

IRRIGATION AND DRAINAGE

Appendix C

Irrigation and Drainage

Contents

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APPENDIX C-1 Water Quality Investigation

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In order to know the quality of irrigation water to be applied and groundwater in Wadi El Arish, samples were collected and investigated during this Study. For the irrigation water, places where the samples were collected are intake of El Salam canal, Serw and Hadous drains. For the groundwater in Wadi El Arish, a review of previous reports was done, and samples from existing wells were collected and investigated.

(1) Irrigation Water Quality

The tests had been carried out in May and September of 1996, and the results are shown below with values of different water quality parameters such as pH, electric conductivity (EC), dissolved oxygen (DO), temperature (T), and total dissolved solids (TDS).

1	Water Quality at	Intake of El	<u>Salam and D</u>	rains	· · · · · · · · · · · · · · · · · · ·
pH	EC(mS/cm)	DO(mg/l)	Temp.(°C)	TDS(ppm)	Remarks
7.77	0.598	2.88	26.1	200	May 13 '96
7.72	0.601	3.00	26.1	200	May 13 '96
7.98	0.594	5.64	28.8	200	May 17 '96
8.40	0.761	6.63	28.1	300	Sep 21 '96
7.68	0.594	1.78	28.8	200	Sep 21 '96
7.63	0.590	3.83	29.8	200	Sep 22 '96
7.64	0.590	3.68	30.7	200	Sep 22 '96
	0.618	3.92	28.3	210	
	1.45	1.55	24.0	600	May 13 '96
	1.47	1.87	24.2	600	May 13 '96
	2.17	1.67	24.7	1000	May 17 '96
	1.99	2.01	26.0	900	Sep 21 '96
7.46	1.99	1.80	26.0	900	Sep 22 '96
7.47	2.02	1.88	25.4	900	Sep 22 '96
7.51	1.85	1.80	25.0	820	
7.75	3.11	3.55	26.4	1500	May 13 '96
	3.16	2.84	25.0	1500	May 17 '96
	2.30	4.59	26.5	1100	Sep 21 '96
1.1	2.62	1.69	26.3	1200	Sep 22 '96
	2.59	1.89	26.2	1200	Sep 22 '96
1. A.	2.76	2.91	26.1	1300	
	pH 7.77 7.72 7.98 8.40 7.68 7.63 7.64 7.83 7.64 7.83 7.54 7.55 7.52 7.52 7.52 7.46 7.47	pH EC(mS/cm) 7.77 0.598 7.72 0.601 7.98 0.594 8.40 0.761 7.68 0.594 7.63 0.590 7.64 0.590 7.83 0.618 7.54 1.45 7.55 1.47 7.52 2.17 7.52 1.99 7.46 1.99 7.46 1.99 7.47 2.02 7.51 1.85 7.75 3.11 7.66 3.16 7.74 2.30 7.54 2.62 7.59 2.59	pHEC(mS/cm)DO(mg/l)7.770.5982.887.720.6013.007.980.5945.648.400.7616.637.680.5941.787.630.5903.837.640.5903.687.830.6183.927.541.451.557.551.471.877.522.171.677.521.992.017.461.991.807.472.021.887.511.851.807.753.113.557.663.162.847.742.304.597.592.591.89	pHEC(mS/cm)DO(mg/l)Temp.(°C)7.770.5982.8826.17.720.6013.0026.17.980.5945.6428.88.400.7616.6328.17.680.5941.7828.87.630.5903.8329.87.640.5903.6830.77.830.6183.9228.37.541.451.5524.07.522.171.6724.77.521.992.0126.07.461.991.8026.07.472.021.8825.47.511.851.8025.07.742.304.5926.57.542.621.6926.37.592.591.8926.2	7.77 0.598 2.88 26.1 200 7.72 0.601 3.00 26.1 200 7.98 0.594 5.64 28.8 200 8.40 0.761 6.63 28.1 300 7.68 0.594 1.78 28.8 200 7.63 0.590 3.83 29.8 200 7.64 0.590 3.68 30.7 200 7.83 0.618 3.92 28.3 210 7.54 1.45 1.55 24.0 600 7.55 1.47 1.87 24.2 600 7.52 2.17 1.67 24.7 1000 7.52 1.99 2.01 26.0 900 7.47 2.02 1.88 25.4 900 7.47 2.02 1.88 25.0 820 7.75 3.11 3.55 26.4 1500 7.74 2.30 4.59 26.5 1100 7.54 2.62 1.69 26.3 1200

The values of pH mostly range between 7.0 and 8.0, and no noticeable difference is found among the samples. EC of Nile water is about 0.6 mS/cm, while drainage waters show 1.85 mS/cm for Serw and 2.76 mS/cm for Hadous in average respectively, suggesting higher salinity level of drainage waters than those of Nile water. Nile water's DO is about 3.9 mg/l which is about 1.0 mg/l higher than those of drainage water. Temperature varies widely from 24°C to 31°C, depending upon the location and season tested.

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The TDS reveals that the salinity of Nile water is low which is only about 200 ppm to 300 ppm. On the othe hand, water of two drains showed a high salinity ranging from 600 ppm to 1500 ppm with the

highest count in Hadous drain water. Although the data is not enough to assure, the TDS after mixing the Nile water with the drainage waters (1:1) will be less than 1000 ppm which was designed for this Project.

(2) Groundwater Quality at Wadi El Arish

(a) Review of Past Studies

According to the information collected during the field surveys and from the review of existing reports, the use of groundwater from sand, gravel and Kurkar aquifers in this area as a precious water source started as early as 1920s. Up until 1970s the rate of well installation was not so rapid. However, in 1980s the installation increased sharply and number of wells reaches about 200 scattering in EL Arish area. The main purpose of these wells is to serve as source for domestic (except for drinking) and irrigation water.

There are two (2) previous studies; namely, Sinai Development Study (SDS) and Groundwater Management Study in Arish-Rafah Plain area (GMS) that have data on groundwater quality. In 1985, SDS compiled available data on water quality for the whole Sinai area, and GMS for the Coastal Plain from EL-Arish to Rafah in 1988.

The data were derived from exploratory wells, test wells, Piezometers and some production wells. The analysis of samples reveals that concentration of major ions expressed as total dissolved solids (TDS) is generally high and is the prevailing problem in the El Arish area. However, TDS values vary over a wide range depending on the location. For example, the TDS value ranges between 900-2000 in the western side of El Arish, whereas it is between 1500-6500 in the eastern side. Relatively lower TDS values were observed in the well fields in the south of El Arish Airport. Figure C-1 shows the average value of TDS at El Arish area which was studied by GMS in 1988.

From the high values of TDS, it can be concluded that salinity is a prevailing problem in the area and its origin is the major concern. In general, there are two (2) possible causes that influence the high salinity of the groundwater; namely, intrusion of the sea water and up coming of deep-born old groundwater due to over extraction. The analysis of Requ values and the ratio of Na/Cl reveals that a heavy influence of sea-water salinity in the groundwater is unlikely. Consequently, the present salinization hazard in El Arish may be caused due to up-welling of deep-born and highly mineralized old groundwater in the areas inflicted by over-pumping.

According to the study made by SDS, the total amount of groundwater use was estimated at 51,000 cum/day in Et Arish. Considering the size of well fields, the overall discharge was estimated to be 350 mm/year. On the other hand, estimated recharge rate varied from 94 mm/year to 876 mm/year. This may suggest that there is seepage from old aquifers into the Quaternary aquifers depending on the hydrology and the pumping rate.

The above mentioned high discharge rate has caused the remarkable increase in TDS values and also

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caused the lowering of water level. In 1962, water level of the well fields in El Arish was in a range between two (2) to four (4) m MSL. However, it has lowered greatly in 1980s and is now reported to be about zero (0) m or lower than the MSL. Quoting the results of GMS, table below shows the change in TDS values from 1962 to 1988 and Figure C-2 shows the change in water levels between 1962 and 1988.

	Comparison	of Water Ouali	ty between 19	62 and 1988
Grid No.	TDS in 1962	TDS in 1988	Difference	Extraction cum/day
4-3	1200 ppm	2000 ppm	800 ppm	2000
5-2	1300	2000	700	105
7-2	2000	3000	1000	624
7-4	1700	2600	900	3600
7-6	2100	2700	600	1000
8-6	2200	3100	900	800
9-3	3200	3900	700	2550
9-4	2300	3900	600	880
9-5	2700	4900	2200	1270
9-6	2000	3700	1700	1610
9-6	2000	2700	700	NA
9-6	2800	5100	2300	NA

Note: Grid number is referred to in Figure C-1.

(b) Investigation of Groundwater Quality

As it was mentioned in the previous paragraphs that there are about 200 wells in El Arish area and those are mostly serving as a precious source of irrigation water. The depth of the wells is about 60 m and the yield ranges 30 to 40 cum/hour, commanding 20 to 80 feddans. In order to know the existing quality of the groundwater, 20 representative wells scattered over the area were selected for the water quality investigation (see Figure C-3).

The results of the 20 wells are shown below. Values of pH are mostly between 7.0 and 8.0, showing no noticeable difference among the samples. DOs vary widely from 3 mg/l to 12 mg/l depending on the location tested, but fall into relatively high range. Temperature shows little difference with the average of about 24

On the basis of EC and TDS values, the table reveals that the wells may be divided into three (3) groups; namely, wells in the south of El Arish Airport belong to first group (Well No. 1 to 6), wells between the Airport and El Arish city but eastern side of the Wadi (Well No. 7 to 15) belong to the second group, and the last group of the wells are located in the same area as the second but western side of the Wadi (Well No. 16 to 20).

The TDS results of first group is moderate and ranges between 1300 ppm to 2700 ppm with the average of 1850 ppm. Farmers in this area can grow melons and tomatoes without any problem of salinity. The second group, wells in the eastern side of the Wadi, has the highest count of salinity. Farmers reported that sometimes salt had accumulated on the surface of the ground and crops other than olive are difficult to grow. The TDS ranges between 2300 ppm to 5500 ppm with the average of

3250 ppm. The water quality of third group were found to be almost same as those of first group but slightly less in the salinity concentration expressed as TDS. The TDS ranges from 1400 ppm to 1700 ppm. Apart from olives, the crops that grow in this area are melon and courgette.

Well No.	pll	EC(mS/cm)	DO(mg/l)	Temp.(°C)	TDS(ppm)	Remarks
No.1	7.55	4.30	9.14	24.5	2200	at pond
No.2	7.68	4.22	12.01	25.5	2100	at pond
No.3	7.32	3.08	6.53	24.4	1500	
No.4	7.78	2.74	10.23	24.7	1300	at pond
No.5	7.76	2.81	10.61	24.2	1300	at pond
No.6	7.40	5.32	3.04	24.3	2700	
Avg	7.58	3.75	8.59	24.6	1850	
No.7	7.28	5.51	4.91	27.7	2800	
No.8	7.26	5.83	5.68	23.3	3100	
No.9	7.40	6.90	4.60	26.0	3800	e d'anna an Anna Anna Anna Anna Anna Anna A
No.10	7.23	9.90	6.39	23.7	5500	
No.11	7.44	6.25	4.01	25.5	3300	
No.12	7.48	4.55	5,61	23.0	2300	
No.13	7.22	5.66	4.93	23.0	2900	
No.14	7.26	4.84	6.08	22.8	2500	and and the state of the second se
No.15	7.29	5.69	4.61	23.8	3000	
Avg	7.32	6.13	5.20	24.3	3240	
No.16	7.67	3.14	6.05	24.8	1500	domestic
No.17	7.15	3,39	5.01	22.9	1700	an a
No.18	7.42	3.28	7.28	23.4	1600	at pond
No.19	8.71	2.91	14.38	23.1	1400	at pond
No.20	7.64	3.19	7.11	24.8	1600	an an tha an tha
Avg	7.72	3.18	7.97	23.8	1560	

Note:

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The test was carried out on May 15 & 16, 1996.

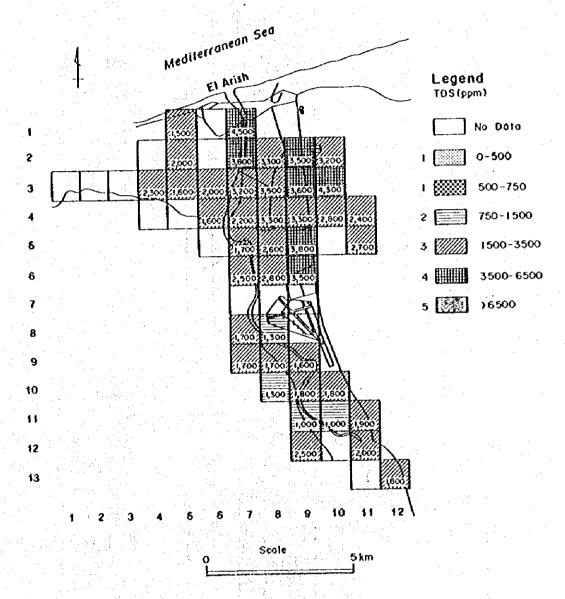
The water was sampled from the pipe connected to the well pump or farm pond located beside the well as remarked "at pond".

