

EPIC CASE STUDY

AL SALAMAT PARK

AL AIN MUNICIPALITY · AL AIN, UNITED ARAB EMIRATES · 2012

Nineteen weeks of independent municipal inspection through an Al Ain summer, side by side with the municipality's own irrigation, including a mid-season stress episode and its recovery.

19	45°C	96%
WEEKS OF INDEPENDENT municipal inspection	PEAK AVERAGE temperature recorded	GROWTH RECOVERY assessed at W19

EVIDENCE LEVEL

MONITORED · Independent weekly municipal inspection · dated photographic record · weekly meter readings for both halves

Al Salamat Park, Al Ain, August 2012, late in the monitoring period.

PROJECT RECORD

MONITORING BODY	Al Ain Municipality
LOCATION	Al Salamat Park, Al Ain, UAE
MONITORING PERIOD	23 April 2012 to 27 August 2012, weeks W1 to W19
CONFIGURATION	A turf area at Al Salamat Park split between the municipality's conventional irrigation and EPIC's sub-surface system, inspected side by side
RECORDED EACH WEEK	Al Ain municipality meter reading, EPIC Green Co. meter reading, average temperature, and written notes on plant condition and ground humidity
TEMPERATURE RANGE RECORDED	35°C in April rising to 45°C in May, 40 to 43°C through the summer, 39°C at the final inspection

THE SETTING

Al Ain Municipality inspected both halves of the same field each week, on its own forms and in Arabic, and wrote down what it saw.

The trial ran through the hardest part of an Al Ain summer, with recorded average temperatures reaching 45°C, and it included a mid-season stress episode on the EPIC side that the municipality documented week by week.

That episode and its recovery are set out week by week on the following pages.

HOW IT WAS MONITORED

Nineteen weekly inspections between 23 April and 27 August 2012. Thirteen carry meter readings; six weeks (W3, W4, W8, W14, W17 and W18) are recorded as “none”, W18 marked as the Eid holiday.

Each entry carries the municipality's own meter reading, EPIC's meter reading, the average temperature and free-text observations in Arabic on plant condition, weed presence and ground humidity, plus a dated photographic set of both halves of the field.

The municipality's notes are translated on the following page, including its criticisms and its one question, at W12.



Early in the monitoring period: both halves in condition.



Mid-June: the stress episode the municipality recorded from W9.

19
WEEKS OF INDEPENDENT MUNICIPAL INSPECTION

45°C
PEAK AVERAGE TEMPERATURE RECORDED

96%
GROWTH RECOVERY ASSESSED AT W19

THE MUNICIPALITY'S OWN NOTES, TRANSLATED

Observations as written in Al Ain Municipality's weekly monitoring table, 2012, translated from the Arabic.

WEEK	DATE	AVG TEMP	RECORDED OBSERVATION
W1	23 Apr	35°C	The turf on the company's side suffers pallor of colour.
W2	30 Apr	35°C	Same observation as the previous week. The reading was taken after the turf was mown.
W5	22 May	45°C	No harmful weeds at either trial site. The affected part of EPIC's section is the area that was patched. Some edges dry at both.
W7	4 Jun	43°C	Parasitic weeds appear in the municipality's plot, few or almost none in the company's. Dry edges in the company's trial.
W8	11 Jun		Mowing of the turf as part of routine maintenance work.
W9	19 Jun	40°C	Severe dryness appears on the company's section. Monitoring of growth rate after cutting begins.
W10	25 Jun	40°C	The dry part of the company's section begins to recover, very slowly; slight growth noted in some dry areas.
W11	2 Jul	40°C	Grass growth rate in the sub-surface system still weak.
W12	9 Jul	40°C	The company's turf begins to recover normal growth, 80% by observation. Parasitic plants in the municipality's part, absent in the company's. “To check with the company about the fertilising?”
W13	16 Jul	42°C	Turf recovered its natural growth; colour still slightly pale.
W15	30 Jul	43°C	Wilting present in the sub-surface irrigation part.
W16	6 Aug	41°C	Turf gradually recovering its natural colour. The dividing line between the two systems is noticeable.
W19	27 Aug	39°C	Parasitic plants (Euphorbia sp.) in the conventionally irrigated part. Turf recovered natural growth to 96%, held back by incomplete growth at the edges in EPIC's part; colour still pale. Possible mole-cricket larvae in the conventional part. Turf had not been mown up to the date of inspection.

METER READINGS AS RECORDED

WEEK	DATE	AL AIN MUNICIPALITY (M^3)	EPIC GREEN CO. READING
W1	23 Apr 2012	000047	0014581
W2	30 Apr 2012	000053	0019888
W5	22 May 2012	000072	00249729
W6	29 May 2012	000079	00249994
W7	4 Jun 2012	000085	00250002
W9	19 Jun 2012	000099	00279369
W10	25 Jun 2012	000105	00336237
W11	2 Jul 2012	000112	00359782
W12	9 Jul 2012	000119	00360372
W13	16 Jul 2012	000126	00380513
W15	30 Jul 2012	000140	0041981
W16	6 Aug 2012	000147	0044147
W19	27 Aug 2012	000163	00496488

Readings are as entered in Al Ain Municipality's weekly monitoring table. The municipality column is in m^3; the EPIC column carries no unit. The EPIC readings for W1, W2, W15 and W16 are entered with seven digits, the others with eight. Weeks W3, W4, W8, W14, W17 and W18 carry no readings (W18 Eid holiday). No irrigated area is given, so no saving is calculated from these readings.

WHAT THE PHOTOGRAPHIC RECORD SHOWS

- **April to May.** Both halves green and in condition, the EPIC side noted as paler.
- **Mid June to early July.** Extensive browning across the EPIC side, at recorded average temperatures of 40 to 43°C. This is the stress episode the municipality tracked from W9.
- **Late July to August.** Progressive recovery, reaching the municipality's assessed 96% of natural growth by 27 August, with colour still described as pale and edges incomplete.
- **Weeds.** In three separate weeks the municipality records parasitic weeds in its own conventionally irrigated half and few or none in the EPIC half, at W19 identifying them as *Euphorbia* sp. At W5 it records no harmful weeds at either site.

Monitoring table, W5, W7, W12, W19

THE RECORD IN PICTURES

The field through the monitoring period, from the dry period at its worst to the close on 27 August 2012.



The dry period at its worst.



Recovery beginning.



August: growth returned across the field.



The field at the close of the monitoring period.

RECORDS Al Ain Municipality weekly monitoring table for the Al Salamat Park trial, 23 April to 27 August 2012, in Arabic; dated photographic record of the park, 24 April to 27 August 2012; installation and post-installation photographs.