 | 2.00 | Mainly sunny with broken cloud throughout the day, cloud thickened mid p.m. |
| 14 | 5 | W | 4 | 7 | 02 | 11.0 | 9.8 | 85 | 14.2 | 8.4 | 4.5 | 9.3 | 8.9 | 8.1 | 8.0 | 7.7 | 7.4 | 1.0 | 6.1 | 1 | 4.6 | 300 | 0.0 | 1.78 | Slight intermittent rain overnight with broken cloud and sunshine all day. |
| 15 | 4 | W | 5 | 7 | 02 | 12.6 | 11.1 | 82 | 15.0 | 8.9 | 6.4 | 10.1 | 9.5 | 8.8 | 8.4 | 8.1 | 7.5 | Trace | 6.1 | 0 | 7.1 | 295 | 0.0 | 2.08 | Broken cloud and sunshine all day |
| 16 | 7 | W | 4 | 7 | 02 | 10.1 | 8.8 | 83 | 13.5 | 8.4 | 5.0 | 9.2 | 9.0 | 8.9 | 8.7 | 8.3 | 7.6 | 0.0 | 6.1 | 0 | 0.4 | 260 | 0.0 | 1.50 | Cloudy most of the day. |
| 17 | 8 | W | 2 | 6 | 05 | 11.0 | 10.2 | 90 | 15.5 | 6.5 | 0.6 | 10.0 | 9.1 | 8.4 | 8.8 | 8.5 | 7.7 | 0.0 | 6.1 | 0 | 2.5 | 184 | 0.0 | 1.66 | Cloudy with occasional outbreaks of sunshine mid-day, cloud increased again p.m. |
| 18 | 8 | SSW | 5 | 7 | 02 | 9.7 | 8.7 | 87 | 11.3 | 7.6 | 3.0 | 9.5 | 9.2 | 9.3 | 9.3 | 8.7 | 7.8 | 1.9 | 8.0 | 0 | 2.5 | 447 | 0.0 | 1.24 | Cloudy most of day, slight shower of rain 1030hrs. Slight intermittent rain from 1100hrs, some sun p.m. |
| 19 | 7 | N | 6 | 7 | 02 | 8.8 | 7.1 | 77 | 11.4 | 7.1 | 4.8 | 7.9 | 7.7 | 8.0 | 8.9 | 8.6 | 8.0 | Trace | 8.0 | 0 | 5.0 | 254 | 0.0 | 1.65 | Cloudy all morning and early p.m., cleared a little to give outbreaks of sunshine. |
| 20 | 7 | NNW | 5 | 7 | 02 | 6.1 | 5.1 | 85 | 11.4 | 0.7 | (3.6) | 6.0 | 5.1 | 5.8 | 8.1 | 8.5 | 8.0 | 1.6 | 9.6 | 0 | 3.6 | 190 | 0.0 | 1.86 | Clear and bright early, cloud rapidly increased, slight shwr of rain 1230hrs, mod/heavy shwr 1600hrs |
| 21 | 1 | N | 5 | 7 | 02 | 5.7 | 4.0 | 74 | 9.1 | 0.5 | (4.4) | 5.2 | 4.8 | 5.9 | 8.1 | 8.4 | 8.0 | 0.0 | 9.6 | 0 | 7.4 | 154 | 0.0 | 2.39 | Clear and bright with some sunshine throughout the day. |
| 22 | 2 | SSW | 3 | 7 | 02 | 6.4 | 5.1 | 81 | 12.6 | (0.2) | (6.5) | 5.2 | 4.2 | 4.9 | 7.4 | 8.2 | 8.0 | Trace | 9.6 | 0 | 6.5 | 346 | 0.0 | 2.39 | Clear, sunny and bright until mid p.m. when cloud increased |
| 23 | 7 | WSW | 5 | 7 | 02 | 9.1 | 7.6 | 80 | 11.0 | 6.2 | 4.5 | 8.4 | 8.0 | 7.4 | 8.0 | 8.1 | 8.0 | Trace | 9.6 | 0 | 0.3 | 140 | 0.0 | 0.95 | Cloudy most of the day. |
| 24 | 8 | SSW | 3 | 6 | 61 | 7.1 | 6.6 | 93 | 10.3 | 5.9 | 0.3 | 7.7 | 7.5 | 7.5 | 8.0 | 8.1 | 7.9 | 1.5 | 11.1 | 1 | 0.0 | 119 | 0.0 | 1.24 | Cloudy, slight continuous rain from 0845hrs, ceasing 1210hrs. |
| 25 | 7 | SW | 3 | 7 | 02 | 9.0 | 7.6 | 81 | 12.9 | 1.6 | (2.8) | 7.6 | 6.4 | 6.0 | 7.9 | 8.2 | 8.0 | Trace | 11.1 | 1 | 2.7 | 262 | 0.0 | 1.89 | Some sunshine in the early a.m., cloudy rest of day, slight shower 1700hrs |
| 26 | 8 | S | 5 | 7 | 02 | 10.6 | 9.5 | 86 | 16.2 | 7.5 | 3.8 | 9.6 | 9.0 | 8.4 | 8.4 | 8.3 | 8.0 | 0.0 | 11.1 | 1 | 2.0 | 416 | 0.0 | 1.52 | Cloudy most of the day, a little sunshine in p.m. |
| 27 | 5 | SSW | 3 | 7 | 02 | 8.9 | 6.7 | 71 | 15.1 | 4.9 | 0.6 | 7.5 | 6.9 | 7.2 | 8.5 | 8.4 | 8.1 | Trace | 11.1 | 0 | 5.2 | 537 | 0.0 | 2.76 | Broken cloud and sunshine most of the day, cloud increased mid p.m., wind gusts to 7 early p.m. |
| 28 | 1 | WNW | 6 | 7 | 02 | 8.0 | 5.1 | 60 | 11.6 | 4.4 | (0.1) | 6.5 | 6.3 | 7.2 | 8.7 | 8.6 | 8.0 | Trace | 11.1 | 0 | 10.6 | 372 | 0.0 | 3.06 | Clear, bright, sunny and breezy all day, wind gusting to 7 at times. |
| 29 | 6 | NNW | 6 | 7 | 02 | 9.0 | 7.0 | 73 | 13.6 | 1.9 | (4.5) | 7.5 | 6.6 | 6.4 | 8.0 | 8.5 | 8.3 | 0.0 | 11.1 | 0 | 7.0 | 239 | 0.0 | 2.49 | Broken cloud with sunshine throughout the day. |
| 30 | 1 | WNW | 3 | 7 | 02 | 9.4 | 7.0 | 69 | 12.4 | 2.4 | (2.6) | 7.5 | 6.7 | 6.4 | 8.0 | 8.4 | 8.3 | Trace | 11.1 | 0 | 9.5 | 152 | 0.0 | 2.78 | Broken cloud with sunshine throughout the day |
| 31 | 1 | SSW | 2 | 7 | 02 | 8.8 | 6.5 | 69 | 16.0 | (0.1) | (7.7) | 7.0 | 5.6 | 5.6 | 7.8 | 8.4 | 8.2 | 0.0 | 11.1 | 0 | 10.9 | 164 | 0.0 | 3.60 | Clear bright and sunny all day |

| EXTREMES | DEG C | DAY |
|---|---|---|
| HIGHEST SCREEN MAX | 16.8 | 11 |
| LOWEST SCREEN MIN | (0.2) | 22 |
| LOWEST SCREEN MAX | 7.6 | 4 |
| HIGHEST SCREEN MIN | 8.9 | 15 |
| LOWEST GRASS MIN | (8.3) | 6 |
| MOST RAIN IN A DAY | 2.1 | 5 |

| MEAN AIR TEMPERATURES | DEG C |
|---|---|
| MEAN DAILY TEMP | 8.3 |
| MEAN DAILY MAX | 12.3 |
| MEAN DAILY MIN | 4.2 |
| | DAYS |
| AIR FROSTS | 2 |
| GROUND FROSTS ON | 16 |

| SOIL TEMPS | DEG C |
|---|---|
| 5 CM MEAN | 6.9 |
| 10 CM MEAN | 6.6 |
| 20 CM MEAN | 6.7 |
| 30 CM MEAN | 7.7 |
| 50 CM MEAN | 7.7 |
| 100 CM MEAN | 7.5 |

| RELATIVE HUMIDITY | |
|---|---|
| MONTHLY MEAN % | 83 |
| DAYS >= 95% | 4 |
| RAINFALL | |
| TOTAL MONTHLY (mm) | 11.1 |
| DAYS >=0.2 mm | 8 |

| SUN | | |
|---|---|---|
| MONTHLY TOTAL HRS | = | 141 |
| DAYS SNOW LYING | = | 0 |
| DAYS GALE (8 OR MORE) | = | 0 |
| DAYS FOG (09.00 HRS) | = | 3 |
| DAYS THUNDER HEARD | = | 0 |
| DAYS HAIL | = | 0 |