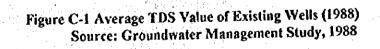
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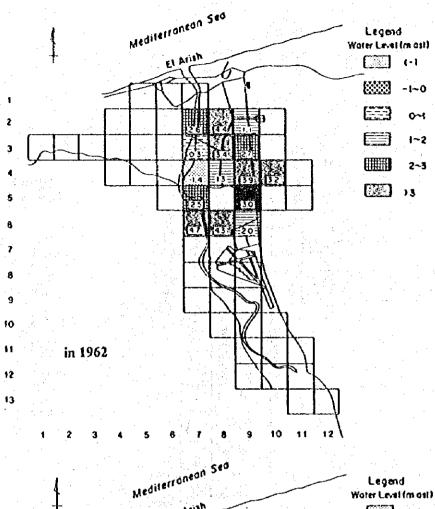




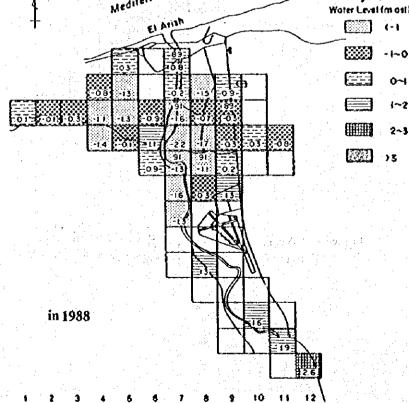
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> Figure C-2 Change in Water Levels between 1962 and 1988 Source: Groundwater Management Study, 1988

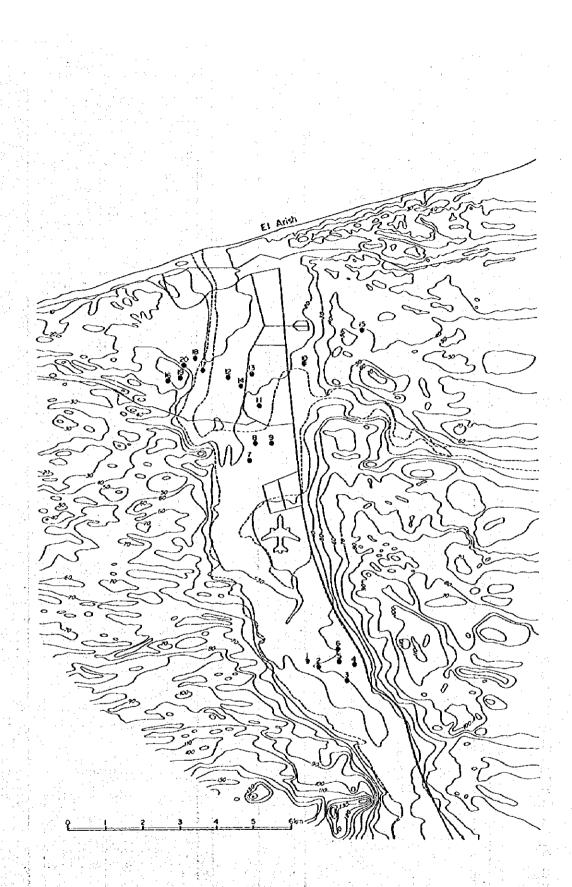


Figure C-3 Location of the Wells Investigated by the Team

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APPENDI	C-2 Mete	sorologici	al Data in	APPENDIX C-2 Meteorological Data in El Arish Station	tation				•				
					f	-	•	00	-	4 1 1	1		•
		Table C-1	Monthly	Ly Precipitation	×.	ecord bet	Ween 1980	ANE 1990	Sep.	UCT-	Nov.	Dec.	Annual
1085	110	י נ נ		21.5		0.0	4	6			27.		~
1987	3.1	2.2	15.0	6	0.0	•			0.0	5.7	0.0	17.1	45.5
1988	45.5	13.3	12.4	6.8	0.0	•	0 0	0.0	0.0	1.0	6.0	27.6	112.6
080	•	35.5	26.5	0.0	Tr	0.0			•	1.•	•		225.5
0001	•	15.3	31.6	14.3	~	4	• •	·i •	0.0	۰.	•		105.7
1001	•		55.0		0.0	• •		•	•	- ie	•	5.3	143.3
1001	37.4	37.3	11.3	0.2	0.2	0.0	1	•	0.0	0.0	5.3	66.3	158.0
1993		88.5	8-6		1.4		۱ •	1 •	0.0	· •.	27.1	23.7	\circ
1994	•	5.0	25.9	0.3	1.0	•	ş •	1 -	•	•	61.7	44.8	178.9
1995		11.9	8	3.6	54 E-1	1.1	0.0	1.	0.0	0.0	7.4	3.6	31.4
EllS	434.9		191-9	47.9	5.0	1.0	0.0	0.0	0-0	16.4	142.8	208.0	1,284.5
Average		23.7	51	4.8	0.6	0.1	0.0	0.0	0.0	1.6	•	20.8	128.5
Sample No	· +-	10	1	10	8	10	10	10	10	10	10	10	10
													Tr:Trace
		Table C-2	Monthlv	Mean	Evaporatio	n Record	between 1	986 and 19	995 at El	Arish Sta	tion,	mm/day	
YART	L.C.		Mar.	ADT.		Jun.		Aug.	e p	6	Nov.	Dec.	Annual
1986	۰ μ	ч	6.02	7.69	8.66	10.81	10.77	i۰		•	4.02	3.59	2,624.96
1987	3.75	4.86	6.58	7.83	8.50	•	10.13	10.23	8.99		4.33		
1588	3.59	5.00	5.86	6.84	11.26	11.05	10.78	•	7.90	6.37	4.13	3.74	2,643.82
1989	2.91	3.80	5.58	8.14	9.91	1.		9.31	•		5.40	4.63	I
1990	5.04		5.73	7.07	8.05	•			•	• 1	•	-	3
1991	5.48		6.20	7.61	8.03	10.25	10.18	•	8 17	•	•1		اف
1992	3.79	F.	5.79	6.54	8.64	•		•	-	- 61	•		യ
1993	3.83	4.65	6.76	8.28	16-7	٠				•	٠		-1
1994	4.09		5.50	8.16	8 44	•		8.92	7-91	- •1	4.54	- 41	_
1995	2.79	3.54	5.16	6.73	¢.,	•			• • •	• • •	- 1		2,198.52
	· ·	ł											
Sum	39.49	47.45	59.18	74.89	87.13	101.19	103.30	95-54	86.21	•	•	.36	- • •
AVETACE	3.95	4.75	5.92	7.49	8.71	-:	•	9.55	8.62	6.51	4.75	3.94	2,574.07
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Average Sample No

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╞	1 C T		*			22_9	1.			1 .	16.4		•
	· · · ·			.1		24.5	26.7	26.3	•	• •	•	•	•
	10.0	300	• 1	19.5	21.5	23.0	25.7	25.7	24.7	21.6	18.0	10.6	- • 1
		1 4	15.4	18.2		23.6		25.5	۰.		•	•	-+{
	0 · 7 · 6	14.5	4	• • •	20.6	23.5			• •	· •	•	- 14	19.8
			• 1	•1		21_0		26.0	24.5	•	•	- •1	÷ •
	• L	2	14.7	18.7		25.2	26.4		•	•	18.5	പ്	19.8
	• 5	13.0	•1	20.1		21.6	•	24.0	24.0	24.9		•	19.1
	4	13:0	1.	16.9	1 •	24 8		26.6	25.1	21-6	16.6	12.8	19.3
		•1						 			ł		
	26.3	133_3	150.8	184.1	202.6	•	256.9	258.9	247.6	പ്പ	174.0	133.3	;,
Average	G		15.1	10.4	20.3	23	25.7	25.9		22.5	•	- e 1	19.4
	5	1-4	10	(10	10	101	10	10	10.	10	10	011
									· · · ·			••	
	alas Tahla	10 C-4	Monthlv	lv Maximum	Tempera	ture Record	rd between	1986 an	d 1995 at	El Arish	Station,	ိ	
1 1.25			Mar		Mav	1.0	Jul.	Aug.	Sep.	0ct.	Nov.	Dec.	101
2	-	91.9	2.8	26.3	25.7	31.0		31.9	31.6		22.5		- 1
	20.8	22_3	•	23.2	27.2	29.2	31.5	31.9	29.7	26.9	24.2	20.3	25.6
	× ×	0	21.2		29.3	31.8	ι.	- e	30.9		- •1	- L	
-	15.0	2 4	20.5	27.8		29.3	30.8	۰ ا	1.	27.9	•		
-	17.8	- C	20.8	25.0	25.7	29.3		30.9	29-5		•	- i f	
	0.01	2 10	225	26.3	26.6	29.0	1.	•	29.7	- A.		17.3	•
	12.6	1.72			• •	31.2			29.0	5	•	18.1	- • •
+	10 11	4.4.	20.5	•	• •	30.3	31.5	•		31.0	25.0	21.6	- i i
			0000	2002	•1	30.2	1.	•			•	- 61	26.5
+	•	•	0.02	•	2.25	0.65				27.5	23.7	20.3	26.0
-	14.4	1.21	0.33	•1	•	5	• !	1		i –			
	. 1	0.00	3 0/6	254 2	270 0	303 4	316.2	317.4	303.8	6	241.6	199.1	256.8
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and 1995 at El Arish Station, °C	Sep. Oct.	20.5 17.1 10.7 8.8 1	19.0 16.2 10.4 1	19.2 15.3 8.9 7.6 13.	19.6 16.1 12.6	19.6 17.3 13.9 10.	19.7 18.0 11.9 7.5 14.	19.2 16.4 12.5 8.1 13.	19.0 17.1 12.6 10.2 13.	21.3 19.2 13.5 7.3 14.	19.7 15.8 10.3 6.9 13.5		196.8 168.5 117.3 85.6 140.1	.7 16.9 11.7 8.	1 10 10 10 10 10 10 10 10 10 10 10 10 10	1995 at El Arish Station, %	Sep. Oct.		77 71 71 68	78 74 74 74 7	71 72 78 73	71 72 63 60 6	74 78 81 70 7	71 76 68 74 7	72 70 70 79 7	74 69 70	
1986	Aug.	~	-9-		 00	4.		.5 22.0	 	4.	. 7 .		.5 209.5	.5. 21.	10 1	en 1986 and	Aug	73 74	76 68				75 76		74 86	69 72	
re Record between	I C	- 9 . 8	16.8 19	2	. 6	.6	18.0 19		17.9 20	18.2 20	18.2 21		179.7 204	0.	10	Record between	Jun.	69	74	64	58	- 63	71	64	75	69	
. Temperature	May	4.0	13.1	14.7	15.3	14.3	14.7	14.4	14.0	14.5	•	i –	142.9	14	+	re Humidity	May		67	65	68	0.4	69	65	72	67	
Monthlv Minimum	Apr.	14.0	10.5	- ÷	12.6	12.4	14.0	10.9	11.4		1 .		120.9		10	Mean Relative	ADT.	73	129	72	. 65	÷.	68	68.	67	62	
	Xa	1	~	G	6	10.		6		6			97.8	6	1	Monthlv Me	•	_			92				72		
Table C	Feb.	8		8		6			5.7	7.8	7.6	1	80.7			ېر د	Feb.		12	66		· ·,	99				-
ana Alberta maganawa a sa 200 ara ang ang ata	Jan.	4	6-4		9				10		6 9 9		76-8			Tahlo	l Jan	72	02	24	01	1 70	67	78	66.	68	
	Year	1986	1987	1988	1989	1990	661	1992	1993	1994	1995		E U	AVETARE	Sample No		Year	1986	1987	1988	1989	1990	1661	1992	1993	1994	1

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Sum Average Sample No

1995 at El Arish Station, % Sep. 0ct. Nov. Dec. Average Sep. 0ct. Nov. Dec. Average 93 85 87 88 84 87 93 85 87 88 85 84 86 95 90 88 85 84 74 85 84 85 84 74 68 83 85 84 85 85 84 79 86 84 86 82 85 85 84 70 85 84 83 83 84 86 84 70 85 84 83 84 84 87 86 821 829 84 84 84 84 87 82 82 83 84 84 84 84 84 87 82 82 83 85 84 84 84 84 84 84 84 84 84 84 84 <th>55 58 53 5 58 53 5 48 53 5 58 5 58 5 58 5 58 5</th> <th>62 53 5</th> <th>55 58 59 62</th> <th>54</th> <th>0</th>	55 58 53 5 58 53 5 48 53 5 58 5 58 5 58 5 58 5	62 53 5	55 58 59 62	54	0
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1986 and 92 92 92 93 94 94 94 94 94 94 99 99 90 10 10 10 10 10 10 10 10 10 10 10 10 10 1	55	52 62	61	20 20	26
between 11. 20 20 21 94 91 91 94 92 93 98 88 896 83 896 83 80 88 80 88 80 88 80 88 80 88 80 88 80 10 10 10 10 10 10 10 10 10 10	2 40 2 40	54 62	55	53 53	55
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uum Relative Npr. Ray 82 82 82 82 83 83 81 81 81 81 81 81 81 81 81 80 81 81 80 81 81 80 81 80 81 80 82 82 82 82 82 82 82 82 82 82	50 44	50	51	54 43	48
Maxin Maxin 885 / 722 / 10 / 10 / 10 / 10 / 10 / 10 / 10 / 10	43	59 75	51	57 53	46
b. b. 79 85 801 73 801 10 801 10	46 53	51	43 64	61 41	56
Table C- Table C- 79 83 90 77 77 77 77 75 810 810 10 10 10 10 10 10 10 10	54 64	54	09	62 49	50
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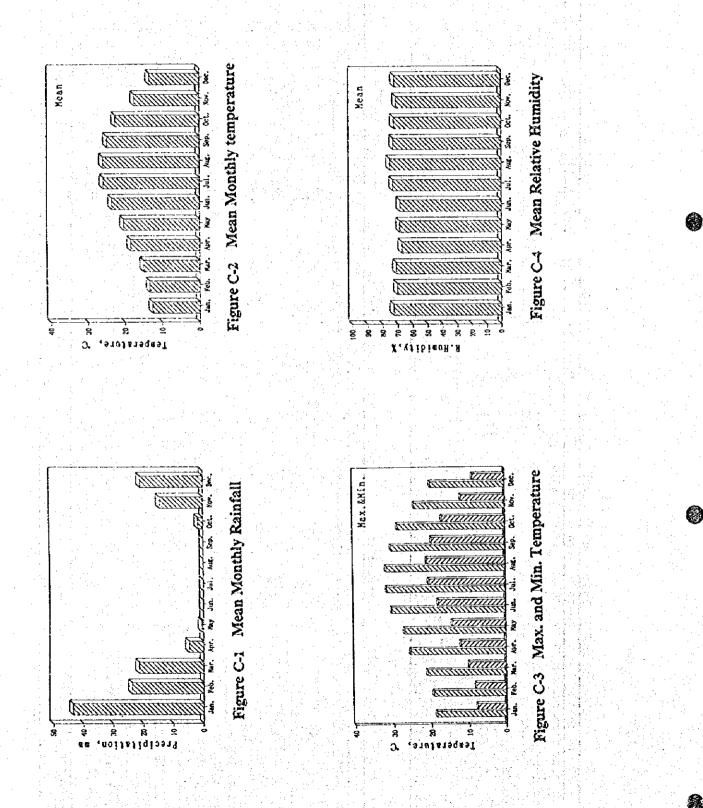
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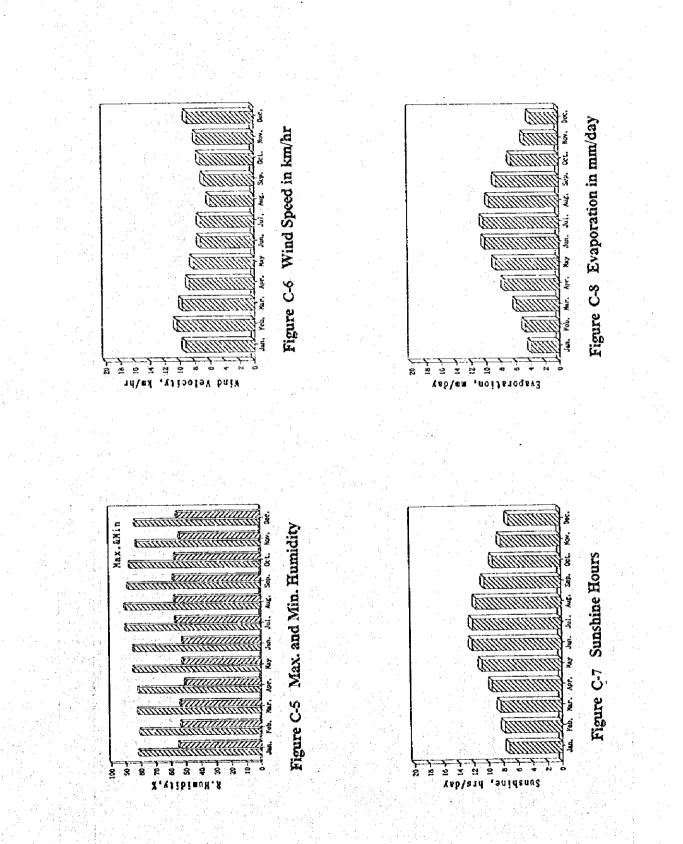
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	Annua l	25.7		പ്	84.3	54.0	69.2	8.1	9.5	2574.5	12				Remarks					-		ľ		Ī			Ī			ſ		Jd/Un=3			2002	l
	Dec. 1	•	8.6	14.3	83.0	55.0	69.0	6.8 0	1-1-2	5						16.37	11.30	5.07	0.85	0.39	0.62	10 12		× • • ×	4.84	3.63	13.55	0.19	0.73	1.90	1.72	0.99	,	1 4	83.45	
	Nov.	۰.				53.0			8.2	4	•1 •			14.	Nov.	20.60		6.70	0.76	0.34	0.66	10.00	101 U	01.0	7 01	4 43	14.20	0.18	0.80		2.43	00 0		3.32		
	0ct.	28.7	16.9	ł .		56.0			0		41 - I			-	0ct.	27.76	19.85	7.91	0.74	0 28	0 79	11 16	11.40	10.01	404-4	- V	15 16	0.14	-1			00	•	4.77	147.88	
1 D T T D		30.4	19.7	25.1	88.0	57.0	72.5	6.7		1.0		>		•	Sep.	31.89	23, 12	8 77	04.0	96.0	0.4.0		14.21	10.04	10.00	00.00	15 69	01.0		00-7 - 75	2 C	4		6.22	1 1	
	ADE.	31.7	21.0	26.4	0.06	57.0	73.5	o a	2 4 4 4	0.4		•		AV	A112 -	34.44	25 21	13-07	0.65	20.0	0.00		13.20	1.2.0	0/ 01	- 00 - 00	15 00	10-10		0.01	1.00	•	01.1	7.43	230.25	
	Kequired in	31.6	20-5	26.1	0.00	58.0	73.0	20	2.0		200		•	on mm/dav		41 1	24.62	00.12	07 C		0.63	2.0	13.98	18.0	16.50	14.11	00.0	55°C1	31.0	00-0	n) • 1	•	12.1	8.30	257 45	
ہ ہے	e i	30.3		24.2		040	0.82	200	7.7.	1.21	10-1-0	1 · T. • O		Www.matrensniration		80 18 -	20. 50	20.02	0.0	1	12.0	0 (3	14.10	0 86	17.00	11.04	00.0	C - C - C - C - C - C - C - C - C - C -	11.0	10.0	06 7	-1	1.19	8 14	244 20	•
	May May	1									2 - C 20 - C	0° و. 0		U.ronota	No in the		ין א 10	의							16.50				j	j	-	ام	1.18	1 7 25	• 1	
	logical Condition	APL - 10	F 6 F	- 0		010	2.20	00.00		5	7.5	4.8				- 74 P	7) 77	14.63	D4-7	0.83	0.33	0.68	12.94	0.73	15.10	9.32	6.39	14.36		0.76	1.90	5.03	1.14	£ 27	100	
	Meteorologi	710	2 0 7 0 7 0	ò v N V	¥•01	22.0	00.0	00	9.6	8 	5.9	21.3		444		721.	04.1	11.80	5.02	0.89	0.37	0.63	11.98	0.69	12.95	7.72	5.79	13.71	0.19	0.72	1.87	3.92	1.09	V & V	1 00 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	02.041
			1 1	•••	0.01	80.0	2.20	00.0	10.4	7.8		23.7		- A - A	Calculation of	rep.	10.00	10.56	5.32	0.94	0.39	0.61	11.08	0.70	10.45	6.29	4.72	13.46	0.20	0.73	- • I	• •	1.03	30 0		104.34
	I Summary of	Jan.	0.1 10.0		10.1	0.18	0.40	67.5	с. б	7.2		43.5			. P	Jan	11-01	10.20	4-91	0.87	0.40	0.60	10.34	0.70	8.55	5-11		13.32	0.20	0.73	1 93	1.90	0.99	• • •	+Q-2	1 R 1 9
	Table C-11	Item	Max. Temperature,		.	Relative Humidity,	Humidity,	fean Relative Humidity, X	fean Wind Speed, Km/h	Mean Sunshine, hours	E	Monthly Precipitation, mm			Table C-IZ	Item	ea, mbar	ed, mbar		Wind function f(u)	Weighting Factor (1-w)	Veighting Factor w	1000	al (n)/N	Radiation Ra	Radiation Rs	Net Shortwave Radiation Rns	f(T)	f(ed)	f(n/N)	Net Longwave Radiation Rnl	Net Radiation Rn=Rns-Rnl			LT0,	Reference ETo, mm/month

