

Uruti Irrigation Model v1.4b

Uruti Virtual Climate Station  
Kaka Road Climate Station

Month	May	June	July	August	September	October	November	December	January	February	March	April	April
Days in Month	31	30	31	31	30	31	30	31	31	28	31	30	30
Average Evaporation mm	31.12	21.41	25.43	39.04	57.48	85.05	109.32	126.01	134.46	107.97	88.65	52.65	52.65
Average Rainfall mm	205.40	194.90	199.20	196.50	208.90	229.20	195.30	206.40	147.20	140.40	128.40	176.40	176.40
Rain mm/day	6.625806	6.49667	6.42581	6.33871	6.96333	7.39355	6.51000	6.65806	4.74839	5.01429	4.14194	5.88000	5.88000

878.60  
2,228.20  
1,349.60

	Pad area m <sup>2</sup>	1mm on 1m <sup>2</sup> (litres)	Runoff coefficient	Runoff m <sup>3</sup>
Rainfall Pad 1	7,765	1	7765	0.25
Rainfall Pad 3	8,133	1	8133	0.25
Rainfall Ponds	4,300	1	4300	1
Liquid deliveries				187.50
Truck wash water				50.00
Rainfall Baffling	1,000	1	1000	0.25
Rainfall Wash pad	1,000	1	1000	1
Evaporation Ponds	4,300	1	4300	1
Evaporation Wash ponds	500	1	500	1
				4.80

Liquid deliveries m<sup>3</sup>/month: 375  
Actual deliveries 2017: 187.50  
Used in composting: 0.50  
Composting MC best between 40 & 60%

	m <sup>2</sup>	1 m depth	M <sup>3</sup> per m
Pond Volume	1304	1	1304
Freeboard	1304	0.8	1043

Pumping rate m<sup>3</sup>/hr: 30

Sensibility test	Irrigation volume/yr	17,422
	Pumping rate M <sup>3</sup> /hr	30
	Irrigating hours/year	580.74
	Irrigating hours/week	11.17

13 Month Calendar 6 7 8 9 10 11 12 13 1 2 3 4 5

	Week 1	Week 2	Week 3	Week 4	Month									
Predicted Rainfall	Predicted	33.24	45.60	45.10	44.49	48.88	34.90	16.21	46.73	33.33	35.20	29.07	41.27	41.27
	Predicted	33.24	45.60	45.10	44.49	48.88	0.00	37.70	46.73	33.33	35.20	29.07	41.27	41.27
	Predicted	33.24	45.60	45.10	44.49	48.88	7.71	41.27	46.73	33.33	35.20	29.07	41.27	41.27
	Predicted	33.24	45.60	45.10	44.49	48.88	18.51	41.27	46.73	33.33	35.20	29.07	41.27	41.27
	Predicted	132.95	182.41	180.42	177.97	195.51	61.12	136.45	186.94	133.32	140.79	116.29	165.09	165.09
Rainfall falling onto the pads & ponds	Week 1	375.96	493.71	488.97	483.15	524.91	391.79	213.77	504.50	376.83	394.60	336.28	452.48	452.48
	Week 2	375.96	493.71	488.97	483.15	524.91	59.38	418.49	504.50	376.83	394.60	336.28	452.48	452.48
	Week 3	375.96	493.71	488.97	483.15	524.91	132.81	452.45	504.50	376.83	394.60	336.28	452.48	452.48
	Week 4	375.96	493.71	488.97	483.15	524.91	235.67	452.45	504.50	376.83	394.60	336.28	452.48	452.48
	Month	1,503.83	1,974.83	1,955.88	1,932.59	2,099.63	819.64	1,537.16	2,017.99	1,507.31	1,578.41	1,345.13	1,809.92	1,809.92
Less evaporation = Amount to be irrigated	Week 1	(338.62)	(468.02)	(458.46)	(436.30)	(455.93)	(289.72)	(82.58)	(353.28)	(215.47)	(265.03)	(229.91)	(389.30)	(389.30)
	Week 2	(338.62)	(468.02)	(458.46)	(436.30)	(455.93)	42.69	(287.30)	(353.28)	(215.47)	(265.03)	(229.91)	(389.30)	(389.30)
	Week 3	(338.62)	(468.02)	(458.46)	(436.30)	(455.93)	(30.74)	(321.26)	(353.28)	(215.47)	(265.03)	(229.91)	(389.30)	(389.30)
	Week 4	(338.62)	(468.02)	(458.46)	(436.30)	(455.93)	(133.61)	(321.26)	(353.28)	(215.47)	(265.03)	(229.91)	(389.30)	(389.30)
	Month	(1,354.47)	(1,872.06)	(1,833.82)	(1,745.20)	(1,823.72)	(411.38)	(1,012.41)	(1,413.13)	(861.89)	(1,060.14)	(919.63)	(1,557.19)	(1,557.19)

1,974.35  
2,220.23

Planned irrigation	Month	1,860.00	1,860.00	1,833.00	1,745.00	1,823.00	1,806.00	1,453.00	1,413.00	861.00	1,060.00	919.00	1,557.00	1,557.00
Week	Week	465.00	465.00	458.25	436.25	455.75	451.50	363.25	353.25	215.25	265.00	229.75	389.25	389.25

19,747.00  
4,936.75

	Week 1	Week 2	Week 3	Week 4	Month									
Volume irrigated	Entered	338.62	468.02	458.46	436.30	455.93	289.72	82.58	353.28	215.47	265.03	229.91	389.30	389.30
	Entered	338.62	468.02	458.46	436.30	455.93	(42.69)	287.30	353.28	215.47	265.03	229.91	389.30	389.30
	Entered	338.62	468.02	458.46	436.30	455.93	30.74	321.26	353.28	215.47	265.03	229.91	389.30	389.30
	Entered	338.62	468.02	458.46	436.30	455.93	133.61	321.26	353.28	215.47	265.03	229.91	389.30	389.30
	Month	1,354.47	1,872.06	1,833.82	1,745.20	1,823.72	411.38	1,012.41	1,413.13	861.89	1,060.14	919.63	1,557.19	1,557.19

4,371.91  
17,422.25

	Week 1	Week 2	Week 3	Week 4	Month									
Pumping hours required per week	Pumping	11.3	15.6	15.3	14.5	15.2	9.7	2.8	11.8	7.2	8.8	7.7	13.0	13.0
	Pumping	11.3	15.6	15.3	14.5	15.2	(1.4)	9.6	11.8	7.2	8.8	7.7	13.0	13.0
	Pumping	11.3	15.6	15.3	14.5	15.2	1.0	10.7	11.8	7.2	8.8	7.7	13.0	13.0
	Pumping	11.3	15.6	15.3	14.5	15.2	4.5	10.7	11.8	7.2	8.8	7.7	13.0	13.0
	Month	45.15	62.40	61.13	58.17	60.79	13.71	33.75	47.10	28.73	35.34	30.65	51.91	51.91

580.74  
(580.74)

Pond freeboard storage (M <sup>3</sup> ) at 1st day of month	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Surplus liquid	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pond vol at end of month	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Pond vol per metre	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0
Pond depth (at beginning of month)	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
Pond depth (at end of 4 week month)	-0.769	-0.769	-0.769	-0.769	-0.769	-0.769	-0.769	-0.769	-0.769	-0.769	-0.769	-0.769	-0.769	-0.769