HRI KIRTON

WEATHER DIARY

APRIL 1997

| DAY | CLOUD | WIND DIRECTION | WIND SPEED | VISIBILITY | PRESENT WEATHER | DRY BULB | WET BULB | REL HUMIDITY | SCREEN MAX | SCREEN MIN | GRASS MIN | 5 CM SOIL | 10 CM SOIL | 20 CM SOIL | 30 CM EARTH | 50 CM EARTH | 100 CM EARTH | DAILY RAIN | CUM RAIN | STATE OF GROUND | SUN HOURS | WIND RUN KM/DAY | TOT SNOW LYING | LIGHT ENERGY | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | WSW | 3 | 7 | 02 | 10.7 | 7.9 | 65 | 15.4 | 1.4 | (5.4) | 8.1 | 6.9 | 6.5 | 8.0 | 8.3 | 8.2 | 0.0 | 0.0 | 0 | 7.9 | 148 | 0.0 | 2.59 | Clear, bright and sunny all day until mid p.m. when cloud increased. |
| 2 | 8 | S | 2 | 6 | 05 | 10.5 | 9.2 | 63 | 13.0 | 8.5 | 5.5 | 10.0 | 9.8 | 9.5 | 8.8 | 8.4 | 8.2 | Trace | 0.0 | 0 | 0.0 | 223 | 0.0 | 1.19 | Cloudy and hazy all day. |
| 3 | 8 | WNW | 5 | 6 | 25 | 8.1 | 6.6 | 79 | 12.2 | 6.9 | 0.1 | 8.4 | 8.3 | 8.4 | 8.8 | 8.6 | 8.3 | 0.0 | 0.0 | 0 | 7.5 | 365 | 0.0 | 2.72 | Cloudy until mid a.m., slight shower of rain 0845, cloud cleared to give sunny outbreaks rest of day. |
| 4 | 2 | N | 3 | 7 | 02 | 6.0 | 3.0 | 55 | 12.1 | (0.5) | (7.0) | 6.0 | 5.8 | 6.2 | 8.2 | 8.7 | 8.4 | 0.0 | 0.0 | 0 | 6.5 | 421 | 0.0 | 2.53 | Clear, bright and sunny throughout the morning, cloud increased to give dull p.m. |
| 5 | 8 | W | 5 | 7 | 02 | 11.2 | 9.2 | 75 | 13.7 | 5.9 | 5.5 | 10.5 | 10.0 | 9.2 | 8.7 | 8.5 | 8.4 | 0.0 | 0.0 | 0 | 0.0 | 386 | 0.0 | 1.18 | Cloudy all day. |
| 6 | 1 | E | 2 | 7 | 02 | 9.4 | 6.7 | 65 | 10.9 | 5.6 | 2.1 | 10.0 | 9.3 | 8.9 | 8.9 | 8.7 | 8.4 | 0.0 | 0.0 | 0 | 5.6 | 229 | 0.0 | 3.01 | Clear, bright and sunny until mid p.m., when cloud increased. |
| 7 | 7 | S | 3 | 7 | 02 | 10.1 | 6.3 | 52 | 14.0 | 5.4 | 1.5 | 10.3 | 9.4 | 9.0 | 9.0 | 8.8 | 8.4 | 0.0 | 0.0 | 0 | 6.2 | 144 | 0.0 | 3.24 | Thin, high cloud clearing at times to give sunny spells. |
| 8 | 7 | S | 2 | 6 | 05 | 9.9 | 7.2 | 66 | 15.1 | (1.0) | (8.9) | 9.1 | 7.9 | 7.8 | 9.0 | 9.0 | 8.5 | 0.0 | 0.0 | 0 | 8.1 | 146 | 0.0 | 3.22 | Thin, high cloud throughout the day with frequent sunny spell |
| 9 | 8 | W | 2 | 6 | 05 | 9.7 | 6.8 | 63 | 18.5 | 0.7 | (6.3) | 9.4 | 8.3 | 7.9 | 9.0 | 9.0 | 8.5 | 0.0 | 0.0 | 0 | 9.5 | 111 | 0.0 | 3.29 | Very thin high cloud with sunshine throughout the day. |
| 10 | 7 | N | 3 | 6 | 05 | 10.6 | 8.5 | 74 | 18.4 | 1.6 | (5.4) | 9.6 | 8.8 | 8.0 | 9.0 | 9.0 | 8.6 | 0.0 | 0.0 | 0 | 10.7 | 196 | 0.0 | 3.72 | Very thin high cloud with sunshine throughout the day. |
| 11 | 6 | NNW | 5 | 7 | 02 | 11.9 | 8.8 | 64 | 12.5 | 5.1 | (2.3) | 10.4 | 9.8 | 9.2 | 9.4 | 9.2 | 8.6 | 0.0 | 0.0 | 0 | 5.6 | 310 | 0.0 | 2.48 | Broken cloud with some sunshine a.m., cloud increased giving occas. sunshine, bec blustery mid a.m. |
| 12 | 5 | N | 3 | 7 | 02 | 7.6 | 5.2 | 66 | 12.7 | 0.3 | (4.8) | 8.2 | 7.4 | 7.2 | 8.7 | 8.9 | 8.7 | 0.0 | 0.0 | 0 | 11.3. | 139 | 0.0 | 3.60 | Clear, bright and sunny with occasional cloud throughout the day. |
| 13 | 2 | S | 2 | 7 | 02 | 10.4 | 7.4 | 63 | 15.4 | 1.0 | (6.1) | 10.4 | 9.2 | 8.4 | 9.0 | 8.9 | 8.7 | 0.0 | 0.0 | 0 | 5.2 | 153 | 0.0 | 2.73 | Sunshine throughout the a.m., cloud increased p.m. to give dull afternoon. |
| 14 | 8 | NNW | 3 | 6 | 05 | 10.5 | 9.1 | 82 | 13.4 | 4.0 | (2.4) | 10.0 | 9.5 | 9.4 | 9.4 | 9.1 | 8.7 | Trace | 0.0 | 0 | 3.3 | 196 | 0.0 | 1.75 | Cloudy and dull all a.m., slight shower of rain 1245hrs, cloud cleared a little to give sunny spells |
| 15 | 7 | NNE | 3 | 7 | 02 | 7.5 | 4.6 | 59 | 10.8 | 2.1 | (0.5) | 8.8 | 8.1 | 8.0 | 8.9 | 9.1 | 8.7 | 0.0 | 0.0 | 0 | 7.0 | 137 | 0.0 | 3.29 | Cloudy all a.m., clearing mid day to give sunny outbreaks. |
| 16 | 3 | NNE | 2 | 7 | 02 | 7.9 | 5.4 | 66 | 10.5 | (1.5) | (9.0) | 8.9 | 7.6 | 7.1 | 8.6 | 9.0 | 8.8 | Trace | 0.0 | 0 | 4.9 | 245 | 0.0 | 2.65 | Sunshine all a.m., cloud increased mid day. |
| 17 | 8 | NNE | 3 | 6 | 50 | 7.9 | 7.0 | 87 | 10.3 | 7.3 | 5.1 | 9.4 | 9.4 | 9.4 | 9.0 | 8.9 | 8.7 | 0.0 | 0.0 | 0 | 0.2 | 152 | 0.0 | 1.29 | Cloudy all day with intermittent, slight rain early in the morning |
| 18 | 7 | NNW | 2 | 7 | 02 | 9.1 | 7.6 | 80 | 11.9 | 5.7 | (2.8) | 9.6 | 9.0 | 8.8 | 9.0 | 9.0 | 8.8 | 0.3 | 0.3 | 0 | 0.0 | 224 | 0.0 | 1.68 | Cloudy all day, slight intermittent drizzle late evening. |
| 19 | 7 | NNE | 5 | 7 | 02 | 6.6 | 3.9 | 61 | 8.3 | 2.4 | (4.5) | 7.9 | 7.8 | 8.3 | 9.0 | 9.0 | 8.8 | 0.0 | 0.3 | 0 | 2.9 | 348 | 0.0 | 1.92 | Cloudy most of the day with some sunny spells, slight intermittent drizzle in the p.m. |
| 20 | 8 | ENE | 4 | 6 | 02 | 5.6 | 3.7 | 71 | 8.5 | 3.3 | 0.9 | 7.5 | 7.1 | 7.4 | 8.4 | 8.9 | 8.9 | 0.0 | 0.3 | 0 | 0.4 | 119 | 0.0 | 2.55 | Cloudy most of the day. |
| 21 | 2 | W | 5 | 7 | 02 | 8.1 | 4.6 | 52 | 11.8 | (2.3) | (11.5) | 7.7 | 6.2 | 5.5 | 7.8 | 8.6 | 8.8 | 0.9 | 1.2 | 0 | 6.4 | 173 | 0.0 | 2.65 | Clear and sunny in the morning, cloud increased mid day, slight shwr rain 1300, mod shwr 1600 on. |
| 22 | 4 | NNW | 3 | 7 | 02 | 7.5 | 5.1 | 66 | 10.8 | (1.8) | (8.1) | 8.4 | 6.7 | 5.9 | 7.8 | 8.5 | 8.7 | 0.0 | 1.2 | 0 | 3.9 | 171 | 0.0 | 2.30 | Cloudy with occasional outbreaks of sunshine |
| 23 | 7 | SSW | 6 | 6 | 05 | 10.7 | 8.1 | 68 | 14.6 | 2.9 | (3.5) | 10.3 | 8.7 | 7.2 | 8.0 | 8.4 | 8.6 | Trace | 1.2 | 0 | 5.3 | 361 | 0.0 | 2.55 | Cloudy with occasional outbreaks of sunshine, slight shower of rain 1340hrs |
| 24 | 8 | WSW | 6 | 7 | 02 | 10.8 | 8.0 | 66 | 14.3 | 5.4 | 2.0 | 10.1 | 9.4 | 8.4 | 8.5 | 8.5 | 8.5 | 5.5 | 6.7 | 0 | 1.2 | 296 | 0.0 | 1.76 | Cloudy most of the day. |
| 25 | 8 | NE | 2 | 6 | 63 | 7.0 | 6.6 | 94 | 8.7 | 6.5 | 2.6 | 8.3 | 8.4 | 8.9 | 8.8 | 8.6 | 8.5 | 6.4 | 13.1 | 1 | 0.0 | 268 | 0.0 | 0.87 | Cloudy all day with bouts of continuous moderate rain |
| 26 | 8 | ENE | 3 | 5 | 62 | 8.7 | 8.4 | 96 | 11.6 | 6.8 | 5.6 | 8.9 | 8.8 | 8.5 | 8.7 | 8.7 | 8.6 | 3.8 | 16.9 | 1 | 0.0 | 157 | 0.0 | 1.04 | Cloudy all day with intermittent moderate rain |
| 27 | 6 | N | 2 | 7 | 02 | 11.6 | 10.5 | 86 | 16.1 | 8.2 | 6.4 | 12.5 | 11.6 | 9.5 | 9.0 | 8.8 | 8.7 | Trace | 16.9 | 1 | 3.8 | 220 | 0.0 | 2.81 | Some sunshine mid a.m. and outbreaks of sunshine in the p.m. |
| 28 | 4 | WSW | 6 | 7 | 01 | 15.0 | 13.0 | 78 | 16.8 | 3.0 | (0.2) | 13.5 | 13.0 | 11.3 | 10.2 | 9.3 | 8.7 | 2.5 | 19.4 | 1 | 0.0 | 463 | 0.0 | 2.27 | Cloudy all day. |
| 29 | 4 | NW | 7 | 7 | 02 | 13.1 | 10.2 | 67 | 14.2 | 8.9 | 4.9 | 11.1 | 10.4 | 10.1 | 10.2 | 9.7 | 8.9 | 0.0 | 19.4 | 1 | 0.0 | 264 | 0.0 | 2.86 | Cloudy all day. |
| 30 | 2 | WNW | 3 | 7 | 02 | 12.7 | 10.7 | 77 | 18.4 | 4.0 | (2.5) | 13.5 | 12.0 | 9.0 | 10.1 | 9.7 | 9.0 | 0.0 | 19.4 | 1 | 10.9 | 98 | 0.0 | 4.02 | Some cloud in the a.m., clearing to give clear, bright and sunny day |