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APPENDIX C-3 Calculation of Water Requirement

Crops		139.	feb.	Mar. I	Apr.	Xay (Jun.	i Jul.	Aug.	Sep. 1	Oct. 1	Nov. 1	Dec.	Total
eference Efo, .	w/aooth	87.97	104.94	145.93	188.15	221.73	241.30	257.45	230.25	185.43	147.88	99.56 1	83.45	2002
Sorghun	Planted X		1			100	1		1				111	
	Cropped X					25	100	100	100	75		1		
Cf=1.00	Kc					0.30	0.80	1.05	0.60	0.30			: '	
	ETC Ba					15.85	195.44	270.32	138.15	41.95		;		663
Water Melon	Planted X		<u> </u>	1	stsery	100			1.11		1	1		
	Cropped X		[5	75	100	100	100	25]		
CF=1.00	Kc				0.40	0.40	0.75	0.95	0.85	0.10		Ī	•	÷.,
	Elc an	1	i	1.	3.76	67.42	183.22	244.57	195.71	4.65				693
Tomato	Planted X		Nursery	100				1						I
	Cropped X		5	75	100	100	63	37						[
€F=1.00	Κc		0.50	0.70	1.05	1.05	0.80	0.30						
	ETC 50		2.62	77.17	197.57	235.97	123.13	28.58	, ,			1	:	665
Cuntaloup	Planted %			Nursery i	100					1				[
	Cropped X			5	25	100	100	100	75					
CE=1.00	Ke		f	0.40	0.75	0.95	0.95	0.95	0.65			1		
	Ele an	1.1		2.91	35.28	213.50	80.565	244.57	112.25					841
Berseen	Planted X		· · · · ·				1				1001			
1	Cropped X	100	75	<u>}</u>			· · .	<u>, </u>			75	100 1	100	
CF=1.00	Kc	0.75	0.75								0.50	0.75	0.75	
i Tana di Angelan di Angelanga. Angelangkan di Angelangkan di Angelangkan di Angelangkan di Angelangkan di Angelangkan di Angelangkan di Angelan	ETC dis	65.97		·	· · ·						55.45	74.67	62.58	316
Green Pepper	Planted X		1				<u>г</u>		100 :		1			1
	Crosped X	in a second s							75	100	100	25	····	
CF=1.00	Kc		·				[0.50 :	0.80	0.95	0.20		1 .
يدينيور ميد ميلوز ترتيم التر. الر	ÉTc sa		- 				1		85.34	149.19	140.48	4.98		381
Medical Plant		· · · · · · · · · · · · · · · · · · ·		1			i				100 1			
	Cropped %	100	100	75				İ			25	100 1	100	
CF=1.00	Кс	1.00					-				0.40	0.80	1.00	
21	LTc ma	87.97							2 1 1	2	14.79		83.45	372
Broad Bean	Planted %						1		1		1	100		
	Cropped X	100	100	100	25							25 1	100	[
Cf=1.00	Kc	1.15			0.20							0.24	0.86	
	Eic #		120.68		9.41		<u> </u>	ţ				5.97		418
Nheat	Planted X		1				i	1			1	100 1		·····
	Cropped X	190	100	100	100	95	i ·····		i		ì	25	100	
CF=1.00	Kc Kc	0.90	1.05		1.05	0.20		ł				0.40		1
	ETc on	79.17		154.33		42.70						9.95		652

Table C-11 Field Water Requirement for Each Crop on 10 feddans Small Scale Farmers

Table C-14 Field W	ater Req	uireceat	for Eac	h Crop on	10 fed	dans Sma	11 Scale	Farmers					1
Crops	Jan. 1	feb. 1	Mar.	Apr.	May	Jun.	Jul.	Aeg.	Sep. :	4.7.8.7	Nov. 1	Dec.	Total
.Sorghun Efc ma	0.0	0.0	0.0	0.0	16.9			138.2	42.0 :	0.0	0.0	0.0	663
Cropped Area feddaa	0.0	0.0	0.0	0.0	0.6	2.5	2.5	2.5	1.9	0.0	0.0	0.0	
Water Requirement cum	0.0	0.0	0.01	0.0	44.2	2052.1	2838.4	1450.6	330.4	0.0	0.01	0.0	6716
field Requirement(7.75)	0.0	0.0	0.0	0.0	59.0	2736.1	3784.5	1934.1	440.6	0.01	0.01	0.0	8954
2. Water Melon ETc nm	0.0	0.0	0.0	3.8	67.4	183.2	241.6	195.7	4.7	0.0	0.0	0.0	699
Cropped Area feddan	0.0	0.01	0.0	0.1	1.9	2.5	2.5	2.5	0.6	0.0	0.01	0.0	
Vater Requirement cum	0.0	0.0	0.0	2.0	530.9	1923.8	2568.0	2055.0	12.2	0.0	0.0	0.0	7092
Field Requirement(7.90)	0.0	0.0	0.0	2.2	589.9	2137.6	2853.4	2283.3	13.6	0.0	0.01	0.0	7880
3.Tonato ETC on	0.0	2.5	77.2	137.6	236.0	123.1	28.6	0.0	0.0	0.0	0.0	0.0	665
Cropped Area feddaa	0.0	0.1	1.9	2.5	2.5	1.6	0.9	0.0	0.0	0.0	0.0	0.0	
Water Requirement cun	0.0	1.4	607.7	2074.5	2477.7	814.5	111.0	0.0	0.0	0.0	0.0	0.0	6087
Field Requirement(/.90)	0.0	1.5	675.2	2305.0	2753.0	905.0	123.4	0.0	0.0	0.0	0.0	0.0	6763
A.Cantaloup ETc ra	0.0	0.0	2.9	35.3	213.5	232.1	244,6	112.2 :	0.0	0.0		0.0	841
Cropped Area feddan	0.0	0.0	0.1	0.6	2.5	2.5	2.5	1.9	0.0	0.0	0.0	0.0	
Water Requirement cum	0.0	0.0	1.5	92.6	2241.7	2436.9	2568.0	884.0	0.0	0.0	0.01	0.0	8225
Field Requirement(7.90)	0.0	0.0	1.7	102.9	2490.8	2707.6	2853.4	982.2	0.0	0.0	0.0	0.0	9139
b.Berseen ETc mm	66.0	59.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	\$5.5	74.7	62.6	318
Cropped Area feddan	1.5	1.1	0.0	0.0	0.0		0.0	0.0	0.0	1.1	1.5	1.5	
Vater Requirement cum	415.6	278.9	C.0	0.0	0.0	0.0	0.0	0.0	0.0	262.0	470.4	394.3	1821
Field Requirement(/.75)	554.2	371.91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	349.4	627.2	525.7	2428
Green Pepper ETc an	0.0	0.0	0.0	0.0	0.0	0.0	0.01	86.3	149.2	149.5	5.0	0.0	381
Cropped Area feddan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.5	2.5	0.6	0.0	
Nater Requirement cum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	680.0 ;	1565.5	1475.1	13.1	0.0	3735
Field Requirement(7.75)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	906.6	2088.6	1966.7	17.4	0.0	4979
7. Medical Plant ETc #1	88.0	73.5	33.1	0.0:	0.0	0.0	0.0	0.01	0.0		79.6	83.4	372
Cropped Area feddan	2.5	2.5	1.9	0.0	0.0	0.0	0.0	0.0 i	0.0 (0,6	2.5	2.5	
Yater Requirement cum	923.6	771.3	260.4	0.01	0.0	0.0	0,0	0,0;	0.0	38.8	836.3	876.2	3707
Field Requirement(1.75)	1231.5	1028.4	347.2	0.0	0.0	0.0	0.0	0.0 :	0.0	51.8	1115.1	1168.2	4912
8. Broad Bean ETc ma	101.2	120.7	102.9	9.4	0.0	0.0	0.0	0.01	0.0	0.0	6.0	71.8	412
Cropped Area feddan	2.5	2.5	2.5	0.6	0.0	0.0	0.0	0.0	0.01	0.0	0.6	2.5	
Water Requirement cum	1062.2	1267.2	1080.3	24.7	0.0	0.0	0.0	0.01	0.0	0.0	15.7	753.5	4204
Field Requirement(7.75)	1416.2	1689.6	1410.4	32.9	0.0	0.0	0.0	0.0	0.0		20.9	1001.7	\$605
9.Wheat ETc mm	79.2	110.2	154.3	197.6	12.7	0.0	0.0	0.01	Ò.0 ;	0.0	10.0	58.4	652
Cropped Area feddan	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	
Water Requirement cum	332.5	462.8	648.2	829.8	170.4	0.0	0.0	0.0	0.0	0.0	10.5	245.3	2633
Field Requirement[/.75]	443.3	617.1	864.3	1106.4	227.2	0.0	1 0.0	0.01	0.0	0.0	13.9	327.1	3533

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Table C-15 Summary	of Field	d, Mesqa	and Can	al Mater	Requires	ent for	Small S	cale Fam	Ders				r <u></u>
Items	Jan.	feb. 1		Apr.	Nay	Jun.	Jul.	Aug.	Sep. 1	Oct. !	Nov.	Dec.	Total
0 feds field Requirement	3645	3708	3329	3549 (6120	8486	9615	6105	2543	2368	1795	3026	54290
O feds Mesqa Reg. (1.95)	3837	3904	3504	3736	6442	8933	10121	6428	2677	2492	1883	3185	57147
O feds Canal Reg. (1.90)	4264	4337	3393	4151	7158	9926	11245	7142	2974	2769	2099	3539	63497
	Ξ.,					ъ.				N - 1	<u> </u>		
ield Reg. in cum/fed/month	365	371	333	355	612	843	951	611	254	237 (179	303	542
in cum/fed/day	12	13	11	15	20	28	31	20	8	8]	6	10	- 17
in lit/fed/sec	0.14	0.15	0.12	0.14	0.23	0.33	0.36	0.23	0.10	0.09	0.07	0.11	2.0
lesga Req. in cum/fed/month	381	390	350	374	614	893	1012	643	268	249	189		
in cun/fed/day	12	14	: 11		51	30	33	21	9	8	6		2.1
in lit/fed/sec	0.14	0.16	0.13		0.24	0.34	0.38	0.24	0.10	0.09	0.07 i	0.12	635
Canal Req. in cum/fed/month	426	434	339	415	716	993	1125	714	297	277	210	354	20
in cws/fed/day	14	15	13	14	23	33	36	23	10	9	7		2.4
in lit/fed/sec	0.15	0.18	0.15	0.15	0.27	0.33	0.42	0.27	0.H	0.10	0.08	0.13	
e a sago da el el el el el		1	1 A.	ļ							2.43	1.20	75.3
Field Reg. in mcm/Net.Nanh	5.06	5.15	4.52	4.92	8.49	11.77	·	8.47	3.53	3.29	0.08	0.14	2.4
ia ocm/Net.A/day		0.18	0.15	0.15	0.27	0.39	0.43	0.27	0.12	0.11		1567	2861
in lit/Net.Msec		2127	1724	1900	3170	4513	4981	3163	1361	1227	2.62	4.42	79.2
Hesqa Req. in mcm/Net.Nmnh		5.42	4.86	5.18	8.94	12.39	14.04	8.92	3.71	$\frac{3.10}{0.11}$	0.09	0.14	2.0
in mcm/Net.A/day	i	0.19	0.16	÷	0.29	0.41	0.45	·····	0.12	1291			3011
in lit/Net.Nsec		2239	1815		3337	4782	5243	3330	<u>1433</u> 4.13	3.84	2.91		88.1
Canal Req. in mem/Net.A/med		6.02	5.40			13.77	15.60	9.91		0.12	0.10		2.8
ia mcm/Net.A/day	I	0.21	0.17		0.32	0.45	0.50	0.32		ł — — —		<u> </u>	
in lit/Net.A/sec	2209	2438	2017	2222	3708	5313	5825	3700	1 1225	1433	1161	1555	1 35%

tables+Fruit)

Table C-to Veighte	<u>d Nean Ci</u>	rop Coef	ficient	and Crop	Evapoli	Inspirat	Ion (ura	mate la	rmersive	Oct.	Your i	Dec.	Total
Crops	Jan. I	feb.	Xar.	Apr. 1	May	Jun.	191	Aug.	360.			83.45	2002
Reference ETo, am/month	87.97	104.94				244.30	251.45	6.0.00	160.43	147.88	93.30	03.13	2002
I.Squash Planted X		·	·····	Karsery								<u> </u>	
Cropped 1	1 - e e - a - e			5	25	100	100	100					
CF=1.00 Kc				0.30	0.50	0.75	0.80	0.90					697
ETc DA	. •	14 A. A.		2.82	28.09	183.22	205.95	201.23	63.93				031
2.Tonato Planted 1		Sursery	100								. .		
Cropped X		5	75	100	100	63	37			·	·		
CF=1.00 Kc	5	0.50	0.70	1.05	1.05	0.80	0.30		·				665
ETC ma		2.62	77.17		235.97		28.58		1 ·····				005
B.Custaloup Planted X			Nursery	j 100	50	50		Ì	!·			· ·	
Cropped X			5			100	100	75			·		
CF=1.00 Kc	· ·	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.40	0.75	0.95	0.95	0.95	0.65					841
ЕТС ГА		18 A. A.	2.94	35.28	213.50	232.68	244.57	112.23	<u>.</u>			·	0*1
4. Kedical Plant Planted X				1		L_•				100	100	100	
Cropped X	100	100	75		L		ļ			25	100		,
CF=1.00 Kc	1.00	0.70	0.30			L		L	1 	0.40	0.80		372
Elc ant	87.97	73.45	33.07	L 197	<u> </u>) 	ł	<u> </u>	<u> </u>	14.79	79.65	83.45	312
Green Pepper Planted %				<u> </u>	l	ļ	I	100			<u></u>	·	
Cropped X		· · ·	1.55	1	1	<u> </u>	<u> </u>	75		100	25		
CF=1.00 Kc	· · ·		· · ·	1 N	1	<u> </u>	1	0.50			0.20	· · · · · · · · · · · · · · · · · · ·	331
ETc ma			192	1.5. 1.1	<u> </u>	l	1	65.34	149.19	140.45	4.98	· · · · · · · · · · · · · · · · · · · ·	- 351
5. Broad Bean Planted X	n natio			1	<u>. </u>	<u>[</u>	ļ	10 mm	<u></u>		100	100	
Cropped X	100	100	190				<u> </u> ~		·				
CF=1.00 Kc	1,15	1.15	0.70			· · · · ·	1.000	<u> </u>			0.24	0.85	412
ETc ma	101.16	120.68	102.83	9.41		1	<u> </u>	<u> </u>		<u> </u>	5.97	71.76	915
Planted X	100	<u>, s</u> ,	1			<u> </u>			<u> </u>			100	
Cropped X	100	100	100				100	100			100	100	
CF=0.80 Kc	0.00	0.00	0.65			0.80		0.70			0.55	0.00	
Elc tat	0.00	0.00	76.43	: 112.90	T 134.84	155.35	164.77	128.94	104.43	76.90	43.81	0.00	993
	1 2 2 2		1.11.5		•	1	1	1	1 2	<u> </u>	<u> </u>		·
	1 1	1.1.1.1.1			<u> </u>			L	<u><u></u></u>				
		1			1	1	<u> </u>	1	<u>.</u>		<u> </u>	<u></u>	
		1	T		1	1	•	1	<u>1</u>				L
L	•			Note:	Cf pean	s correc	tion fac	tor for	ground c	over unde	r drip s	iysten i	n percei

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Table C-17 Field Wa			for Each	Cenn A	10 fed	lans Gra	tate Fai	mers (Ve	retables	+fruit)		1.00	
Crops	Jan. j	feb. 1	Nar. 1	Apr	May	Jun.)	Jul.	Aug. 1	Sep.	001.	Nov. 1		Total
Sevash Ele an	0.01	0.01	0.0	2.8	28.1	183.21	206.0 ;	207.21	63.91	0.01	0.0	0.0	697
Cropped Area feddan	0.0	0.0	0.0	0.1	0.6	2.5	2.5	2.5	1.9	0.0	0.0	0.0	
Nater Requirement cum	0.0	0.01	0.0	1.5	73.7	1923.8	2162.6	2175.9	550.7	0.01	0.0	0.0	6883
Field Requirement(7.90)	0.0	0.0	0.0	1.6	81.9	2137.6	2402.8	2417.8	611.9	0.01	0.0	0.0	7654
Tonato ETC m	0.01	2.6	77.2	197.6	235.0	123.1	28.6	0.0	0.0	0.0	0.01	0.0	655
Cropped Area feddan	0.0	0.3	3.8	5.0	5.0	3.2	1.9	0.0	0.0	0.0	0.0	0.0	
Water Requirement cum	0.0	2.8	1215.4	4149.0	4955.4	1629.0	555 0	0.0	0.0	0.0	0.01	0.0	12173 13526
Field Requirement(1.90)	0.0	3.1	1350.4	4610.0	5506.0	1810.0	245.7	0.01	0.0	0.0	0.0	0.0	841
Cuntaroup Elc m	0.0	0.01	2.9	35.3	213.5	232.1	241.6			0.01	0.0	0.0	041
Crosped Area feddan	0.0	0.0	0.1	0.6	2.5	2.5	2.5	1.9	0.0	0.0	0.0	0.0	8225
Nater Requirement cum	0.0	0.0	1.5	92.6	2241.7	2436.9	2568.0	884.0	0.0	0.0	0.0	0.0	9139
Field Requirement(7.90)	0.0	0.0	1.7	102.9	2490.8	2707.6	2853.4	932.2	0.0	0.0	79.6	83.4	372
Medical Plant ETC FM	83.0	73.5	33.1	0.0	0.0	0.0	0.0	0.0		14.8	2.5	2.5	
Cropped Area feddan	2.5	2.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	38.8	836.3	876.2	3707
Vater Requirement cum	923.6	771.3	260.4	0.0	0.0	0.0	0.0		0.0	<u></u>	1115.1	1168.2	4942
Field Requirement(7.75)	1231.5	1028.4	347.2	0.0	0.0		0.0		149.2	140.5	5.0	0.0	381
Green Pepper ETC sun	0.0	0.0	0.0		0.0	0.0	0.0	<u>86.3</u> 3.8	5.0	5.0	1.3	0.0	
Cropped Area feddan	0.0	0.0	0.0		0.0	0.0	0.0			2950.1	25.1		7469
Water Requirement cum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1359.9		3933.5	34.8	0.0	9959
Field Requirement(1.75)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	6.0	71.8	412
5. Broad Bean ETC BA	101.2	129.7	9.501	9.4	0.0		0.0	0.0		0.0	1.3	5.0	
Cropped Area feddan	5.0	5.0	5.0	1.3	0.0		0.0	0.0	0.0	0.0	31.4	1	8407
Water Requirement cum	2124.4	2534.4	2160.7	49.4	0.0		0.0				41.8		11210
Field Requirement(7.75)	2832.5	3379.1	2880.9	65.9		156.4	1 164.8	128.9	104.4	76.9	43.8	0.0	
Peach Elc ma	0.0	0.0	76.4	112.9	134.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Cropped Area feddan	2.5		2.5	2.5	2.5	1611.7		1353.9		807.4	450.0	0.0	
Vater Requirement cum	0,0		802.5		1415.8		1	1504.3		897.1	511.2	0.0	_
Field Requirement(7.90)	0.0	0.0	891.7	1317.1	1313.1	1824.1	1356.3	100113	1010.1		1	1	0
		ļ		÷	<u></u>	+	·		<u>.</u>			+	
		·	; ;			· · · · · · · · · · · · · · · · · · ·	i	÷		 -	1	1	0
· · · · · · · · · · · · ·	. <u>.</u>	÷	<u></u>	÷	<u> </u>		t	· · · · ·	;	1	.	1	0

Table C-18 Summary	of Field	J. Mesqa	and Cana	l Water	Requires	eat for	Graduate	Farmers	(Vegeta	blestfru	uit)		
[tess	Jan. 1	Feb.	Yar.	Apr.			Jul.	Aug.	Sep.	Oct.	Nov. 1	Dec.	Total
0 feds field Requirement	4064	4111	54721	6098	9652	8479	7425	8717	6008 :	4882	1703	3178	68083
10 feds Mesqa Req. (7.95)	4278	4643	5760	6418	10160	8926	7816	7071	6324	5139	1792	3345	71672
0 feds Canal Req. (1.90)	4753	5159	64.30	7132	11289	9317	8684	7857	7026 !	5710	1992	3716	79635
					1			. 1	1	1.11	}		1.10
field Reg. in cum/fed/month	405		547	610	965	843	743	672 1	501	438	170	318	6809
in cun/fed/day	13	15	18	20	31	28	24	22	20	16	6	10	224
in lit/fed/sec	0.15	0.18	0.20	0.24	0.36	0.33	0.28	0.25 ;	0.23	0.18	0.07	0.12	2.59
Kesqa Req. in cum/fed/month	428	461	575	612	1016	893	782	707	632	514	179	334	7167
in cun/fed/day	14	17	19	21	33	- 30	25	23	21	17	6	11	235
in lit/fed/sec	0.16	0.19	0.22	0.25	0.38	0.34	0.29	0.26		0.19	0.07		2.72
anal Reg. in cum/fed/month	475	516	640	713	1129	992	868	786	703	571	193	372	7964
in cum/fed/day	15	18	21	24	36	33	28	25	23		1	12	261
in lit/fed/sec	0.18	0.21	0.24	0.28	0.42	0.38	0.32	0.29	0.27	0.51	0.03	0.14	3.03
	· · · · · ·			e e se g	•	t de la com				İ	<u> </u>		
Field Req. in mcm/Net.A/mn	2.82	3.06	3.80	4.23	6.70	5.88	5.15	4.66	4.17	3.39	1.18	2.20	47.24
în mcm/Net.A/day		0.11	51.0	0.14	0.22	0.20	0.17	0.15	0.14	0.11	0.04	0.07	1.55
in lit/Net.A/see	ł · · · · · · · · · · · · · · · · · · ·	1265	1417	1632	2500	2269			1608	1265	456	823	17951
Kesga Reg. in mcm/Net.A/mol	2.97	3.22	4.00	4.45	7.05	6.19			4.39	3.57	1.24	2.32	49.72
in mcm/Net.A/da		0.12	0.13	0.15	0.23	0.21	0.17		0.15	0.12	0.04	0.07	1.63
in lit/Net.A/se	1108	1331	1492	1718	2532				1693	- 1331	480	866	18895
Canal Reg. in mcm/Net.Wani	3.30	3.58	4.44	4.95	7.83	<u> </u>		+ — — · — — — — — — — — — — — — — — — —		3.96	1.38	2.58	55.25
in mcs/Net.A/da		0.13	0.14	0.15	0.25	4 · · · · ·			0.16	0.13	0.05	0.03	1,81
in lit/Net.A/se	1231	1479	1658	1909	2924	2654	2243	2035	1881	1479	533	953	20995

	e C-19 Weighter	Jan. 1			Apr. i	May :	Jan .	Jul.	Aug.	Sep.	Oct.)	NOV.	UEC.	Total
eference ETo		88 1			183	225	244	257	230 -	185	143	100	83	200
Sorehun	Planted X		1			100		ş - (
• OUL BUILDIN	Cropped X			1.1		25	100	100	100 i	- 75				
CF=1.00	Kc		1.1			0.30	0.8)		0.60)	0.30		·		
CE-1.04	ETc cm					16.85	195.44	270.32	133.15	41.96			·	65
Souash	Planted 1				Norsery j	100	1.1.1.1					÷		
- 0408.50	Cropped X				5	25	100		100	75				· · · · ·
CF=1.00	Ĩc				0.30	0.50	0.75		0.90	0.50				
	ETC 60		1	a a tat	2.82	28.09	183.22	205.95	207.23	69.93		:		69
Tonato	Planted %		hursery	- 100	1	1.1		<u> </u>	1					
	Cropped X		5	- 75	100	100	53		<u> </u>	·				
CF=1.00	Ic		0.50	0.70	1.05	1.05	0.80							
	ETC DA		2.82	77.17	197.57	235.97	123.13	28.58						66
Cuntaloup	Planted X	· · ·		Nursery	100	Course of	•					· · · ·		
.cuitarcop	Cropped X		1.1.1.1.1	- 5	25	100			75			·		
([=1.0)	Ke			0.40	0.75	0.95	0.95		0.65					
	ETC DR	100		2.91	35.28	213.50	232.03	241.57	112.25					- 5-
.Berseen	Planted X		· · · · ·	1	1		l	<u>i</u>		· _	100			
	Crossed X	100	75	ľ — · ·	1		<u>i</u>	1	L		75	100	100	
CF=1.00	<u>Kc</u>	0.75	0.75	, · · · ·							0.50	0.75	0.75	
	ETC RU	65.97	59.03		1		1	1	1		55.45	74.67	62.58	3
Green Pepp	er Planted X				1		1	- <u>1</u>	100		·	<u> </u>		
	Cropped X	- <u></u>		[]	T	[1	75			25		
CF=1.00			1 1 1 1	· · ·	1.	<u> </u>	1	<u> </u>	0.50	0.80		0.20	<u>.</u>	
	Elc an	· · · ·		1	1	ł .	1	1	85.34	143.19	140.43			30
7. Medical Pl			1.00	1	1.		1	i			100			
	Cropped X	100	100	75		1	í	i		<u>.</u>	25	100	100	
CF=1.00	Kc	1.00	0.70	0.30			I			<u> </u>	0.40	0.80	1.00	- j
	Elc ma	87.97	73.45	1 33.07	1	!	i	1	<u></u>	i	14.79		83.45	
8. Broad Bean		1	1	1			1 ·	<u>i</u>	1	<u> </u>	<u>. </u>	100	<u>_</u>	
	Cropped X	100	100	100			1 · ·	!	!	<u>}</u>	; 	25	100	
CF=1.00	Ic Ic	1.15		0.70			1	·	<u> </u>	<u>!</u>	<u>.</u>	0.24	0.85	- 4
	ETC m2	101.16	120.63	102.83	9.41	I	1	1	1	!	-	5.97 er drip s	71.76	

CF BERRS CONFECTION FACTOR FOR ST.