| EXTREMES | DEG C | DAY |
|---|---|---|
| HIGHEST SCREEN MAX | 18.5 | 9 |
| LOWEST SCREEN MIN | (2.3) | 21 |
| LOWEST SCREEN MAX | 8.3 | 19 |
| HIGHEST SCREEN MIN | 8.9 | 29 |
| LOWEST GRASS MIN | (11.5) | 21 |
| MOST RAIN IN A DAY | 6.4 | 25 |

| MEAN AIR TEMPERATURES | DEG C |
|---|---|
| MEAN DAILY TEMP | 8.3 |
| MEAN DAILY MAX | 13.2 |
| MEAN DAILY MIN | 3.5 |
| | DAYS |
| AIR FROSTS | 5 |
| GROUND FROSTS ON | 18 |

| SOIL TEMPS | DEG C |
|---|---|
| 5 CM MEAN | 9.6 |
| 10 CM MEAN | 8.8 |
| 20 CM MEAN | 8.3 |
| 30 CM MEAN | 8.9 |
| 50 CM MEAN | 8.9 |
| 100 CM MEAN | 8.6 |

| RELATIVE HUMIDITY | |
|---|---|
| MONTHLY MEAN % | 71 |
| DAYS >= 95% | 1 |
| RAINFALL | |
| TOTAL MONTHLY (mm) | 19.4 |
| DAYS >=0.2 mm | 6 |

| SUN | |
|---|---|
| MONTHLY TOTAL HRS = | 134 |
| DAYS SNOW LYING = | 0 |
| DAYS GALE (8 OR MORE) = | 0 |
| DAYS FOG (09.00 HRS) = | 0 |
| DAYS THUNDER HEARD = | 0 |
| DAYS HAIL = | 0 |

HRI KIRTON

WEATHER DIARY

MAY 1997

| DAY | CLOUD | WIND DIRECTION | WIND SPEED | VISIBILITY | PRESENT WEATHER | DRY BULB | WET BULB | REL HUMIDITY | SCREEN MAX | SCREEN MIN | GRASS MIN | 5 CM SOIL | 10 CM SOIL | 20 CM SOIL | 30 CM EARTH | 50 CM EARTH | 100 CM EARTH | DAILY RAIN | CUM RAIN | STATE OF GROUND | SUN HOURS | WIND RUN KM/DAY | TOT SNOW LYING | LIGHT ENERGY | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | S | 2 | 7 | 02 | 17.2 | 14.4 | 72 | 22.9 | 6.8 | 1.9 | 15.3 | 13.6 | 11.0 | 10.8 | 10.0 | 9.1 | 0.0 | 0.0 | 1 | 11.6 | 132 | 0.0 | 4.67 | A little cloud cleared early to give bright, sunny day |
| 2 | 1 | SW | 4 | 7 | 02 | 17.9 | 14.0 | 63 | 23.6 | 8.7 | 3.9 | 16.5 | 15.0 | 12.5 | 11.6 | 10.5 | 9.4 | 0.0 | 0.0 | 0 | 12.5 | 95 | 0.0 | 4.48 | Clear, bright and sunny all day. |
| 3 | 1 | S | 3 | 6 | 05 | 17.6 | 15.1 | 75 | 23.2 | 8.2 | 1.7 | 17.0 | 15.8 | 13.2 | 12.3 | 11.1 | 9.5 | 0.0 | 0.0 | 0 | 7.8 | 164 | 0.0 | 3.57 | Bright and sunny early but cloud increased mid p.m. |
| 4 | 8 | SW | 5 | 6 | 02 | 15.0 | 14.1 | 90 | 19.8 | 11.9 | 8.0 | 14.6 | 14.4 | 14.0 | 12.7 | 11.4 | 9.8 | 0.9 | 0.9 | 1 | 6.7 | 358 | 0.0 | 2.92 | Slight intermittent rain early in the a.m. mainly cloudy but clearing a little, slight/mod rain in p.m./eve |
| 5 | 5 | SW | 6 | 7 | 02 | 15.1 | 12.4 | 71 | 17.9 | 9.4 | 6.7 | 15.0 | 13.9 | 12.4 | 12.4 | 11.5 | 10.0 | 10.4 | 11.3 | 0 | 5.6 | 411 | 0.0 | 2.46 | Cloudy with occasional outbreaks of sunshine. |
| 6 | 8 | NNW | 6 | 7 | 02 | 5.7 | 4.5 | 81 | 8.6 | 1.3 | 1.2 | 8.0 | 7.4 | 8.6 | 11.1 | 11.3 | 10.0 | Trace | 11.3 | 2 | 11.7 | 250 | 0.0 | 4.35 | Sunshine and cloud throughout the day, slight hail/snow pellet shower 1130 hours. |
| 7 | 4 | W | 3 | 7 | 02 | 7.8 | 4.6 | 55 | 9.5 | (0.2) | (3.8) | 10.0 | 8.3 | 7.4 | 10.2 | 10.7 | 10.1 | 2.5 | 13.8 | 1 | 10.1 | 323 | 0.0 | 3.50 | Broken cloud with sunny spells throughout the day, slight hail/snow pellet shower 1039 hours. |
| 8 | 6 | SSW | 3 | 7 | 02 | 8.0 | 6.5 | 79 | 10.4 | 3.4 | 1.2 | 9.9 | 8.9 | 8.3 | 10.0 | 10.4 | 10.0 | 9.5 | 23.3 | 1 | 4.1 | 207 | 0.0 | 2.90 | A little sunshine in the morning cloud increased a.m. Slight/mod showers of rain p.m, heavy shwr eve. |
| 9 | 3 | WNW | 4 | 7 | 02 | 9.2 | 7.2 | 73 | 13.7 | 3.9 | 3.6 | 11.4 | 10.7 | 9.0 | 10.2 | 10.3 | 10.0 | Trace | 23.3 | 1 | 8.8 | 170 | 0.0 | 3.86 | Broken cloud with sunshine throughout the day |
| 10 | 5 | SSW | 4 | 7 | 02 | 12.8 | 10.4 | 73 | 13.8 | 3.4 | (0.7) | 12.5 | 10.6 | 9.2 | 10.5 | 10.6 | 10.0 | 3.5 | 26.8 | 1 | 6.5 | 319 | 0.0 | 2.86 | Slight intermittent rain early, broken cloud with sunshine , slight/mod rain in the p.m, wind inc to 5 |
| 11 | 5 | S | 5 | 7 | 03 | 12.5 | 9.9 | 70 | 14.5 | 5.0 | 3.0 | 11.5 | 10.6 | 9.2 | 10.4 | 10.5 | 10.0 | 2.1 | 28.9 | 1 | 7.6 | 320 | 0.0 | 3.54 | Broken cloud with outbreaks of sunshine, intermittent rain in p.m. wind gusting to 6. |
| 12 | 5 | S | 6 | 7 | 02 | 12.0 | 9.8 | 74 | 15.8 | 5.4 | 3.1 | 11.4 | 10.5 | 9.4 | 10.5 | 10.5 | 10.0 | 0.1 | 29.0 | 1 | 11.5 | 295 | 0.0 | 3.70 | Broken cloud with sunshine throughout the day, slight shower of rain 1130 hours |
| 13 | 7 | S | 3 | 7 | 02 | 13.2 | 11.0 | 75 | 16.7 | 5.3 | 3.3 | 12.5 | 11.1 | 9.6 | 10.7 | 10.7 | 10.0 | 0.7 | 29.7 | 1 | 8.1 | 163 | 0.0 | 3.86 | Broken cloud with sunshine, mod shower of rain 1115 hrs, 0200hours, thunder 1630 hours. |
| 14 | 3 | WSW | 3 | 7 | 02 | 12.9 | 10.6 | 74 | 18.6 | 3.9 | (0.3) | 14.6 | 12.5 | 10.0 | 10.9 | 10.7 | 10.0 | 0.0 | 29.7 | 1 | 13.9 | 124 | 0.0 | 5.05 | Sunshine most of the day, occasional cloud |
| 15 | 7 | SE | 2 | 7 | 02 | 15.6 | 12.0 | 63 | 17.0 | 5.0 | (0.3) | 17.0 | 15.0 | 11.9 | 11.8 | 11.2 | 10.1 | 1.2 | 30.9 | 0 | 6.5 | 259 | 0.0 | 2.89 | Clear, bright and sunny, cloud increased a.m, giving dull conditions, cleared a little p.m |
| 16 | 8 | NE | 2 | 5 | 63 | 11.4 | 11.1 | 96 | 16.5 | 9.6 | 7.0 | 12.5 | 12.3 | 12.2 | 12.0 | 11.4 | 10.3 | 0.4 | 31.3 | 2 | 1.3 | 231 | 0.0 | 2.30 | From 0715 hours slight cont. rain becoming moderate showers during the day |
| 17 | 8 | N | 1 | 2 | 10 | 12.7 | 12.6 | 99 | 17.7 | 10.5 | 10.6 | 13.5 | 13.0 | 12.7 | 12.3 | 11.6 | 10.4 | 0.4 | 31.7 | 0 | 0.0 | 79 | 0.0 | 1.88 | Misty in the a.m., dull and cloudy all day |
| 18 | 7 | SW | 2 | 7 | 02 | 16.0 | 15.1 | 90 | 21.2 | 10.0 | 9.0 | 17.5 | 15.0 | 13.4 | 12.7 | 11.8 | 10.6 | 0.3 | 32.0 | 0 | 6.4 | 86 | 0.0 | 3.02 | Intermittent drizzle in the early a.m., cloudy all morning, clearing to give sunny p.m |
| 19 | 8 | S | 1 | 6 | 61 | 14.3 | 13.9 | 96 | 19.3 | 11.9 | 6.3 | 15.1 | 14.9 | 14.3 | 13.3 | 12.3 | 10.7 | 1.3 | 33.3 | 0 | 2.7 | 89 | 0.0 | 3.23 | Slight intermittent rain in the a.m., cloudy most of the day occasional sunny spell, 1550 slight shwr rain |
| 20 | 4 | S | 2 | 7 | 03 | 15.7 | 13.5 | 77 | 18.4 | 8.6 | 3.7 | 18.6 | 16.5 | 13.5 | 13.4 | 12.5 | 10.9 | Trace | 33.3 | 0 | 8.9 | 236 | 0.0 | 2.94 | Clear, bright, sunny a.m., with cloud gradually increasing giving sunny spells. |
| 21 | 8 | NNE | 5 | 7 | 20 | 10.0 | 8.5 | 81 | 10.8 | 9.4 | 10.2 | 12.5 | 12.8 | 13.5 | 13.5 | 12.7 | 11.1 | Trace | 33.3 | 0 | 0.0 | 279 | 0.0 | 1.38 | Dull and cloudy all day with some slight intermittent drizzle in the a.m. |
| 22 | 8 | NE | 4 | 7 | 02 | 10.0 | 7.6 | 69 | 12.5 | 6.4 | 7.1 | 12.1 | 11.6 | 11.2 | 12.3 | 12.3 | 11.3 | 0.0 | 33.3 | 0 | 2.5 | 185 | 0.0 | 3.34 | Cloudy most of the day breaking a little late p.m., to give sunny spells. |
| 23 | 4 | NE | 4 | 7 | 02 | 10.9 | 7.7 | 61 | 12.4 | 1.6 | (2.3) | 14.0 | 12.2 | 10.5 | 11.8 | 12.0 | 11.3 | 0.0 | 33.3 | 0 | 11.4 | 188 | 0.0 | 3.63 | Clear, bright and sunny all day with occasional cloud |
| 24 | 7 | ENE | 4 | 7 | 02 | 10.2 | 7.0 | 60 | 13.1 | 0.4 | (2.5) | 12.1 | 12.3 | 10.4 | 11.4 | 11.7 | 11.2 | 0.0 | 33.3 | 0 | 10.9 | 168 | 0.0 | 3.89 | Clear, bright and sunny all day with occasional cloud |
| 25 | 5 | E | 4 | 7 | 02 | 11.1 | 8.5 | 68 | 15.6 | 2.0 | (2.0) | 14.6 | 13.2 | 11.1 | 11.6 | 11.7 | 11.6 | 0.0 | 33.3 | 0 | 13.8 | 130 | 0.0 | 5.16 | Bright and sunny all day |
| 26 | 6 | NNE | 3 | 7 | 02 | 15.2 | 9.9 | 46 | 21.2 | 3.9 | (1.7) | 16.2 | 14.6 | 12.5 | 12.3 | 11.9 | 11.2 | 0.0 | 33.3 | 0 | 4.0 | 224 | 0.0 | 2.89 | Cloudy and dull most of the day, some sunshine early p.m. with cloud increasing again |
| 27 | 8 | NNE | 2 | 7 | 02 | 11.0 | 9.0 | 75 | 15.6 | 9.2 | 6.4 | 15.3 | 14.6 | 13.5 | 12.8 | 12.1 | 11.1 | 0.0 | 33.3 | 0 | 8.5 | 227 | 0.0 | 4.03 | Cloudy in the a.m., but cleared mid day to give sunny p.m. |
| 28 | 8 | NE | 4 | 7 | 02 | 10.3 | 7.6 | 66 | 14.3 | 8.0 | 4.6 | 14.7 | 14.0 | 13.6 | 12.8 | 12.4 | 11.2 | 0.0 | 33.3 | 0 | 8.9 | 138 | 0.0 | 4.93 | Cloudy all a.m., clearing to give sunshine in the p.m |
| 29 | 3 | SSW | 2 | 7 | 02 | 13.7 | 11.0 | 70 | 22.0 | 3.0 | (2.4) | 18.5 | 15.7 | 13.0 | 12.8 | 12.5 | 11.4 | 0.0 | 33.3 | 0 | 14.6 | 73 | 0.0 | 5.48 | Clear, bright and sunny all day with occasional cloud. |
| 30 | 1 | E | 3 | 7 | 02 | 17.8 | 13.6 | 60 | 20.0 | 6.3 | 1.2 | 21.0 | 18.8 | 16.0 | 14.0 | 12.9 | 11.4 | 0.0 | 33.3 | 0 | 14.3 | 141 | 0.0 | 5.28 | Clear, bright and sunny all day with occasional cloud |
| 31 | 1 | SW | 3 | 7 | 02 | 17.6 | 14.6 | 71 | 20.5 | 5.1 | 1.0 | 20.7 | 18.0 | 16.2 | 14.6 | 13.6 | 11.8 | 0.0 | 33.3 | 0 | 12.7 | 233 | 0.0 | 5.53 | Sunny all day with occasional cloud |

| EXTREMES | DEG C | DAY | MEAN AIR TEMPERATURES | DEG C | SOIL TEMPS | DEG C | RELATIVE HUMIDITY | | SUN | |
|---|---|---|---|---|---|---|---|---|---|---|
| HIGHEST SCREEN MAX | 23.6 | 2 | MEAN DAILY TEMP | 11.4 | 5 CM MEAN | 14.4 | MONTHLY MEAN % | 73 | MONTHLY TOTAL HRS = | 254 |
| LOWEST SCREEN MIN | (0.2) | 7 | MEAN DAILY MAX | 16.7 | 10 CM MEAN | 13.2 | DAYS >= 95% | 3 | | |
| LOWEST SCREEN MAX | 8.6 | 6 | MEAN DAILY MIN | 6.0 | 20 CM MEAN | 11.6 | | | DAYS SNOW LYING = | 0 |
| HIGHEST SCREEN MIN | 11.9 | 4 | AIR FROSTS | DAYS | 30 CM MEAN | 11.9 | RAINFALL | | DAYS GALE (8 OR MORE) = | 0 |
| LOWEST GRASS MIN | (3.8) | 7 | | 1 | 50 CM MEAN | 11.5 | TOTAL MONTHLY (mm) | 33.3 | DAYS FOG (09.00 HRS) = | 0 |
| MOST RAIN IN A DAY | 10.4 | 5 | GROUND FROSTS ON | 9 | 100 CM MEAN | 10.5 | DAYS >=0.2 mm | 12 | DAYS THUNDER HEARD = | 1 |
| | | | | | | | | | DAYS HAIL = | 2 |