1	Table C-20 Field W	ater Renu	izement	for Eac	h Crop o	n 10 fed	iaas Grad	uate Fa	raers (Ye	getables	s+Livesto	ck)		
T	Crops	Jan.	Ecb.	Mar. 1	Apr. 1	Kay 1	Jun. 1	Jul.	Aug. 1	Sep.	OCL.	3UV.	Dec.	Total
F	Sorghua ETc an	0.0	0.0	0.0	0.0	15.9	195.4	270.3	138.2	42.0 i	0.01	0.0	0.0	£63
1-	Cropped Area feddan	0.0	0.0	0.0	0.0	0.6	2.5	2.5	2.51	1.9	0.0	0.0	0.0	
-	Water Requirement cur	0.0	0.0	0.0	0.0	41.2	2052.11	2838.4	1450.6	330.4	0.0	0.0	0.0	6716
- } -	Field Requirement(1.75)	0.0	0.0	0.0	0.0	59.0	2736.1 1	3784.5	1934.1	440.6	0.01	0.0	0.0	8954
. ৮	Squash Elc ma	0.01	0.0	0.0	2.8	28.1	183.2	206.0	207.2	63.9	0.0	0.0	0.0	697
ľ	Cropped Area feddaa	0.0	0.01	0.0	0.1	0.6	2.5	2.5	2.5 :	1.9	0.0	0.0	0.0	
- I-	Vater Requirement cum	0.0	0.0	0.0	1.5	73.7	1923.8	2162.6	2175.9	550.7	0.0	0.0	0.0	6883
-	field Requirement(/.90)	0.0	0.0	0.0	1.6	81.9	2137.6	2402.8	2417.6 1	611.9	0.0	0.0	0.0	7654
k	Tonato ETC m	0.0	2.5	17.2	197.6	236.0	123.1	28.6	0.0	0.0	0.0	0.0	0.0	565
1	Cropped Area feddan	0.0	0.1	1.9	2.5	2.5	1.6	0.9	0.0	0.0	0.0	0.0	0.0	·
· -	Vater Requirement cum	0.0	1.4	607.7	2074.5	2477.7	814.5	111.0	0.0	0.0	0.0	0.0	0.0	6087
· }-	Field Requirement(7.90)	0.01	1.5	675.2	2305.0	2753.0	905.0	123.4	<u>i 0.0 i</u>	0.0	0.01	0.0	0.0	6753
	Cuntaloup Ele ma	0.01	0.0	2.9	35.3	213.5	232.1	241.6	112.2	0.0	0.01	0.0	0.0	<u>841</u>
1-	Cropped Area feddan	0.0	0.0	0.1	0.5	2.5	2.5	2.5	1.9	0.0	0.0	0.0	0.0	
	Water Requirement cum	0.0	0.0	1.5	92.6	2241.7		2568.0	884.0	0.0	0.0	0.0	0.0	8225
. E	Field Requirement(/.90)	- 0.0	0.0	1.7	102.9	2490.8	2707.6	2853.4	932.2	0.0	0.0	0.0	0.0	9139
۰ k	Berseen ETC na	66.01	59.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	55.5	74.7	62.6	318
.ľ	Cropped Area feddan	2.5	1.9	i 0.0	0.0	9.0		0.0	0.0	0.0	1,9	2.5	2.5	
· -	Water Requirement cum	692.7	464.9	0.0	0.0	0.0	0.0	0.0	0.0		436.7	784.0	657.1	3035
	Field Requirement(/.75)	923.6	619.8	0.0	0.0	0.0	0.0	0.0		0.0	582.3	1045.4	876.2	4047
k	Green Pepper ETC M	0.0	0.0	0.0	0.0	0.0		0.0	86.3	143.2	140.5	5.0	0.0	381
- 1	Cropped Area feddan	0.0	0.0	0.0	0.0	0.0		0.0	1.9	2.5	2.5	0.6	0.0	
: h	Water Regulrement cum	0.0	0.0	0.0	0.0	0.0	A second se	0.0		1566.5	1475.1	13.1	0.0	3735
. F	field Requirement(/.75)	0.0	0.0	0.0		0.0		0.0		6000.0	1965.7	17.4		<u>4979</u> 372
. 1	Redical Plant Ele ma	88.0	73.5	33.1	0.0	0.0		0.0	0.0	0.0	14.8	79.6		
. f	Cropped Area feddan	2.5	2.5		0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.5		2207
1	Vater Requirement cun	923.6	771.3	260.4	0.0		0.0	0.0	0.0	0.0	38.8	836.3	876.2	3707
	Field Requirement(1.75)	1231.5	1028.4	347.2	0.0	0.0		0.0				1115.1	1168.2	4342
. h	Broad Bean ETc an	101.2	120.7	102.9	9.4	0.0		0.0		0.0	0.0	6.0	2.5	412
ſ	Cropped Area feddan	2.5	2.5	2.5	0.6	0.0	0.0	0,0				0.6		4204
) i	Vater Requirement cum	1062.2	1267.2	: 1080.3	24.7	0.0	0.0	0.0			0.0	15.7		5605
:	Field Requirement(7.75)	1415.2	1689.5	1 1440.4	32.9	0.0	0.0	0.0	0.0	0.0	0.0	20.9	1004.7	E 3002

a no stant a stant for Fact Coop on 10 Endland Craduate Faceers (Veretablest) ivesto

Table C-21 Summary	of Field	d, Kesqa	and Cana	il Water	Require	ment for	Graduat	e Farmers	i (Vegeta	bles+Liv	estock)		·
Itens	Jan. i	feb.	Mar. 1	Apr.	Nay i	Jun. :	Jul.	Aug. 1	Sep. 1	<u>- Oct i</u>	Nev. 1	Dec.	Total
O feds Field Requirement	3571	3339	2465	2442	5385	8436 -	9164	6241 1	3141	2601	2199	3043	52083
0 feds Hesqa Req. (7.95)	3753	3515	2594	2571	5668	8933	9645	6559	3306	2738	2315	3510	54924
10 feds Canal Reg. (7.90)	4177	3906	2883	2857	6298	9925	10718	7293	3674	3042	2572	3566	60916
							1 - A - A - A - A - A - A - A - A - A -					1.1	
field Req. in cum/fed/month	357	334	245 1	244	538	843	915	624	314 :	260	250	305	5203
in cum/fed/day	12	12	8	8	17	23	- 30	20	10	8	7	10	171
in lit/led/sec	0.13	0.14	0.09	0.09	0.20	0.33	0.34	0.23	0.12	0.10	0.08	0.11	1.98
lesga Reg. in cum/led/month	376	352	259	257	567	893	965	657	331	274	231	321	5482
in cum/fed/day	12	13	8	9	18	30	31	21	11	9	8	10	180
in lit/fed/sec	0.14	0.15	0.10	0.10	0.21	0.34	0.35	0.25	0.13	0.10	0.09		2.03
anal Req. in cum/fed/month	418	391	288	286	630	993	1072	730	367 1	304	257 :		6092
in cum/fed/day	13	14	- 9	. 10	20	33	35	24	12	10	9	12	200
in lit/fed/sec	0.15	0.16	0.11	0.11	0.24	0.38	0.40	0.27	0.14	0.11	0.10	0.13	2.31
				: .			5		,	1.7.1			• •
field Req. in mcm/Net.A/mnt	2.43	2.32	1.71	1.69	3.74	5.83	6.36	4.33	2.18			2.12	36.13
ia mcm/Net.A/day	0.08	0.08	0.06	0.06	0.12	0.20	0.21	0.14	0.07	0.06	· · · · · · · · · · · · · · · · · · ·		1.19
in lit/Net.A/ser	925	958	638	654	1395	2271	2374	1516	841		589	790	13724
lesga Req. in nom/Net.A/not	2.61	2.44	1.80	1.78	3.93	6.20	6.63	4.56	2.29	1.90	· · · · · · · · · · · · · · · · · · ·	2.23	38.03
in ocm/Net.A/day	0.03	0.09	0.05	0.06	0.13	0.21	0.22	0.15	0.08	0.65	0.05	0.07	1.25
in lit/Set.Nsec	974	1008	672	638	1468	2391	2493	1701	885	709	619	831	14445
anal Req. in ocm/Net. Mart	2.90	2.71	2.00	1.98	4.37	6.83	7.44	5.06	2.55	2.11	1.78		42.26
in acm/Net.A/day	0.03	0.10	0.06	0.07	0.14	0.23	0.24	0.16	0.08	0.07	9.06	0.08	1.39
in lit/Net.Nsec	1082	1120	747	765	1631	2657	2776	1891	983	788	683	924	16051

	Veighted Hean Cr roos	ian i	Feh	Заг.	Apr. 4	Nav d	Jun.	Jul.	aug. '	Sep.	QCL (Jov.	vec.	IQUAL
	o, an/month	87.97	104.94	146.581	188.16	224.73	241.30	257.45	230.25	186.49	147.88	99.56	<u>83.45</u>	2002
Sorghua	Plasted X						100				<u> </u>			
	Cropped X				1.1		- 75			75				
CF=1.00	Kc						0.30			9.60				
	ETC #0						54.97	205.96	241.75	83.92				587
Potato	Plaated 1				100	1	1	1.1			i			
	Cropped X				25	100	100		25	·				
CF=1.00	Kc				0.30	0.80						·		
	Eic an		!		14.11	179.79	256.51	205.95	40.29	t				697
Tonato	Planted X				Nursery	100			1	· · · · ·		·		
	Cropped X				5	25		100	80		20			·
CF=1.00	Kc			i	0.5	0.70		1.05	0.80	0.30				
	ETc mm				4.70	39.33		270.32	147.36	27.97	8.87			75
Soybean	Planted %					•	100		1					·
	Cropped X		; ;	;		<u> </u>	25			100				
CF=1.09	Kc		1	,			0.40			0.8				r
	ETC M		1	1		1.	24.43	180.21	207.23	149.19			l	60
.Berseea	Planted 1	4.5	i .	•	į	F	ł		•	<u></u>	100		<u> </u>	
	Cropped ¥	100	75			1		<u> </u>	1	<u>i</u>	? <u>5</u>			·
CF=1.00	Kc	0.75	0.75		1	1	1		!	<u> </u>	0,50		0.75	
	ETC for	65.97	59.03	1	1		4 .		!	1	55.45		62.58	31
Barley	Planted %	l	1	1		4	<u> </u>				<u></u>	100		
	Cropped X	100	1 100	; 100	100	25	1				<u>i i i i i i i i i i i i i i i i i i i </u>	25	100	·
CF=1.00	Ĩ.c	1.00	1.00	1.00	0.50	0.30	<u>i</u>	· · ·		<u> </u>	<u></u>	1 0.33		ļ
	ETc ma	87.97	104.94	145.98	94.08	16.85	1	$t \in [0, 1]$	1 12		<u>.</u>	8.21	75.10	53
Cabbage	Planted 1	1		1	1 <u>.</u>	1	2	<u> </u>	<u> </u>	i	Nuesery	100	·	
	Cropped X	100	100						1	<u> </u>		75		··· 3:
CF=1.00	Kc	0.95					1			· · · · · · · · · · · · · · · · · · ·	0.30			L
	ETc on	83.57	1 104.91	55.12		1 1 1 1			1.0	<u>a 194</u>	1 2.22		58.41	34
Onion	Planted X	1	1	1		1.1.1			-		Nursery	100	<u> </u>	<u>></u>
	Cropped 1	100	100	100	25		1.1.1.1		1.1.1.1.1.1.1.1		5	- 25		<u> </u>
00.1=10	Kc	0.75	0.95	0.90	0.40		125				0.30			
	ETc on	65.97	99.70	132.28	1 18.82		1	-	\$	1. T. T.	1 2.22	12.45	50.07	382



1.1	le C-23 Field Nati	• ·		e	· 1	00 6.43	Caal	I Scala I	Investore	: (Yegota	hles i 8ee	f Cattle	.)	
Tab		er Kegul	feb.	lar 1	Apr. 1	Nay 1	300 . I	Jsl.	Aug. i	Sep.	Oct. 1	Nev	Dec.	Total
<u></u>	Crops	Jan. 0.0	0.0		0.0	0.0	55.0	206.0	241.81	83.91	0.01	0.0	0.0	587
I.Sorghum	ETC RM		0.0	0.0	-0.01	$-\frac{0.0}{0.0}$	$-\frac{03.0}{13.8}$	25.0	25.0	18.8	0.0	0.01	0.0	
eqqord		0.0	0.01	ō ō i	0.0	0.0		21625.5		6508.61	0.0	0.0	0.0	57943
	Regulrement cum	0.0	0.0	-00	0 0	0.0			31731.7	8260.7	0.0	0.0	0.0	72435
	Requirement(7.80)	0.0	0.0	00	14.1	179.8	256.5	206.0	40.3	0.0	0.0	0.0	0.0	697
2.Potato	ETc 11		0.0	0.0	6.3	25.0	25.0	25.0	6.3	0.0	0.0	0.0	0.0	
Creppe		0.0	0.0	0.0			26933.8		1057.7	0.0	0.0	0.0	0.0	68865
	Requirement cum	0.0	0.0	0.0			33667.3		1322.2	0.0	0.0	0.0	0.0	86031
	Requirement(/.80)	0.0	0.0	0.01	4.7	39.3	256.5	270.3	147.4	28.0	8.9	0.0	0.0	755
B.Tomato	d Area feddan	0.0	0.0	0.0	1.3	6.3	25.0	25.0	20.0	12.5	5.0	0.0	0.0	
		- 0.0	0.0	0.0	24.7			28383.5	12378.4	1458.6	185.3	0.0	0.0	70408
	Requirement cum	0.0	0.0	0.0	27.4				13753.7	1631.7	207.0	0.0	0.0	78231
	Requirement(/.90) ETc ma	0.0	0.0	0.0	0.0	0.0	24.4	1 180.2	207.2	149.2	44.4	0.0	0.0	605
1.Soybean		0.0	0.0	0.0	0.0	0.0	6.3	25.0	25.0	25.0	18.8	0.0	0.0	
		0.0	0.0	0.0	0.0	0.0	641.3	18322.3	21758.8	15664.8	3433.6	0.0	0.0	60481
. Water	Requirement cum		0.0	0.0	0.0	0.0		23652.9	27198.6	19581.0	4367.0	0.0		75601
	Requirement(/.80) ETc ad	65.0	59.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.5	74.7		318
5.Berseed		25.0	18.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.8	25.0		
		6927.3	4648.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4367.0	7840.5		30355
<u></u>	Requirement cum		5810.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5458.7	9800.6	8214.1	37913
	Requirement(/.80) ETc mm	88.0	104.9	1 147.0	94.1	16.9	0.0	0.0	1 0.0	0.0	0.0	8.2	75.1	534
6.Barley		25.0	25.0	25.0	25.0	6.3	0.0	0.0	0.0	0.0	0.0	6.3	25.0	
				15133.2	9878.5	442.4	0.0	0.0	0.0	0.0	0.0		7885.6	54111
<u>hater</u>	Requirement cum Requirement(/.80				12343.1	553.1	0.0	0.0	0.0	! 0.0			: 9857.0	67638
	ETC 80	83.6	104.9	55.1	0.0	0.0	0.0	0.0	0.0	0.0		37.3		
7.Cabbage		25.0	25.0	18.8	0.0		0.0	0.0	0.0	0.0		18.8	25.0	
				4340.6	0.0	0.0	0.0	0.0	0.0			2940.2	5133.2	
	Requirement cum Requirement(7.90			4822.9	0.0	0.0		0.0	0.0			1 2502.2	+ 6814.7	
	Requiremently. 50	66.0	1 99.7	132.3	1 18.8	0.0	0.0	0.0				12.4	50.1	382
B.Onion	ed Area feddan			25.0	6.3	0.0	0.0	0.0	0.0			6.3	25.0	
	Requirement cum				493.9	0.0	0.0	0.0		a new room of the			: 5257.0	
13161	Requirement(/.90	7697.0	11631.1		543.8	0.0	0.0	0.0	0.0	0.0	1 12.9	363.0	5841.2	41527
L_riero	redatterent(1-20	1.00110									· ·			