HRI KIRTON

WEATHER DIARY

JUNE 1997

| DAY | CLOUD | WIND DIRECTION | WIND SPEED | VISIBILITY | PRESENT WEATHER | DRY BULB | WET BULB | REL HUMIDITY | SCREEN MAX | SCREEN MIN | GRASS MIN | 5 CM SOIL | 10 CM SOIL | 20 CM SOIL | 30 CM EARTH | 50 CM EARTH | 100 CM EARTH | DAILY RAIN | CUM RAIN | STATE OF GROUND | SUN HOURS | WIND RUN KM/DAY | TOT SNOW LYING | LIGHT ENERGY | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | E | 6 | 7 | 02 | 14.3 | 10.6 | 61 | 17.6 | 6.9 | 2.0 | 17.7 | 17.3 | 15.8 | 14.9 | 14.0 | 12.0 | 0.0 | 0.0 | 0 | 15.2 | 442 | 0.0 | 5.64 | Clear and sunny most of the day, wind increased to 7 at times |
| 2 | 2 | ENE | 6 | 7 | 02 | 16.2 | 14.5 | 82 | 18.6 | 10.5 | 7.4 | 18.6 | 17.4 | 15.5 | 14.6 | 14.0 | 12.1 | 0.0 | 0.0 | 0 | 14.8 | 379 | 0.0 | 5.32 | Clear, bright and sunny all day. |
| 3 | 6 | N | 5 | 7 | 02 | 13.4 | 11.2 | 75 | 14.9 | 8.0 | 5.6 | 17.4 | 16.0 | 15.0 | 14.5 | 14.0 | 12.2 | 0.0 | 0.0 | 0 | 7.6 | 220 | 0.0 | 3.15 | Cloudy with some outbreaks of sunshine in the a m., cloud increased mid day, clearing late p m |
| 4 | 7 | NE | 4 | 7 | 02 | 11.6 | 9.8 | 78 | 17.4 | 9.1 | 9.4 | 16.4 | 15.5 | 14.9 | 14.3 | 13.8 | 12.3 | 0.0 | 0.0 | 0 | 9.3 | 159 | 0.0 | 5.10 | Cloudy in the a m , clearing to give bright, sunny day |
| 5 | 4 | NE | 4 | 7 | 02 | 17.4 | 14.9 | 75 | 20.4 | 6.7 | 2.1 | 18.6 | 17.0 | 16.0 | 14.8 | 14.1 | 12.4 | 1.3 | 1.3 | 0 | 6.8 | 301 | 0.0 | 4.01 | Thin high cloud most of the day, slight/moderate shower of rain in the evening. |
| 6 | 7 | S | 3 | 6 | 02 | 17.5 | 15.5 | 80 | 24.2 | 13.9 | 11.5 | 18.9 | 17.9 | 16.7 | 15.3 | 14.3 | 12.5 | 7.9 | 9.2 | 1 | 4.9 | 274 | 0.0 | 2.12 | Slight/moderate showers of rain overnight and during the day |
| 7 | 7 | SSW | 4 | 7 | 01 | 18.5 | 16.7 | 83 | 23.1 | 16.1 | 15.1 | 19.8 | 18.6 | 16.2 | 15.7 | 14.7 | 12.8 | Trace | 9.2 | 1 | 8.2 | 238 | 0.0 | 4.10 | Intermittent moderate rain 0730hrs onwards for a time, cloudy with outbreaks of sunshine during the da |
| 8 | 6 | SW | 5 | 7 | 02 | 18.3 | 16.3 | 81 | 23.0 | 12.8 | 10.1 | 19.5 | 18.4 | 16.2 | 15.7 | 14.1 | 12.8 | 4.6 | 13.8 | 0 | 9.4 | 147 | 0.0 | 3.94 | Sunny spells with cloud throughout the day, heavy rain and thunder 1330hrs and 1730 hrs. |
| 9 | 1 | SSW | 3 | 7 | 02 | 16.3 | 15.8 | 95 | 21.8 | 8.4 | 5.3 | 19.2 | 17.0 | 15.3 | 15.6 | 14.9 | 13.0 | 0.0 | 13.8 | 1 | 12.9 | 144 | 0.0 | 4.40 | Clear, bright and sunny with some cloud developing in the afternoon |
| 10 | 7 | E | 3 | 7 | 02 | 18.3 | 15.9 | 77 | 21.5 | 12.6 | 10.6 | 21.0 | 19.6 | 17.2 | 16.2 | 15.0 | 13.1 | 0.8 | 14.6 | 0 | 6.5 | 282 | 0.0 | 3.76 | Dull and cloudy until mid a m when cloud decreased to give sunny spells until mid p m |
| 11 | 8 | ESE | 2 | 6 | 60 | 16.0 | 15.4 | 94 | 18.5 | 14.3 | 13.3 | 17.4 | 17.5 | 17.3 | 16.4 | 15.3 | 13.1 | 12.6 | 27.2 | 1 | 0.1 | 107 | 0.0 | 1.54 | Slight intermittent rain overnight and throughout the day, dying out late p m , thunder heard evening |
| 12 | 4 | S | 2 | 7 | 02 | 17.5 | 16.0 | 85 | 21.7 | 13.6 | 11.8 | 18.8 | 17.5 | 16.4 | 16.0 | 15.1 | 13.4 | Trace | 27.2 | 2 | 9.8 | 172 | 0.0 | 3.88 | Moderate intermittent rain in the early hours clearing giving sunny spells, slight shower 1130hrs. |
| 13 | 6 | S | 2 | 7 | 02 | 18.1 | 16.0 | 79 | 21.1 | 13.5 | 11.0 | 19.0 | 17.8 | 16.5 | 16.3 | 15.3 | 13.4 | 0.2 | 27.4 | 1 | 4.0 | 195 | 0.0 | 2.88 | Mainly cloudy with some sunny outbreaks |
| 14 | 8 | NW | 3 | 7 | 51 | 12.0 | 11.1 | 89 | 16.0 | 10.9 | 9.1 | 15.5 | 15.5 | 15.7 | 16.2 | 15.4 | 13.4 | Trace | 27.4 | 1 | 1.8 | 177 | 0.0 | 1.81 | A little sunshine first thing in the a m, cloud increased to give dull day, slight continuous drizzle at times. |
| 15 | 8 | SSE | 3 | 7 | 51 | 11.8 | 10.6 | 86 | 15.9 | 9.5 | 8.5 | 15.0 | 14.3 | 14.2 | 15.0 | 14.9 | 13.5 | 0.3 | 27.7 | 1 | 0.1 | 94 | 0.0 | 2.25 | Cloudy and dull all day with drizzle at times. |
| 16 | 6 | SE | 2 | 7 | 02 | 15.8 | 13.3 | 74 | 16.7 | 7.7 | 3.4 | 19.0 | 16.0 | 13.6 | 14.5 | 14.5 | 13.6 | 1.6 | 29.3 | 1 | 2.9 | 104 | 0.0 | 2.36 | Cloudy most of the day some sunshine in the a m |
| 17 | 6 | E | 2 | 7 | 02 | 15.1 | 12.2 | 69 | 17.6 | 8.4 | 4.4 | 18.0 | 16.0 | 14.0 | 14.4 | 14.3 | 13.4 | 0.0 | 29.3 | 1 | 7.7 | 144 | 0.0 | 3.81 | Cloudy with outbreaks of sunshine during the day. |
| 18 | 8 | S | 2 | 6 | 05 | 16.5 | 14.8 | 82 | 19.6 | 8.4 | 5.6 | 18.4 | 16.5 | 14.7 | 14.8 | 14.4 | 13.4 | 4.8 | 34.1 | 2 | 2.6 | 147 | 0.0 | 2.33 | Thin high hazy cloud, moderate shower 1220hrs, slight shower 1355hrs, heavy shower 1455hrs. |
| 19 | 8 | S | 3 | 6 | 62 | 13.0 | 11.7 | 85 | 16.9 | 11.6 | 10.0 | 16.0 | 15.0 | 14.6 | 14.9 | 14.5 | 13.4 | 2.9 | 37.0 | 2 | 0.0 | 149 | 0.0 | 2.92 | Slight intermittent rain overnight and during the day and evening. |
| 20 | 4 | S | 3 | 7 | 02 | 15.7 | 12.6 | 68 | 15.4 | 9.0 | 6.1 | 18.0 | 15.7 | 14.2 | 14.8 | 14.5 | 13.4 | 3.1 | 40.1 | 2 | 5.0 | 286 | 0.0 | 2.29 | Broken cloud and sunshine early a m , cloud rapidly increased giving dull day |
| 21 | 7 | S | 5 | 7 | 02 | 14.0 | 11.7 | 75 | 14.7 | 10.7 | 9.2 | 15.2 | 14.2 | 13.6 | 14.4 | 14.4 | 13.4 | 4.5 | 44.6 | 1 | 0.9 | 187 | 0.0 | 2.14 | Cloudy most of the day, intermittent rain 1010hrs onwards. |
| 22 | 7 | NW | 0 | 7 | 02 | 13.7 | 12.1 | 82 | 17.1 | 10.0 | 7.1 | 15.8 | 14.9 | 13.6 | 14.2 | 14.2 | 13.4 | 0.7 | 45.3 | 1 | 4.3 | 236 | 0.0 | 2.98 | Cloudy with occasional outbreaks of sunshine, intermittent rain 1500hrs |
| 23 | 8 | NNW | 5 | 7 | 02 | 13.5 | 11.2 | 74 | 16.1 | 11.5 | 10.4 | 14.5 | 14.0 | 14.0 | 14.6 | 14.2 | 13.3 | 4.9 | 50.2 | 1 | 3.1 | 161 | 0.0 | 2.80 | Cloudy most of the day, intermittent rain in the evening. |
| 24 | 8 | WNW | 2 | 7 | 02 | 12.6 | 9.9 | 69 | 16.5 | 9.8 | 9.6 | 16.4 | 15.0 | 13.8 | 14.4 | 14.2 | 13.3 | 1.1 | 51.3 | 2 | 4.0 | 112 | 0.0 | 2.77 | Mainly cloudy with outbreaks of sunshine during the day |
| 25 | 8 | S | 3 | 6 | 63 | 12.8 | 12.1 | 92 | 13.3 | 10.0 | 5.3 | 14.5 | 14.0 | 14.0 | 14.6 | 14.4 | 13.3 | 29.1 | 80.4 | 2 | 0.0 | 321 | 0.0 | 1.17 | Cloudy all day with continuous moderate rain throughout the day |
| 26 | 8 | N | 4 | 5 | 65 | 12.0 | 11.9 | 99 | 14.4 | 11.1 | 11.2 | 15.4 | 13.0 | 13.2 | 14.1 | 14.1 | 13.3 | 12.8 | 93.2 | 2 | 0.0 | 516 | 0.0 | 0.98 | Cloudy all day with continuous moderate rain, heavy at times throughout the day. |
| 27 | 8 | NNE | 6 | 5 | 02 | 11.1 | 10.5 | 92 | 15.5 | 10.5 | 9.9 | 13.0 | 12.9 | 13.0 | 13.6 | 13.9 | 13.2 | 9.7 | 102.9 | 2 | 0.0 | 420 | 0.0 | 1.23 | Cloudy with continuous moderate rain during the day |
| 28 | 6 | E | 3 | 7 | 01 | 14.4 | 14.0 | 96 | 18.5 | 10.9 | 10.4 | 15.6 | 14.7 | 13.0 | 13.4 | 13.5 | 13.2 | 0.1 | 103.0 | 2 | 8.3 | 189 | 0.0 | 4.47 | Early cloud clearing to give occasional cloud and sunshine throughout the day |
| 29 | 7 | N | 4 | 7 | 02 | 14.5 | 13.0 | 83 | 16.9 | 11.4 | 10.1 | 16.0 | 15.3 | 14.5 | 14.4 | 14.0 | 13.0 | 1.7 | 104.7 | 2 | 3.1 | 310 | 0.0 | 2.17 | Cloudy most of the day, cleared a little early p m |
| 30 | 8 | NW | 3 | 6 | 63 | 10.9 | 10.7 | 97 | 13.5 | 10.5 | 10.4 | 12.5 | 12.5 | 13.4 | 14.3 | 14.0 | 13.2 | 15.0 | 119.7 | 2 | 0.0 | 237 | 0.0 | 1.30 | Cloudy all day with continuous moderate rain throughout the day |