Table C-24 Summary of F	Jan.	Feb.		Apr.	Kay	Jan.	Jul.	Aug.	Sep.	0ct.	Nov.	Dec.	16191
Ø feds field Requirement	37651	43459 i	39548	13387	25297	69806	109254	74006	29473	10059	13700 1	30727	496367
0 feds Mesga Req. (1.95)	39633	45745	41629	14092	26629	73480	115004	77901	31025	10583	14421	32344	522492
0 (eds Canal Reg. (7.90)	44036	50829	46255	15658	29587	81645	127782	86557	34472	11754	16023	35938	58054
N 1602 C8 181 164. 11.000											·		
ield Req. in cum/fed/month	377	435	395 İ	134	253	693	1093	749	295 .	101	137	307	496
in cum/fed/day	12	16	13	4	. 8	23	35	24	10	3	5 :	10	16
in lit/fed/sec	0.14	0.18	0.15	0.05	0.09	0.27	0.41	0.28	0.11	0.04	0.65	0.11	1.8
esqa Req. in cum/fed/month	396	457	416	141	266	735	1150	779	310	106	144 '	323	522
in cum/fed/day	13	16	13	5	9	24	37	25	10	3	5	10	17
in lit/fed/sec	0.15	0.19	0.15	0.05	0.10	0.28	0.43	0.29	0.12	0.04	0.06	0.12	1.9
anal Req. in cum/fed/month	410	508	463	157	296	816	1278	866	345	118	160	359	580
in cur/fed/day		18	15	5	10	27	41	- 28	11	4	. 5 :	12	19
in lit/fed/sec	0.16	0.21	0.17	0.06	0.11	0.31	0.48	0.32	0.13	0.04	0.06	0.13	2.1
					[i		l de la companya de la companya de la companya de la companya de la companya de la companya de la companya de l	1			
ield Reg. in mca/Net. Manh	3.13	3.62	3.29	1.11	2.11	5.81	9.10	6.16	2.45 .	0.84	1.14		
in mcm/Net.A/day		0.13	0.11	0.04	0.07	0.19	0.23	0.20	0.08	0.03	0.04	0.08	
in lit/Net.N/sec		1496	1229	430	786	2242	3336	2300	947	313	410	955	
lesqa Req. in acm/Net A/mnl		3.81	3.47	1.17	2.22	6.12	9.57	6.43	2.58	0.83	1.20		
in pos/Net.A/day		0.14	0.11	0.04	0.07	0.20	0.31	0.21	0.09	0.03	0.01	0.09	1.
in lit/Net.N/set		1574	1294	453	828	2360	3575	2421	935	329	463		165
anal Req. in sca/Net. Man	· · · · · · · · · · · · · · · · · · ·	4.23	3.85	1.30	2.45	6.80	10.64	7.21	2.87	0.98	1.33		
in mcs/Net.A/da			0.12	0.04	0.08	0.23	0.34	0.23	0.10	0.03	0.04	0.10	
in lit/Net A/se			1433	4 ·	920	2622	1 3972	2690	1107	365	515	1117	183

Cro	QS 0.01	Jan.	Feb.	Mar.	Apr.	Kay	l Jun.	Juli	Aug.	Sep.	Oct.	Nov.	Dec.	Total
eference ETo,	un/month	87.97	104.94	146.98	188.16	224.73	244.30		230.25	185.49	147.881	99.56	83.45	2002
.Tonato	Planted X			4	Narsety	100	1		54.2			· · · i		
	Cropped X	1.1.1	a la p		5	25	100	100	90	50	10			
CF=1.00	<u>I</u> c				0.5	0.70	1.05	1.05	0.80	0.30	0.30	1	19.1	
	61c 600				4.70	39.33	255.51	270.32	165.78	27.97	4.44			765
.Polato	Planted X		a ta	1		100	1							1.1
	Cropped X					75	100	100	75					
CF=1.00	Ke					0.30	0.80	1.05	0.80				::	1.5
	Erc na					ł.—	· · · · ·	270.32	138.15			i		654
.Sesame	Planted X						100				1			
	Cropped X						75	100	100	100	25			
CF=1.00	Kc						0.40	0.83	1.00		0.30		<u> </u>	
	ETc EA							205.95	230.25		11.09		1912	65
Sorbean	Planted X						100							
	Cropped X		· · ·				25	100	100	100	75	1		
CF=1.00	fe						0.49	0.70	0.90		0.4			·
(7-1.00	87C FM					<u> </u>	24.43			149.19	41.36			605
<u> </u>					ļ	<u>}</u>	29.93	100.61	201.23			100		
.Onion	Planted X		100	1		ļ) 			Narsery			÷
	Cropped X	100	100	100	25		1			· · · · · · · · ·	5	25	100	
CF=1.00	<u>Rc</u>	0.75	0.95	0.90	0.40		<u>i </u>				: 0.30 i	0.50	0.60	
	ETC and	65.97	99.70	132.28	18.82	<u> </u>	1				5.55	12.45	50. 0 7	382
.Cabbage	Planted X					· · · ·]		ا ۲۰۰۰ 	· · ·	Nuesery	100		
	Cropped X	100	100	25			••••••••••••••••••••••••••••••••••••••	<u> </u>			5	75		
CF=1.00	<u> </u>	0.95	1.00	0.50			<u> </u>		1.1		0.30	0.50	0.70	
1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	ETC BR	83.57	104.94	18.37	1	<u> </u>	1				2.22		58.41	30
.Onion	Planted X		· ·		1 a. a. a.	i	1	(*		<u>, 1</u> 41,	Narsery	100		
	Cropped X	100	100	100	75		ł	1		• • ·	i 5	25	100	
CF=1.00	Kc	0.75	0.95	0.90	0.40	1	4				0.30	0.50	0.60	
	ETc en	65.97	\$9.70	132.28	56.45	[1	1			2.22	12.45	50.07	439
.Caggage	Planted X		l	1	1	1	1	Î			Neesery 1	100		[
·	Cropped X	100	100	. 75		1	1	1			5	75	100]
Cf=1.00	Kc	0.95	1.00	0.50	<u> </u>	 	+	í	}-,		0.30	0.50	0.70	
	ETC ma	83.57	104.94	55.12		1	<u>i</u>			l	2.22	37.34	58.41	342
Grapes	Planted X	100	1		1	1	1	1	ļ		1	1.1.1	14 J	
	Cropped X	100	100	100	190	100	100	100	100	100	100	100	100	. `
CF=0.50	Kc	0.00	0.00	0.40	0.60	0.65	0.7	<u> </u>	0.65	0.55			· · · · · · · · · · · · · · · · · · ·	
	ETC ME	0.00	0.00				85.50		74 83	r		<u> </u>	0.00	51
0.0live	Planted X	100		1			1	{	1					
0.01146	Cropped %	100	100	100	100	100	100	100	100	100	100	100	. 100	1
CF=0.80	Ec	0.60	And a second second	0.60	0.60	0.60			0.60		0.50			
11-0.80	Elc no	42.22	· · · · · · · · · · · · · · · · · · ·	A				123.57			70.93	47.79		
			1 00.31	10.55	30.36	101.01	111.60	123.31	110.02	e3.JI	17.20			
i Orange	Planted X	100	1			1	100		100	100	100	100	100	
	Cropped X	100		· · · · · · · · ·	+	100	100	•	100		· <u> </u>	بالمستخد بالمست	÷ • · · · · •	I
CF=0.89	<u>Kc</u>	0.75	0.75	0.80					0.65	÷	0.70	0.70	0.70	<u> </u>
	ETc #un	52.78	62.97	94.07		125.85 CF* mean:		133.87						111

Table C-26 Field Vat	er Reguli	rement f	or Each (reo on i	100 fedd	ans Smal	l Scale	Investor	s (Yegeta	blestfra	its)	$s_{i} \in [0, \infty]$	a proteini
Ссорз	Jan.	feb.	Mar.	Apr.	Kay	Jun.	Jul.	Aug.	Sep. i		Nov. 1	Dec.	Total
.Tonato Eic ma	0.0	0.0	0.0	4.7	39.3	256.5	270.3	165.8	28.01	4.4	0.0	0.0	769
Cropped Area feddaa	0.0	0.0	0.0	0.5	2.5	10.0	10.0	9.0	5.0	1.0	0.01	0.0	
Vater Requirement cum	0.0	0.0	0.0	9.9	412.9	10773.5	11353.4	6266.5	587.4	18.6	0.0	0.0	23422
Field Requirement(/.90)	0.0	0.0	0.0	11.0	458.8	11970.6	12614.9	6362.8	652.7	20.7	0.0	0.0	32692
2.Potato E7c en	0.0	0.0	0.01	0.0	50.6	195.4	270.3	138.2	0.0	0.0	0.0	0.0	654
Cropped Area feddan	0.0	0.0	0.0	0.0	7.5	10.0	10.0	7.5	0.0	0.0	0.0	0.0	
Water Requirément cum	0.0	0.0	0.0	0.0	1592.8	8203.4	11353.4	4351.8	0.01	0.0	0.0	0.0	25506
Field Requirement(/.80)	0.0	0.0	0.0	0.0	1991.0	10260.5	14191.8	5439.7	0.0	0.01	0.0	0.0	31683
3. Sesane ETc an	0.0	0.0	0.0	0.0	0.0	73.3	206.0	230.3	130.5	11.1 ;	0.0	0.0	651
Crosped Area feddan	0.0	0.0	0.0	0.0	0.0	7.5	10.0	10.0	10.0	2.5	0.0	0.0	
Vater Requirement cum	0.0	0.0	0.0	0.0	0.0	2308.6	8650.2	9670.6	5432.71	116.5	0.0	0.0	26229
Field Requirement(7.80)	0.0	0.0	0.0	0.0	0.0	2885.8	10812.8	12088.2	6853.3	145.6	0.6	0.0	32785
A. Soybean Elic Ra	0.0	0.0	0.0	0.0	0.0		180.2	207.2	149.2	44.4	0.0	0.0	605
Cropped Area feddan	0.0	0.0	0.0	0.0	0.0	2.5	10.0	10.0	10.0	7.5	0.0	0.0	· · · ·
Vater Requirement cum	0.0	0.0	0.0	0.0	0.0	256.5	7568.9	8703.5	6265.9	1397.4	0.0	0.0	24192
Field Requirement(/.80	0.0	0.0	0.0	0.0	0.0				7832.4		0.0	0.0	30240
5.Onion ETc an	65.0	99.7	132.3	18.5	0.0	0.0	0.0	0.0	0.0	2.2	12.4	50.1	382
Cropped Area feedan	10.0	10.0	19.0	2.5	0.0	0.0	0.0	0.0	0.0	· · · · · · · · · · · · · · · · · · ·	2.5	10.0	
Water Requirement cum	2770.9	4187.2	5558.0	197.6	0.0		0.0	0.0	0.0	4.7	130.7	2102.8	14950
Field Requirement(/.90		4652.4	6173.3	219.5	0.0		0.0	0.0	0.0			2336.5	16611
· · · · · · · · · · · · · · · · · · ·	83.6	104.9	18.4	0.0	0.0	0.0		0.0		2.2		58.4	305
6.Catbage ETc ma			2.5	0.0	0.0		0.0	0.0		0.5	7.5	10.0	
Cropped Area feddan	10.0	10.0				0.0	0.0	0.0		4.7		2453.3	11744
Nater Requirement cum	3509.8	4407.6	192.9	0.0	0.0			0.0			1306.7	2725.3	13049
Field Requirement(/.90	3899.8	4897.3	214.4	0.0	0.0		0.0	0.0	0.0	2.2	12.4	50.1	419
7.Onion Elc an	66.0	99.7	132.3	56.4	0.0		0.0	0.0	· · · · · · · · ·	0.5	2.5	10.0	
Cropped Area feddan	10.0	-10.0	10.0	1.5	0.0	·	0.0	0.0			130.7	2102.8	16530
Water Requirement cum	2770.9	4187.2	5556.0	1778.1	0.0	0.0	0.0	0.0		i	145.2	2336.5	18367
Field Requirement(7.90	1	4552.4	6173.3	1975.7	0.0		0.0	0.0	0.0			58.4	342
B.Cabbage ETC ma	83.6	104.9	55.1	0.0	0.0	÷			0.0			10.0	
Cropped Area feddaa	10.0	10.0	7.5	0.0	0.0	0.0	0.0	- 0.0			1176.1	2453.3	13288
Water Requirement cum	3509.8	4407.6	1736.2	0.0	0.0		0.0	0.0	0.0		1306.7	,	14764
Field Requirement(7.90		4897.3	1929.2	0.0	0.0			0.0		33.3	17.4	0.0	511
P.Grape Eic on	0.0	0.0	29.4	56.4	73.0		90.1	74.8	51.3	20.0		20.0	
Cropped Area feddan	20.0	20.0	20.0	20.0	20.0	÷	20.0	20.0	20.0				42950
Water Requirement cum	0.0	0.0	2469.3	4741.7		17182.4	7568.9	·	4307.8	2794.9	<u> </u>	0.0	42530
Field Requirement(7.90) 0.0		1	5268.5		* 7980.4		6934.3		3105.4			
10.01ive ETc m	42.2	· · · · · · ·	70.6	90.3	107.9	· · · · · · ·	- p	*	83.5	71.0	47.8	+0.1	961
Cropped Area feddan		20.0	20.0	20.0	20.0		20.0		20.0	20.0		20.0	01707
Water Requirement cum	3546.8	4231.3	5926.4						7519.1			3364.5	80727
h a		4701.4	6584.8	8429.7	10068.0	10944.5			8351.6			3738.3	83536
Field Requirement(7.90	3940.9	3101.1											
Field Requirement(7.90 11.Orange ETc mm		63.0	91.1	120.4	125.9		133.9	119.7	97.0	82.8	55.8	45.7	1119
)	52.8	63.0	91.1	120.4	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
11.Orange ETc m	52.8 20.0	63.0 20.0 5289.1	91.1 20.0 7901.8	120.4	20.0	20.0	20.0	20.0	+	20.0 6956.1	20.0 4683.4	· · · · · · · · · · · · · · · · · · ·	93935

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Table C-27 Summary of	f Field.	Mesca an	d Canal	Nater Re	cuiremen	t for 1	00 fedda:	ns Small	Scale In	vestors	(Vegetal	les+fru	its)
Iteas	Jan.	Feb. 1	Nar.		May I	Jun.	Jul.	Acg. i		Oct.	Nov.	Dec.	10(3)
00 feds Field Requirement	22824	29578	32598	27141	31081	56219	79519	53845	37530 i	19393	14194	18224	432249
100 feds Mesqa Req. (1.95)	24025	31240	34314	28573	32717	59178	83704	67205	39506	20414	14341	19184	454999
100 feds Canal Reg. (/.90)	26695	31711	33127	31747	36352	65753	93005	74572	43895	22682	16601	21315	505555
				—— (2.1 2.1	
Field Reg. in cum/fed/month	228	297	325	271	311	562	795	638	375	194	142	182	4322
in cun/fed/day	7	11	11	9	10	19	26	51	13	6	5	6	142
in lit/fed/sec	0.03	0.12	0.12	0.10	0.12	0.22	0.30	0.24	0.14	0.07	0.05		1.64
lesga Req. in cum/fed/month	240	312	343	285	327	592	837	672	395	204	143	192	4550
in cum/fed/day	8	n H	11	10	n	20	27	55	13	7	5	6	149
in lit/fed/sec	0.09	0.13	Q.13	0.11	0.12	0.23	0.31	0.25	0.15	0.08	0.06	0.07	1.73
Canal Reg. in cum/fed/month	267	347	331	317	364	658	930	747	433	227	166	213	5055
in cut/fed/day	3	12	12	11	12	22	- 30	24	15	1	8	?	166
In lit/fed/sec	0.10	0.14	0.14	51.0	0.14	0.25	0.35	0.23	9.17	0.08	0.06	0.08	1.92
								<u> 1997 - 18</u>	-		1		1
Field Req. in mon/Net.A/ant	1.90	2,47	2.71	2.26	2.59	4.58	6.62	5.32	3.12	1.61	1.18	1.52	35.98
in mcm/Net.A/day	F	0.09	0.09	0.03	0.08	0.15	0.21	0.17	0.10	0.05	0.04	0.05	
in lit/Net.Msec	709	1021	- 1013	872	565	1 1806	2472	1984	1205	603	456	566	13674
lesga Reg. in mcm/Net.Nant	2.00	2.60	2.86	2.33	2.72	4.93	6.97	5.59	· · · · · · · · · · · · · · · · · · ·	4	1.24	1,60	·
in mcm/Net.N/day		0.03	0.09	0.08	0.09	0.16	0.22	0.18		0.05	0.04	0.05	1.24
in lit/Net.A/sec	747	1075	1067	918	1617	1901	2602	2083		634	480	595	
Canal Reg. in mcm/Net.A/mnt		2.83	3.17	2.64	3.03	5.47	7.14	6.22	<u></u>	1.89	1.38	÷	
in sce/Net A/day	- t	0.10	0.10	0.09	0.10	0.18	0.25	0.20			<u></u>	<u> </u>	
in lit/Net.N/set		1194	1185	1020	1130	2112	2891	2321	1410	1 705	533	683	15993

	3 Neighted Ke	Jan. 1	Feb. 1	Kar.	Ann	Nat	Jun, i	Jul.	Aug. 1	Sep. 1	Oct. I	Sev. 1	Dec.	*****
Croj		67 07 1	104 04 1		183 16	224.73	244.30	257.45	230.25 1	185.49	147.881	99.561	83.45	2002
ference ETo,	Planted X	61.34 1	109.91	113.30	100.10	001110	100		1				1.217	
Maize		··					75	100	100	100	25			
<u> </u>	Cropped X Kc						0.30	0.80	0.75	0.70	0.70			
CF=1.00	ETC BA					i — —	54.97	205.95	172.69	130.54	25.88			590
For hear	Planted X						100	1	1		1	11	1.12	1
Soybean	Crepped X						25	100	100	100	75	1.44		
Cf=1.00	Kc Kc						0.40	9.70	0.90	0.8	0.4			
u=1.w	ETC ON		·		<u>├</u>		24.43	180.21	207.23	149.19	41.36			603
Potate	Planted X	i			100			1	1	;		а ^н	<u></u>	
rolate	Cropped X				23	100	100	- 100	25	1973			1. <u>1.</u>	
CF=1.00	Ke		<u> </u>	<u>.</u> 1 1. 5.	0.30	0.80	1.05	0.80	0,70		1.63			i
<u></u>	ETC mm			i	14.11		1 256.51	205.96	1 40.29				1	63
Sesane	Planted X			<u></u>	1	1	100	1	1					
. 36 Saue	Cropped 1			j	1	i	75	100	1 100		25		:. 	<u> </u>
CF=1.00	Kc .			i	i — —	<u></u>	0.40	0.80		0.70	0.30	·	<u> </u>	
UI-1.00	Etc m			†·	1	1	71.29	205.95	230.25	130.54	11.09		1	65
.Barley	Planted X		1		1	1	,	1	1	>	1	100	<u> </u>	
.94(10)	Cropped X	100	100	100	i 100	25	1	1	1.1	5. J.S.		25	100	·
CF=1.09	Kc	1.00	1.00	1.00	0.50	0.30	1	1	1		1	0.33	0.90	
<u></u>	Efc MA		104,94		1 91.08	16.85	1 1 2	1 .	1	1	Lane -	1 8.21	75.10	53
.Onion	Planted X		1	1	1	;	1	1.1	1		Nursery	100	1	<u> </u>
.unren	Cropped \$	100	1 100	100	1 25	1.		1			1 5		100	
CF=1.00	Kc	0.75	0.95		0.40		1	¥		• •	0.30			
01-11.00	ETC mm	65.97		132.28	18.82	1	ŧ	1		1, P) -	2,22			38
Cabbage	Planted X			1	1	1			1	1	Nuesery			<u> </u>
	Cropped \$	100	100	25			1	i	1. S. S. S. S.	1	1 5			
(F=1.00	Kc	0.95	1.00	0.50	i i	1	i	1		1	1 0.30	0.50		
(1-1100	ETc m	83.57	104.95	1 18.37	1	1	1	1	1	4	2.22			30
Wheat	Planted X			1		1	1	1	1	<u>) i i i</u>	1	1 100		
	Cropped X	100	100	100	100	75	1	1		1	1	25		
CF=1.00	Kc Kc	0.90		1.05	1.0	0.2	1.0	1		<u> </u>	1	0.40		
	Elc m	79.17	*	1 154.3	197.5	33.7	1	Ì	1	10 g - 1	- <u> </u>	9.96	58.41 system i	6

Table C-29 Field Valu		noment fo	r Fach f	ron 08 7	20 fedda	ns Larga	Scale I	Investors	s (Land C	se Crops)		·
	Jan.	Fab 1	Mar.	Apr.	May 1	Jua. +	Jul.	Aug. (Sep.	Oct. i	Nov. 1	Dec.	Total
Crops A Naize ETC FM	0.01		0.01	0.0	0.01	55.0	206.01	172.7	130.5	25.9 1	0.0 :	0.0	590
	0.0	0.01	0.0	0.0	0.01	135.01	180.0	380.01	180.0	45.0	0.0	0.0	
	0	0	01	0	0	31165	155704	130553	93683 1	4391	0 1	÷ 0	421002
Water Requirement cum		^	0	Ō	- O	38958	191630	163191	123360	6114 -	0	0	526253
Field Requirement(/.80) P Soybean ETC mm	0.0 (0.01	0.01	0.01	24.4	180.2	207.21	149.21	44.4	0.01	0.0	605
2.Soybean ETC mm Crosped Area feddan	0.0		0.0	0.0	0.0	45.0	180.0	180.0 ;	180.0	135.0	0.0	0.0	
Vater Requirement cum	0		01	0	01	4617	136241	156684	112786	25154	01	. 0	435452
Field Requirement(/.80)	0	!	01	- 0	0	5772	170301	195830	140983	31442 :	01	0	544327
	0.0	0.01	0.01	14.1 1	179.8	255.5	206.0	40.3	0.0	0.0	0.01	0.0	637
	0.0	0.0	0.0	45.0	150.0	180.0	180.0	45.0	0.0	0.0	0.01	0.0	
Cropped Area feddan Vater Requirement cum		0 1	0		135918	193924	155704	7516	0 :	0	0,	0	495829
Field Requirement(/.80)				3334 i			194530	9519	0 i	0	0		619786
	0.0	0.01	0.01	0.01	0.01	73.3	206.0	230.3	130.5 :	11.1	- 0.0 j	0.0	551
L.Sesame ETc nm Cropped Area feddan	0.0	0.0	0.01	0.01	0.0	135.0	180.0	180.0	180.0 ;	45.0	0.0 i	6.0	
Kater Requirement cum	0			0	0	41555	155704	174071	98688	2096	0	0	472114
Field Requirement(7.80)			0		0	51944	194530	217588	123360	2620	• • • • • •		590143
5.Barley ETC MA	83.0		147.0	91.1	16.91	0.0	0.0	0.0	0.0	0.0	8.2 ;	75.1	534
Cropped Area feddan	180.0	180.0	180.0	180.0	45.0	0.0	0.0	0.0	0.01	0.0	45.0	180.0	
Kater Requirement cum	66502	79336	111119	71125	3186	: 0	0	0	0	0	1552	56776	389597
Field Requirement(/.80)		93171		88907	3982	0	0	0	0	C	1941	70970	486936
5.00100 ETC BR	\$6.0	99.7	132.3	18.8	0.0	0.0	0.0	0.0	0.0	2.2	12.4	50.1	382
Cropped Area feddan	180.0	180.0	180.0	45.0	0.0	0.0	0.0	0.0	0.0	9.0	45.0	180.0	
Nater Requirement cun	43876	75370		3556	0	0	0	0	0	31	2352 ;	37851	269095
Field Requirement(/.90		83744		3351	0	0	0	0	0		2613	42056	298935
7.Cabbage ETC IN	83.5		18.4	0.0	0.0	0.0	0.0	0.0	0.0		37.3	58.4	
Cropped Area feddan	180.0		45.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	135.0		
Nater Requirement cum	63177	79336	3472	- 0	0	0	0	- 0	0	84	21159	41159	211393
Field Requirement(/.90		83152		0	0	1 0	0	0	0	93	23521	49065	234887
B. Wheat ETC and	79.2	110.2		197.6	33.7	1 0.0	; 0.0	0.0	0.0	0.0	10.0	58.4	643
Cropped Area feddan		180.0	180.0	180.0	135.0	0.0	0.0	0.0	0.0		45.0		
Kater Requirement cut			116675	149363	19114	1 0	0	0		· · · · · · · · · · · · · · · ·	1882	44153	474348
Field Requirement(/.80			145844	185704	23392	i 0	0	0	0	0	2352	55199	592935
Flerg nequirements.00	<u> </u>												

Table C-30 Sunnary o	f Field	Kacha a	nd Canal	Water R	cuirene	nt for 7	20 fedda	ins Large	Scale In	vestors	(Laod C	se Crops)
Itens	Jan.				May		Jul.	Aug.	Sep.	Oct.	NOV.	tec.	lotal
720 feds Field Requirement				282896	197772	339078	754191	586129	387704 ·	40352	30428	217231	066501
720 feds Mesga Reg. (7.95)		391942			208181	356924	793885	616978	408109	42437	32029	228723	3227895
720 feds Canal Req. (7.90)	131646	418325	467509	330873	231312	395583	882094	685531	453451	47207	35588	254142	3586551
120 1203 Canat Keq. (1.50)	001010	1.00000					7	1					1.1
Field Req. in cun/fed/month	394	521	555	393	275	471	1047	814	538	56	42	302	4259
in con/fed/day	13	19	18		9	16	34	26	18 :	2	1	10	137
in lit/fed/sec	0.15		0.21	0.15	0.10	0.18	0.39	0.30	0.21	0.02	0.02	0.11	- 1.59
Hesqa Req. in cum/fed/month		<u>+</u>	584			436	1103	857	567	59	41	313	4133
in cum/fed/day	- 13	L	19			17	36	28	19	2		10	145
in lit/fed/sec	0.15	0.23	0.22	÷		0.19	1 0.41	0.32	52.0	0.02	0.02	0.12	1.67
	461	609	619	·		551		952	630	66	43	353	4331
anal Req. in cum/fed/month		22	<u>.</u>	15		·	<u></u>	31	21	2	2	11	161
in cum/fed/day	0.17			·				· •	1 0 24	0.02	0.02	0.13	1.86
in lit/fed/sec	0.11	0.23		1 0.10		1		1	;		· · ·		
	6.56	8.68	9.24	6.51	4.57	7.84	17.44	1 13.55	8.97	0.33	0.70	5.02	70.91
field Req. in mcm/Net.A/mal	t	0.31	0.30		0.15	<u></u>	·			0.03	0.02	0.18	2.29
in mcm/Net.A/day		3385	3451	·	1708					· · · · · · · · · · · · · · · · · · ·	271	1876	26476
in lit/Net.A/set		4		÷	i	<u> </u>	بيب مسر ب				0.74	5.23	74.65
lesga Req. in mcm/Net.3/mnl		···		<u> </u>		0.28		·		0.03	0.02	0.17	2.41
in mcm/Net.Noa		1 0.33	· • • • • • • • • • • • • • • • • • • •		<u></u>						286		27869
in lit/Net.A/se	. La character de la composition de la composition de la composition de la composition de la composition de la c	· · · · · · · · · · · · · · · · · · ·		÷	5.35	. .	بتشهيد دلال		<u> </u>	1.03	0.82	5.58	
Tanal Req. in mcm/Net.A/mn		10.15	- -		مينينية المخراف			-+	· · · · · · · · · · · · · · · · · · ·	÷	0.03	÷	
in cca/Net.Vda		_ ;		. 		· · · · · · · · · · · · · · · · · · ·				403	318		
in lit/Net.A/se	c 2863	4195	4036	2952	1937	3533	1030	13 9918	4040	- 199			1 00000

Cro	ps	Jan.	leb.	Mar.	APF .	Kay	i Jun .	ં તેવી.	Aeg. 1	Sep.	Oct.	NOV.	Dec.	Total
eference Elo,		87.97	104.94	145.98	169.16	224.73	244.30	257.45	230.25 :	185.43	147.88	99.56	83.45	2002
Maize	Planted X				2	100					1	<u> </u>		
	Cropped X	· .				75	100	100	100	25		• •		· · · · ·
CF=1.00	lc lc					0.33	0.80	0.75	0.70	0.70				
	ETc ma					50.55	195.41	193.09	161.18	32.63				633
Sorahan	Planted X						100	1.22						<u></u>
	Cropped 1	1.1.1					25	100	100 1	100	1 25 :		1.16	
CF=1.00	Kc			1.1.1.1	5 a 5 1		0.30	0.80	1.05 1		0.50			
	ETc 🔤					S. Car	18.32	205.55	241.76	111.89	66.54			<u></u> δ44
.Kaite	Planted X		1.42			100	1 A A A A	(·			1			<u> </u>
	Cropped X	100				25	100	100	100		i			
CE=1.00						0.30	0.80	0.75	0.70	0.70				
	Elc ma		11			15.85	195.44	1 193.09	151.18	97.90	•	1. A. A.		66
Sorichua	Flaated X				1.85	t	! 100				1		-	
	Cropped 1					Î	75		100				·	S
CF=1.00	Ec			1. S. S. S. S. S. S. S. S. S. S. S. S. S.		1.1.1.1	0.30	0.80	1.05	0.60	0.60		<u> </u>	1.11
	Elc m		1.00	1.1.1.1.1.1	1.1	1	54.97	205.95	241.76	111.83	22.18	5 - S	:	6 31
that	Planted 1	11.		1.1		and the second	÷ -	1	Í		! .	100	· · · · · · · · · · · · · · · · · · ·	I
	Cropped X	100	100	100	100	75	1.1.1.1			: <u>.</u>	<u> </u>	25	المشارك المراجع	
CE=1.00	Kc	0.90	1.05	1.05	1.05	0.2	1	1.00			<u> </u>	0.40		
	ETc an	79.17	110.19	154.33	197.57	33.71	I	17.7	!		(9.95	58.41	64
.Berseem	Planted X		1. C	1		1		1 3	I	<u>, .</u>	i 100		!	
	Crosped X	150	200	75	<u> </u>		1	<u>i</u>			1 25	100		
CF=1.00	Kc	0.75	0.75	0.75	1 · · ·	1 S.	ti i ₹	1	<u>i</u>		0.50			
	LTc m	65.97	78.71	\$2.68		•	•	1	₹. ·	S	18.43	71.67	62.58	38
Fodderbeat	Planted %		i	1	1 .	1	1	1	1	£	100	·	·	· ·
	Cropped X	100	100	100	25	1	1	1	<u> </u>	<u> </u>	25	100		<u> </u>
CF=1.00	<u></u> C	1.05	1.05	0.90	0,90	1	1.00	1	<u> </u>	<u> </u>	0.40	0.60	0.90	1.0
· · · · · · · · · · · · · · · · · · ·	ETc nn	92.36	110.19	132.28	42.34	<u>•</u>	1	5	1	•	14.79	59.74	75.10	52
Barley	Planted 1	1	1	1		1	ŧ :	t i	1		1	100	<u>.</u>	
	Cropped X	100	100	100	100	25	1	1	1			25	100	l
CF=1.00	fic	1.00	1 1.00	1.00	0.50	0.33	1		1	:	<u>†</u>	0.33	0.90	L
	ETc BR		1 103.94	145.98	94.08	16.85	ļ —	1	1		1	8.21	75.10	53