| EXTREMES | DEG C | DAY | MEAN AIR TEMPERATURES | DEG C | SOIL TEMPS | DEG C | RELATIVE HUMIDITY | | SUN | |
|---|---|---|---|---|---|---|---|---|---|---|
| HIGHEST SCREEN MAX | 24.2 | 6 | MEAN DAILY TEMP | 14.3 | 5 CM MEAN | 17.0 | MONTHLY MEAN % | 82 | MONTHLY TOTAL HRS = | 153 |
| LOWEST SCREEN MIN | 6.7 | 5 | MEAN DAILY MAX | 17.9 | 10 CM MEAN | 15.9 | DAYS >= 95% | 4 | | |
| LOWEST SCREEN MAX | 13.3 | 25 | MEAN DAILY MIN | 10.6 | 20 CM MEAN | 14.9 | | | DAYS SNOW LYING = | 0 |
| HIGHEST SCREEN MIN | 16.1 | 7 | AIR FROSTS | DAYS | 30 CM MEAN | 14.9 | RAINFALL | | DAYS GALE (8 OR MORE) = | 0 |
| LOWEST GRASS MIN | 2.0 | 1 | | 0 | 50 CM MEAN | 14.4 | TOTAL MONTHLY (mm) | 119.7 | DAYS FOG (09.00 HRS) = | 0 |
| MOST RAIN IN A DAY | 29.1 | 25 | GROUND FROSTS ON | 0 | 100 CM MEAN | 13.1 | DAYS >=0.2 mm | 20 | DAYS THUNDER HEARD = | 2 |
| | | | | | | | | | DAYS HAIL = | 0 |

# HRI KIRTON

# WEATHER DIARY

# JULY 1997

| DAY | CLOUD | WIND DIRECTION | WIND SPEED | VISIBILITY | PRESENT WEATHER | DRY BULB | WET BULB | REL HUMIDITY | SCREEN MAX | SCREEN MIN | GRASS MIN | 5 CM SOIL | 10 CM SOIL | 20 CM SOIL | 30 CM EARTH | 50 CM EARTH | 100 CM EARTH | DAILY RAIN | CUM RAIN | STATE OF GROUND | SUN HOURS | WIND RUN KM/DAY | TOT SNOW LYING | LIGHT ENERGY | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8 | SSW | 3 | 7 | 2 | 13.1 | 12.1 | 88 | 17.1 | 10.0 | 8.9 | 14.5 | 13.9 | 13.9 | 13.5 | 13.7 | 13.3 | Trace | Trace | 2 | 5.0 | 131 | 0.0 | 3.54 | Some sun in the morning and late afternoon |
| 2 | 6 | S | 3 | 7 | 2 | 14.7 | 12.6 | 77 | 17.9 | 10.1 | 9.1 | 17.0 | 16.0 | 14.2 | 14.3 | 14.0 | 13.3 | 2.0 | 2.0 | 1 | 4.7 | 164 | 0.0 | 2.62 | Intermittent sunshine with rain overnight |
| 3 | 4 | S | 3 | 7 | 2 | 13.5 | 11.6 | 78 | 17.8 | 9.4 | 6.0 | 15.1 | 14.4 | 13.9 | 14.4 | 14.1 | 13.3 | 0.7 | 2.7 | 2 | 2.7 | 150 | 0.0 | 2.94 | Mostly cloudy with occasional sunny spells |
| 4 | 6 | NW | 2 | 6 | 2 | 14.4 | 13.0 | 85 | 18.8 | 11.6 | 10.6 | 16.6 | 15.8 | 14.5 | 14.7 | 14.3 | 13.3 | 1.3 | 4.0 | 1 | 4.6 | 101 | 0.0 | 3.32 | Some sunshine later in the morning becoming cloudy in the afternoon |
| 5 | 5 | N | 2 | 7 | 2 | 13.8 | 12.6 | 86 | 20.6 | 9.4 | 6.0 | 16.6 | 16.6 | 14.5 | 15.2 | 14.6 | 13.4 | Trace | 4.0 | 0 | 9.2 | 128 | 0.0 | 4.56 | Sunny all day |
| 6 | 4 | WNW | 3 | 7 | 2 | 19.2 | 16.3 | 73 | 23.9 | 12.2 | 9.6 | 19.5 | 18.4 | 16.4 | 15.9 | 15.1 | 13.5 | Trace | 4.0 | 0 | 9.8 | 168 | 0.0 | 4.29 | Mostly sunny with clouds forming late afternoon |
| 7 | 2 | W | 2 | 7 | 2 | 20.1 | 17.7 | 78 | 24.5 | 12.7 | 9.6 | 20.9 | 19.9 | 17.3 | 16.6 | 15.5 | 13.7 | 0.0 | 4.0 | 0 | 12.2 | 98 | 0.0 | 4.39 | Mostly sunny |
| 8 | 6 | E | 2 | 7 | 2 | 21.3 | 18.6 | 76 | 24.8 | 13.5 | 9.6 | 23.0 | 21.9 | 18.8 | 17.5 | 16.0 | 14.0 | 0.0 | 4.0 | 0 | 9.3 | 147 | 0.0 | 4.54 | Thin high cloud cover |
| 9 | 3 | SE | 2 | 7 | 2 | 21.5 | 18.0 | 70 | 23.9 | 14.1 | 12.0 | 22.9 | 21.7 | 19.0 | 18.0 | 16.5 | 14.3 | 0.0 | 4.0 | 0 | 14.5 | 191 | 0.0 | 4.41 | Warm and sunny |
| 10 | 8 | ENE | 4 | 7 | 2 | 14.0 | 13.0 | 89 | 18.0 | 13.4 | 11.3 | 18.5 | 18.4 | 18.8 | 18.3 | 17.1 | 14.5 | 0.0 | 4.0 | 0 | 4.9 | 169 | 0.0 | 3.01 | Cloudy all morning with some sun early afternoon |
| 11 | 8 | NE | 4 | 6 | 2 | 14.2 | 13.2 | 89 | 21.0 | 9.8 | 7.5 | 18.7 | 18.1 | 17.4 | 17.4 | 16.8 | 14.8 | 0.0 | 4.0 | 0 | 7.8 | 146 | 0.0 | 4.43 | Sunny from mid-day onwards |
| 12 | 2 | SSW | 3 | 7 | 2 | 20.6 | 18.1 | 77 | 24.0 | 11.7 | 7.5 | 23.0 | 21.5 | 18.1 | 17.5 | 16.8 | 15.0 | 0.0 | 4.0 | 0 | 9.9 | 85 | 0.0 | 3.65 | Cloudy from 14-16.00 hours but sunny otherwise |
| 13 | 7 | | 3 | 7 | 3 | 17.1 | 15.7 | 86 | 23.6 | 14.0 | 3.0 | 20.0 | 19.8 | 19.0 | 18.5 | 17.3 | 15.0 | 3.9 | 7.9 | 0 | 6.7 | 121 | 0.0 | 3.31 | Slight continuous rain from 10 10 onwards |
| 14 | 5 | NNW | 3 | 7 | 2 | 17.7 | 14.8 | 71 | 22.3 | 11.5 | 7.8 | 19.7 | 18.9 | 17.6 | 17.7 | 17.3 | 15.2 | 3.6 | 11.5 | 0 | 6.9 | 120 | 0.0 | 3.87 | Intermittent sunshine |
| 15 | 6 | S | 2 | 7 | 2 | 18.7 | 16.9 | 81 | 23.5 | 13.6 | 13.4 | 21.1 | 19.9 | 18.4 | 18.1 | 17.3 | 15.4 | Trace | 11.5 | 1 | 4.4 | 161 | 0.0 | 3.22 | Continuous light rain pre 07 00 hours, cloud gradually dissipating |
| 16 | 7 | W | 5 | 7 | 1 | 18.0 | 16.0 | 80 | 19.5 | 15.4 | 10.9 | 20.0 | 19.2 | 18.0 | 18.1 | 17.4 | 15.5 | 8.4 | 19.9 | 0 | 1.8 | 155 | 0.0 | 2.09 | Mostly cloudy with very little sun |
| 17 | 8 | NW | 2 | 6 | 21 | 14.3 | 14.0 | 97 | 18.5 | 13.5 | 13.5 | 16.9 | 16.6 | 17.3 | 17.6 | 17.3 | 15.5 | 10.2 | 30.1 | 2 | 0.3 | 231 | 0.0 | 1.73 | Heavy rain becoming lighter until t6hunder storm commenced 16.00hj |
| 18 | 8 | NW | 5 | 6 | 50 | 14.1 | 13.9 | 98 | 20.4 | 11.3 | 11.3 | 14.8 | 14.5 | 15.4 | 16.8 | 16.8 | 15.4 | 0.4 | 30.5 | 2 | 5.5 | 313 | 0.0 | 2.52 | Intermittent showers decreasing during the day |
| 19 | 6 | E | 3 | 7 | 2 | 15.4 | 14.2 | 87 | 22.2 | 12.7 | 12.7 | 17.0 | 16.1 | 16.0 | 16.5 | 16.4 | 15.4 | Trace | 30.5 | 0 | 9.6 | 123 | 0.0 | 4.12 | Heavy cloud clearing during the day |
| 20 | 8 | N | 2 | 6 | 2 | 14.0 | 13.0 | 89 | 20.3 | 10.8 | 10.8 | 17.5 | 16.7 | 16.5 | 16.8 | 16.6 | 15.4 | 0.0 | 30.5 | 0 | 9.7 | 126 | 0.0 | 4.83 | Heavy cloud clearing during the day |
| 21 | 3 | NNW | 2 | 6 | 5 | 15.3 | 14.2 | 88 | 21.6 | 10.0 | 10.0 | 20.5 | 19.0 | 17.3 | 17.3 | 16.9 | 15.5 | 0.0 | 30.5 | 6 | 11.6 | 119 | 0.0 | 4.41 | Hazy morning becoming bright and sunny |
| 22 | 4 | N | 2 | 6 | 5 | 17.4 | 15.4 | 80 | 22.1 | 10.4 | 10.4 | 21.1 | 19.5 | 17.6 | 17.6 | 17.0 | 15.6 | 0.0 | 30.5 | 6 | 10.2 | 98 | 0.0 | 4.78 | Hazy morning becoming sunny with variable cloud cover |
| 23 | 1 | W | 2 | 6 | 5 | 21.4 | 17.5 | 66 | 25.8 | 11.4 | 11.4 | 22.9 | 21.0 | 18.2 | 17.9 | 17.3 | 15.8 | Trace | 30.5 | 6 | 10.0 | 103 | 0.0 | 3.75 | A hazy morning becoming muggy and close with a late storm |
| 24 | 7 | SW | 5 | 6 | 50 | 19.0 | 16.0 | 82 | 23.0 | 15.1 | 15.0 | 21.9 | 20.4 | 19.0 | 18.5 | 17.6 | 15.8 | 28.1 | 58.6 | 0 | 2.2 | 197 | 0.0 | 3.04 | Occasional showers during the day but quite warm |
| 25 | 4 | SW | 6 | 7 | 3 | 18.2 | 15.2 | 81 | 21.2 | 14.1 | 14.1 | 19.1 | 18.1 | 17.9 | 18.2 | 17.6 | 15.8 | Trace | 58.6 | 1 | 9.2 | 180 | 0.0 | 3.59 | Cold and blustery with heavy clouds forming late afternoon |
| 26 | 6 | SW | 3 | 7 | 2 | 18.1 | 15.7 | 77 | 20.7 | 10.6 | 10.6 | 18.3 | 17.2 | 16.4 | 17.6 | 17.4 | 15.9 | 5.4 | 64.0 | 0 | 8.3 | 249 | 0.0 | 0.01 | Heavy cloud dissipating during the day with occasional; showers |
| 27 | 4 | NW | 4 | 7 | 2 | 18.0 | 15.4 | 75 | 22.1 | 12.4 | 12.4 | 18.9 | 17.5 | 16.9 | 17.5 | 17.2 | 15.8 | 0.0 | 64.0 | 1 | 12.9 | 159 | 0.0 | 4.15 | Cloudy and overcast |
| 28 | 7 | E | 4 | 6 | 3 | 18.6 | 15.1 | 67 | 23.5 | 11.3 | 11.3 | 19.1 | 17.9 | 16.7 | 17.3 | 17.1 | 15.8 | 0.0 | 64.0 | 1 | 9.4 | 117 | 0.0 | 3.95 | Heavy cloud in the morning becoming a sunny afternoon |
| 29 | 1 | W | 2 | 7 | 1 | 22.8 | 18.5 | 65 | 26.2 | 10.6 | 10.6 | 20.6 | 18.4 | 16.6 | 17.5 | 17.1 | 15.1 | 1.6 | 65.6 | 0 | 12.6 | 189 | 0.0 | 4.44 | Sunny - cool in the morning becoming warmer later in the day |
| 30 | 3 | S | 3 | 7 | 2 | 18.7 | 16.0 | 74 | 21.6 | 14.2 | 14.2 | 21.3 | 19.6 | 18.2 | 17.9 | 17.2 | 15.9 | 0.0 | 65.6 | 0 | 10.1 | 296 | 0.0 | 2.79 | Showers overnight but dry during the day |
| 31 | 8 | SW | 6 | 6 | 3 | 14.6 | 12.9 | 77 | 17.2 | 14.0 | 14.0 | 16.2 | 16.3 | 17.0 | 17.5 | 17.1 | 15.9 | 1.1 | 66.7 | 0 | 0.2 | 286 | 0.0 | 1.62 | Cold and windy with spots of rain |

| EXTREMES | DEG C | DAY |
|---|---|---|
| HIGHEST SCREEN MAX | 26.2 | 29 |
| LOWEST SCREEN MAX | 17.1 | 1 |
| HIGHEST SCREEN MIN | 15.4 | 16 |
| LOWEST SCREEN MIN | 9.4 | 3+5 |
| LOWEST GRASS MIN | 3.0 | 13 |
| MOST RAIN IN A DAY | 28.1 | 24 |

| MEAN AIR TEMPERATURES | DEG C |
|---|---|
| MEAN DAILY TEMP | 16.8 |
| MEAN DAILY MAX | 21.5 |
| MEAN DAILY MIN | 12.1 |
| | DAYS |
| AIR FROSTS | 0 |
| GROUND FROSTS ON | 0 |

| SOIL TEMPS | | DEG C |
|---|---|---|
| 5 CM MEAN | = | 19.1 |
| 10 CM MEAN | = | 18.2 |
| 20 CM MEAN | = | 17.0 |
| 30 CM MEAN | = | 17.0 |
| 50 CM MEAN | = | 16.5 |
| 100 CM MEAN | = | 14.9 |

| RELATIVE HUMIDITY | | |
|---|---|---|
| MONTHLY MEAN % | = | 80 |
| DAYS >= 95% | = | 2 |
| **RAINFALL** | | |
| TOTAL MONTHLY (mm) | = | 66.7 |
| DAYS > 0.2 mm | = | 11 |

| SUN | | |
|---|---|---|
| MONTHLY TOTAL HRS | = | 236 |
| DAYS SNOW LYING | = | 0 |
| DAYS GALE (8 OR MORE) | = | 0 |
| DAYS FOG (09.00 HRS) | = | 0 |
| DAYS THUNDER HEARD | = | 2 |

**HRI KIRTON**

**WEATHER DIARY**

**AUGUST 1997**

| DAY | CLOUD | WIND DIRECTION | WIND SPEED | VISIBILITY | PRESENT WEATHER | DRY BULB | WET BULB | REL HUMIDITY | SCREEN MAX | SCREEN MIN | GRASS MIN | 5 CM SOIL | 10 CM SOIL | 20 CM SOIL | 30 CM EARTH | 50 CM EARTH | 100 CM EARTH | DAILY RAIN | CUM RAIN | STATE OF GROUND | SUN HOURS | WIND RUN KM/DAY | TOT SNOW LYING | LIGHT ENERGY | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | S | 2 | 5 | 60 | 16.2 | 16.0 | 98 | 21.6 | 14.1 | 14.0 | 17.0 | 16.6 | 16.6 | 16.9 | 16.8 | 15.9 | 0.4 | 0.4 | 1 | 0.3 | 161 | 0.0 | 1.99 | Cloudy with drizzle |
| 2 | 1 | NNW | 2 | 7 | 2 | 16.0 | 13.5 | 74 | 20.1 | 9.0 | 8.5 | 17.0 | 16.2 | 15.5 | 16.7 | 17.0 | 15.7 | 0.0 | 0.4 | 0 | 6.6 | 108 | 0.0 | 3.04 | Sunny morning, cloudy pm |
| 3 | 7 | E | 4 | 7 | 2 | 17.2 | 15.5 | 83 | 18.6 | 11.0 | 10.0 | 18.0 | 17.8 | 16.6 | 16.9 | 16.7 | 15.8 | 0.0 | 0.4 | 0 | 0.6 | 209 | 0.0 | 2.44 | Overcast all day |
| 4 | 3 | ESE | 4 | 7 | 2 | 18.2 | 15.4 | 73 | 20.7 | 12.5 | 11.0 | 19.5 | 17.5 | 16.2 | 16.6 | 16.6 | 15.7 | 0.0 | 0.4 | 0 | 10.0 | 318 | 0.0 | 4.44 | Sunny but cool |
| 5 | 3 | E | 5 | 7 | 2 | 18.5 | 14.8 | 65 | 21.2 | 13.9 | 11.9 | 20.4 | 18.6 | 17.1 | 16.8 | 16.6 | 15.7 | 0.0 | 0.4 | 0 | 9.2 | 298 | 0.0 | 3.94 | Sunny with some low cloud, blustery |
| 6 | 0 | ENE | 5 | 7 | 2 | 21.0 | 18.1 | 74 | 23.9 | 15.0 | 13.0 | 22.9 | 20.6 | 18.0 | 16.9 | 16.6 | 15.7 | 0.0 | 0.4 | 0 | 13.0 | 286 | 0.0 | 4.43 | Sparse, high cloud, warm but windy |
| 7 | 0 | ENE | 4 | 6 | 5 | 21.4 | 18.6 | 75 | 25.9 | 15.4 | 13.4 | 23.0 | 20.7 | 18.5 | 17.4 | 16.7 | 15.7 | 0.0 | 0.4 | 0 | 13.3 | 229 | 0.0 | 4.35 | Slight haze, clear blue skies |
| 8 | 0 | | 1 | 6 | 5 | 23.0 | 19.6 | 72 | 28.1 | 12.6 | 12.2 | 23.1 | 20.7 | 18.7 | 17.7 | 17.0 | 15.9 | 0.0 | 0.4 | 0 | 11.3 | 152 | 0.0 | 4.13 | Hot, still and hazy |
| 9 | 0 | NNW | 1 | 7 | 2 | 23.5 | 20.1 | 72 | 29.5 | 16.1 | 13.9 | 23.5 | 21.1 | 20.0 | 18.2 | 18.4 | 16.0 | 0.0 | 0.4 | 0 | 12.2 | 143 | 0.0 | 4.02 | Hot with some cloud |
| 10 | 0 | E | 2 | 7 | 2 | 24.7 | 20.1 | 64 | 29.4 | 16.5 | 15.5 | 24.5 | 22.5 | 20.5 | 18.7 | 17.6 | 16.0 | 0.0 | 0.4 | 0 | 11.4 | 237 | 0.0 | 3.56 | Hot |
| 11 | 3 | SE | 5 | 7 | 2 | 26.7 | 19.7 | 49 | 32.1 | 18.3 | 16.6 | 24.5 | 22.5 | 20.5 | 18.8 | 17.7 | 16.1 | 0.0 | 0.4 | 0 | 8.6 | 163 | 0.0 | 3.36 | Hot, hazy and humid |
| 12 | 7 | | 1 | 5 | 5 | 24.0 | 21.1 | 76 | 30.8 | 18.3 | 16.3 | 24.5 | 22.7 | 21.2 | 19.0 | 17.9 | 16.4 | 47.5 | 47.9 | 0 | 5.6 | 105 | 0.0 | * | Clouds developed over the day, quite 'muggy' |
| 13 | 8 | ENE | 2 | 5 | 92 | 19.3 | 19.1 | 98 | 25.0 | 17.9 | 15.6 | 20.0 | 20.4 | 20.7 | 19.3 | 18.1 | 16.4 | 14.4 | 62.3 | 2 | 3.5 | 142 | 0.0 | 2.65 | Violent storms from 4.45 am, heavy rainfall, lightening affected light meter, storms at 6pm |
| 14 | 1 | NNW | 3 | 7 | 1 | 19.5 | 16.6 | 73 | 25.3 | 14.4 | 14.6 | 22.0 | 20.0 | 19.2 | 19.3 | 18.4 | 16.7 | Trace | 62.3 | 1 | 11.8 | 78 | 0.0 | 4.15 | Warm, sunny and breezy |
| 15 | 1 | | 1 | 7 | 2 | 23.0 | 18.5 | 63 | 25.9 | 13.5 | 12.2 | 22.6 | 20.9 | 19.2 | 19.1 | 18.4 | 16.8 | Trace | 62.3 | 1 | 12.1 | 201 | 0.0 | 3.87 | Hot and sunny |
| 16 | 1 | SE | 3 | 7 | 2 | 23.5 | 18.5 | 60 | 28.2 | 15.9 | 7.6 | 21.5 | 20.0 | 19.1 | 19.2 | 18.5 | 17.0 | 0.0 | 62.3 | 1 | 12.3 | 201 | 0.0 | 3.76 | Overcast |
| 17 | 2 | S | 2 | 7 | 2.0 | 24.5 | 19.9 | 64 | 27.2 | 16.8 | 14.0 | 23.0 | 21.0 | 19.5 | 19.5 | 18.7 | 17.0 | 0.0 | 62.3 | 1 | 4.5 | 104 | 0.0 | 2.84 | Thunder, lightening, no rain |
| 18 | 3 | | 1 | 6 | 5.0 | 23.1 | 20.9 | 73 | 27.3 | 15.1 | 12.7 | 22.5 | 21.0 | 19.6 | 19.5 | 18.7 | 17.0 | 0.0 | 62.3 | 0 | 4.8 | 188 | 0.0 | 3.46 | Hot and muggy |
| 19 | 4 | E | 2 | 6 | 5 | 22.0 | 19.2 | 76 | 26.4 | 16.9 | 16.3 | 23.1 | 21.2 | 20.2 | 19.6 | 18.7 | 17.2 | 0.0 | 62.3 | 0 | 10.4 | 170 | 0.0 | 3.90 | Wind became stronger over the day |
| 20 | 1 | SE | 3 | 6 | 5.0 | 23.3 | 19.6 | 70 | 28.2 | 13.2 | 11.2 | 21.9 | 19.6 | 19.5 | 19.6 | 18.1 | 17.2 | 0.0 | 62.3 | 0 | 9.0 | 198 | 0.0 | 3.55 | Rain overnight |
| 21 | 3 | SW | 3 | 6 | 5.0 | 24.7 | 20.5 | 67 | 26.1 | 16.8 | 15.4 | 23.0 | 20.7 | 20.3 | 19.8 | 19.0 | 17.3 | 3.7 | 66.0 | 0 | 3.7 | 160 | 0.0 | 2.41 | Thin, high cloud, evening rain |
| 22 | 2 | N | 2 | 7 | 2.0 | 20.6 | 18.2 | 78 | 25.4 | 16.9 | 16.5 | 21.9 | 20.1 | 20.0 | 19.8 | 18.9 | 17.4 | 7.6 | 73.6 | 1 | 10.0 | 120 | 0.0 | 2.99 | Rain late afternoon |
| 23 | 8 | S | 3 | 6 | 2.0 | 20.5 | 19.8 | 93 | 26.2 | 17.4 | 17.2 | 20.0 | 20.2 | 20.0 | 20.0 | 19.0 | 17.4 | 3.8 | 77.4 | 1 | 4.1 | 165 | 0.0 | 2.19 | Intermittent rain, clouds less developed |
| 24 | 7 | ESE | 2 | 6 | 60.0 | 18.9 | 18.8 | 99 | 21.3 | 18.2 | 17.8 | 20.6 | 20.5 | 20.2 | 20.1 | 19.1 | 17.4 | 18.7 | 96.1 | 2 | 0.0 | 116 | 0.0 | 1.07 | Intermittent rain |
| 25 | 8 | NNW | 2 | 7 | 63.0 | 16.8 | 16.7 | 99 | 20.4 | 19.1 | 16.8 | 18.6 | 18.5 | 19.0 | 19.6 | 19.1 | 17.5 | 6.7 | 102.8 | 2 | 2.5 | 70 | 0.0 | 2.26 | Intermittent rain - some showers heavy |
| 26 | 6 | SSW | 2 | 7 | 2.0 | 17.0 | 15.3 | 83 | 21.3 | 19.4 | 9.7 | 18.7 | 16.9 | 17.2 | 19.0 | 18.9 | 17.5 | 2.6 | 105.4 | 1 | 7.2 | 214 | 0.0 | 2.19 | Rain in the afternoon, very overcast |
| 27 | 8 | SSE | 4 | 6 | 62.0 | 17.6 | 16.9 | 93 | 17.9 | 11.8 | 13.8 | 17.4 | 16.9 | 17.1 | 18.6 | 18.5 | 17.5 | 1.7 | 107.1 | 1 | 0.0 | 225 | 0.0 | 0.88 | Intermittent rain with the wind picking up after 5pm |
| 28 | 8 | | 1 | 7 | 25.0 | 13.5 | 13.2 | 97 | 13.0 | 9.4 | 10.0 | 15.0 | 14.9 | 15.6 | 17.8 | 18.2 | 17.4 | 5.8 | 112.9 | 2 | 3.2 | 277 | 0.0 | 2.12 | Intermittent rain before 9.30 am, overcast all day with storms at 6pm |
| 29 | 4 | W | 6 | 7 | 2.0 | 16.8 | 14.2 | 74 | 20.0 | 12.1 | 11.6 | 16.8 | 16.6 | 11.9 | 17.6 | 17.5 | 17.3 | 10.0 | 122.9 | 2 | 8.0 | 270 | 0.0 | 2.43 | Cold and blustery, rain at 10pm |
| 30 | 8 | SSW | 1 | 6 | 2.0 | 16.8 | 16.5 | 97 | 18.5 | 11.9 | 10.9 | 16.5 | 16.6 | 16.6 | 17.4 | 17.7 | 17.1 | 1.2 | 124.1 | 2 | 2.8 | 169 | 0.0 | 1.52 | Drizzle on and off through the day |
| 31 | 8 | SE | 3 | 6 | 2.0 | 16.0 | 15.1 | 90 | 22.4 | 10.6 | 9.1 | 16.1 | 16.0 | 16.4 | 17.0 | 11.4 | 17.0 | 0.1 | 124.2 | 2 | 2.4 | 302 | 0.0 | 1.71 | Slight drizzle |

| EXTREMES | DEG C | DAY | MEAN AIR TEMPERATURES | DEG C | SOIL TEMPS | DEG C | RELATIVE HUMIDITY | | SUN | |
|---|---|---|---|---|---|---|---|---|---|---|
| HIGHEST SCREEN MAX | 32.1 | 11 | MEAN DAILY TEMP | 19.6 | 5 CM MEAN | 20.6 | MONTHLY MEAN % | 78 | MONTHLY TOTAL HRS = | 214 |
| LOWEST SCREEN MIN | 9.0 | 2 | MEAN DAILY MAX | 24.3 | 10 CM MEAN | 19.3 | DAYS >= 95% | 6 | | |
| LOWEST SCREEN MAX | 17.9 | 27 | MEAN DAILY MIN | 14.8 | 20 CM MEAN | 18.4 | | | DAYS SNOW LYING = | 0 |
| HIGHEST SCREEN MIN | 19.4 | 26 | | DAYS | 30 CM MEAN | 18.5 | RAINFALL | | DAYS GALE (8 OR MORE) = | 0 |
| LOWEST GRASS MIN | 7.6 | 16 | AIR FROSTS | 0 | 50 CM MEAN | 17.8 | TOTAL MONTHLY (mm) | 124.2 | DAYS FOG (09.00 HRS) = | 0 |
| MOST RAIN IN A DAY | 47.5 | 12 | GROUND FROSTS ON | 0 | 100 CM MEAN | 16.7 | DAYS >=0.2 mm | 13 | DAYS THUNDER HEARD = | 3 |