Table C-3 Crops		Jan.	feb	Mar. :	pr.	Hay	ປັນຄ.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Maize	Lic ma	0.0 :	0.0 (0.0	0.01	50.6	195.4	193.1	161.2	32.6	0.0	0.0	0.0	633
Cropped Area	feddan	0.0	0.0	0.0	9.0	135.0	180.0	180.0	180.0	45.01	0.0	0.0	0.0	
Vater Requir	erent cum	0	0	0	0	28670	147751	145972	121850	6158	0	0	0	450411
Field Requir	ement(/.80)	0	0	0	0	35333	181633	182465	152312	7710	0	0	0	563014
Sorghun	ETc en	0.0	0.0	0.0	0.0	0.0	18.3	205.0	241.8	111.9	66.5	0.0	0.0	644
Cropped Area	eddan feddan	0.0	0.0	0.0	0.0	0.0	45.0	180.0	180.0	180.0 /	135.0	0.0	0.0	
Vater Requir	eneat cum	0 :	0	0	0	0	3463	155704	(82774	84590	37731	0	<u>) 0</u>	464261
Field Regain	ement(/.80)	01	0	0	0 '	0	4323	194530	228458	105737	47163	: 0	0	590327
Maize	ະ ວາງ3	0.0;	0.0 ;	0.0	0.0 :	16.9	195.4	193.1	161.2	97.9 ·	0.0	0.0	0.0	664
Cropped Area	n feodan	0.0	0.0	0.0	0.0	45.0	180.0	180.0	180.0	135.0	0.0	0.0	0.0	
Water Requir	rement cum	0:	0	0	0	3186	147751	145972	121850	55512	0	0	<u>, 0</u>	474271
Field Requir	rement(7.80)	0	0	0	0	3382	184583	182465	152312	69390	0	0	0	592839
Sorghum	ETC 03	0.0	0.0	0.0	0.0	0.0:	55.0	206.01	241.8	111.9	22.2	0.0	0.0	637
Cropped Area	a feddan	0.0	0.0	0.0	0.0	0.0	135.0	180.0	180.0	180.0	45.0	0.0	0.0	
Water Requir	rement cum	- 0	0	0	0	. 0	31166	155704	182774	84590	4192	0	0	458427
Field Requir	rement(7.80)	0	0	0	0	0		194530	223468	105737	5240	0	0	573033
Wheat	ែ លោ	79.2	110.2 ;	154.3	197.6	ĴJ 7	0.0	0.0	0.0	0.0	0.0	10.0	58.4	643
Cropped Area	a feodan	180.0 1	180.0	180.0 :	180.0	135.0	0.0	0.0	0.0	0.0	0.0	45.0	180.0	10.00
Water Requir	rement cum	59852	83303 (115675	149363	19114	0	0	0	0	0	1882	44159	474343
Field Requir	rement(7.80)	74315 -	104129	145844	186704 (23892	0	0 1		0	· 0	2352	55199	592935
Berseen	Ele ma	65.0	78.7	82.7	0.0	0.0	0.0	0.0	0.0	9.0	18.5	74.7	62.6	383
Cropped Are:	i feddan	180.01	180.0	135.0	0.0 i	0.0	0.0	0.0	0.0	0.0	45.0	180.0	180.0	
Water Regul		43376	59502	46878	01	0	C	0	0	0	3494	56451	47313	263516
Field Requi	rement(/.80)	62345	74378	58538	01	0		0		0	4367	70564	59142	329394
Fodderbeat	ETc an	92.4	110.2 -	132.3	42.3	0.0	0.0	0.0	0.0	0.0	14.8	59.7	75.1	527
Cropped Are.	a feddan	180.0	180.0 :	180.0	45.0	0.0	0.0	0.0	0.0	0.0	45.0	180.0	180.0	
Water Regul	rement cum	69827	83303	100007	8002	Ō	0	0	0	Ø	2795	45161	56776	365871
Field Requi	rement(/.80)	87284	104129	125009	10002	0	0	0	0	· · · · · 0 ·	3491	36451	70970	457339
Barley	ETC BH	83.0	101.9	147.0	94.1	16.9	0.0	0.0	0.0	0.0	0.0	8.2	75.1	534
Cropped Are	a feddan	180.0	180.0	180.0	180.0	45.0	0.0	0.0	0.0	0.0	0.0	45.0	180.0	1
Water Requi		66502	79336	111119 !	71125	3186	0	0	0	0	0	1552	56776	389597
field Requi		83/27	99171	138899	\$3907	3982	0	0	0	0	0	1941	70370	486396

Table C-33 Summary o	Jan.		Mar.		May	Jua.		Aug.		Oct.	Nov.	Dec.	Total
20 feds Field Requirement	307572	381807	453350	285613	67694	412665	754191	761560	288575	60264	131308	256281	\$231542
20 feds Mesqa Reg. (1.95)	323760	401902	493000	300645	71257	434384	793385	801642	303763	63436	133219	269770	3401624
20 feds Canal Reg. (1.90)	359733	\$ 45557	547778	334050	79174	432649	882094	890713	337514	70434	153577	239744	377958
					11							. <u> </u>	
ield Req. in cum/fed/month	427	530	550	397	94	573	1047	1058	401 :	84	<u> </u>	356	448
in cun/fed/day	··· 14	19	21	13	3	19	34	34	13	3	6	<u> </u>	14
in lit/fed/sec	0.16	55.0	0.24	0.15	0.04	0.22	0.39	0.33	0.15	0.03	0.07	0.13	1.0
lesga Req. in cum/fed/month	450	558	635	418	93	603	1103	1113	422	88	: · ·		472
in cun/led/day	15	20	22	- 14	- 3	20	36		<u> </u>			12	19
in lit/fed/sec	0.17	0.23	0.25	0.16	0.04	0.23		0.42	÷	· · · · · · · · · · · · · · · · · · ·	·		1.1
anal Reg. in cum/red/month	500	620	761	461	- 110	670	1225	1237		98	2)3		$-\frac{524}{1}$
in cum/fed/day	- 15	22	25	15	4	22	40	40					10
in lit/fed/sec	0.19	0.26	0.28	0.15	0.04	0.26	0.45	0.45	0.18	0.04	0.08	0.16	<u> </u>
		110	a i a			1	1 :	1	1				74.
Field Req. in nom/Net.Mond	7.11	8.83	10.83	<u></u>	1.57	9.54	17.44	17.61					2.4
in mcm/Net.A/day	0.23	0.32		0.22	0.05	<u></u>	0.56	<u></u>	÷	0.04			2790
in lit/Net.A/se	265 6	3650	40-14		584	<u> </u>	6512	6575				2213 6.24	78.0
lesga Beq. in mcm/Net.A/mol	7.49	9.29	11.40	<u>-</u>	1.65		÷	18.54				0.24	2.9
in mcm/Net.A/da	· — · ·	0.33	0.37	÷	0.05	÷	· · · · ·	0.60	L		0.11	2323	293
in lit/Net.Mse		3812	4257	<u> </u>	615	Ś		6921	2710				87.4
Canal Req. in mcm/Net.A/mni		10.33	12.67	7.72	1.83			20.60			3.55	0.22	2
in pcm/Net.A/da			0.41		0.06		<u></u>		<u> </u>	· · · · · · · · · · · · · · · · · · ·	1370		
in lit/Set.A/se	d 3106	4269	4729	2980	694	4306	7615	7690	3011	609	13(0	2303	\$20

Table C-34 Weighte	A Mana Casa C	antfiningt and f	con Evanotras	sniration fi	120 feddans	Large Scale	Investors:Beel U	attie
lable C-14 Melgare	а пеал стор с	CETTICICAE DOR C	TOP COEPOURA	- PILLER			Bet Koy I	A
			h h Marrie		Lat i Law	. Sen i	S	1140.

	4 Weighted Me	an Crop	Cettici	eat and	Crop Lv	epotrans	piration	1120 18	UGENS LA	Sep. i	Bat	Kar I	Dec	Total
Cros		Jan. I	Feb. 1	dar. I	Apr.	AT T	244 20	201.	220 25 1	196 / 0	147 99	43 56	81.45	2002
eference ETo,		87.971	104.91	145.931	183.15	224.13	244.30	231.431	6.0	186.49	131.00			
.Kaize	Planted X]				100	100	100	100	75 :				·
1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	Cropped X						0.80	0.75	0.70		·			
<u>CF=1.00</u>	Kc					0.30			161.18					664
	ETC MA					15.85	195.44	193.09	191.10	31.301		<u></u>		
Sorghun	Planted X						100	100	100	103	75			
	Cropped X		1.00				0.30	0.80	1.05					
CF=1.00	Kc.					·				111.83				611
1 A 1	ETC na							203.90	611.10	111.05				
.Sorghum	Planted X						100	100	100	100	25			
	Cropped X					<u> </u>	0.30		1.05				· • • •	
CF=1.00	Ke					[111.89				637
	ETC BA							205.99	241.10		25.10			
.Maize	Planted X		· · · · · ·			100		100	100	25				
1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	Cropped X				·	75	100		0.70					
CF=1.00	Kc					0.30	0.80	0.75						633
	ETc and					50.55	195.44	193.09	101.10	38.03	100			
Berseem	Planted X	1997 (B. 1997)				1			<u></u>		25	100	100	
1	Cropped X	100	100	- 100	100	75			·		0.50	0.75	0.75	
CF=1.00	Kc 👘	0.75	0.75	0.75	0.75	0.75			!	<u>-</u>	18.43		62.58	678
	ETC RA	65.97	78.71	110.24	141.12	126.41	<u>.</u>				10.45	100	05.00	
i.baeat	Planted X		I		L		<u> </u>			<u></u>		25	100	!
جاري کار	Cropped X	100	100	100	100	75		<u>}</u> -				0.40	0.70	1
CF=1.00	1c	0.90	1.05	1.05	1.05	0.2		l		<u> </u>	L	9.96	58.41	61
	Elc 🏘	79.17	110.19	154.33	197.57	33.71	:	<u> </u>	· · · · · · · · · · · · · · · · · · ·	<u>. </u>		100		
7.Barley	Planted X			<u> </u>	<u> </u>	1	!				• •	25	100	
	Cropped X	100	100	100	100	25		<u> </u>	<u> </u>			0.33		
CF=1,00	Ke	1.00	T.00	1.00	0.50	0.30		<u> </u>	· · · · · · · · · · · · · · · · · · ·	1		8.21	75.10	53
1. J. S. S. S. S. S. S. S. S. S. S. S. S. S.	ETC M	87.97	104.94	145.98	91.03	16.85	;	·		1	1 100		13.10	
B.Berseen	Planted X	1.1.1	1		1	1	<u> </u>	!			25		100	
1.000 - 1.00	Crosped X		001	75		ļ	1				0.50			1
CF=1.00	Ke	0.75	0.75	0.75		<u> </u>	<u>}</u>		<u> </u>	÷	18 13			- 38
	ETC ea	65.97		82.63					1		- 1X IX	• r4 hF	97.30	- <u>35</u>

Crops Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. I.Kaize ETc mm 0.0 0.0 0.0 0.0 15.9 195.4 193.1 161.2 97.9 0.0 Cropsed Area feddan 0.0 0.0 0.0 15.9 195.4 193.1 161.2 97.9 0.0 Water Requirement cum 0 0 0.0 0.0 185.0 180.0 185.0 183.72 121850 55512 0 Field Requirement(/.80) 0 0 0 0.0 0.0 18.3 206.0 241.8 111.9 65.5 Cropsed Area feddan 0.0 0.0 0.0 0.0 18.3 206.0 241.8 111.9 65.5 Cropsed Area feddan 0.0 0.0 0.0 4.00 183.0 183.0 183.0 183.0 135.0 183.0 135.0 183.0 135.0 183.0 <t< th=""><th>0.0 0 0 0 0 0</th><th>Total 0.0 664 0.0 474271 0 592833 0.0 644</th></t<>	0.0 0 0 0 0 0	Total 0.0 664 0.0 474271 0 592833 0.0 644	
Cropped Area Feddan 0.0 0.0 0.0 45.0 180.0 183.0 135.0 0.0 Water Requirement cua 0 0 0 0 45.0 180.0 183.0 135.0 0.0 Water Requirement cua 0 0 0 0 352 187.65 182.35 152.312 69390 0 Field Requirement(/.80) 0 0.0 0.0 0.0 0.0 3532 183.65 182.35 152.312 69390 0 Zorghum ETc m 0.0 0.0 0.0 0.0 6.0 18.3 206.0 231.8 111.9 65.5 Cropped Area feddan 0.0 0.0 0.0 0.0 43.0 183.0 183.0 183.0 183.0 183.0 183.0 183.0 183.0 233.0 37.0 Nater Requirement Cua 0 0 0 0.0 0.0	0.0 0 0 0 0.0 0 0.0 0	0.0 0 474271 0 592333 0.0 644	
Water Requirement cum 0 0 0 0 0 0 3185 147751 143972 121830 55312 0 Field Requirement(/.80) 0 0 0 0 3582 184583 182455 152312 69390 0 2.Sorghum ETc mm 0.0 0.0 0.0 0.0 13.3 206.0 241.8 111.3 65.5 Cropped Area feddan 0.0 0.0 0.0 0.0 45.0 183.3 185704 182.74 84530 37731 Water Requirement cum 0 0 0 0 0 3453 155704 182.74 84530 37731 Field Requirement (/.80) 0 0 0 0 0 3453 185704 182.74 84530 37731 S.Sorghum ETc ma 0.0 0.0 0.0 55.0 206.0 241.8 11.9 22.2 194530 183.0 180.0 180.0 180.0 <	0 0 0.0 0.0 0	0 474271 0 592839).0 644	
Note: Requirement (7, 80) 0 <th 2"2"2"2"2"2"2"2"2"2"2"2"2"2"2"2"2"2<="" colspa="2" td=""><td>0 0.0 0.0 0.0</td><td>0 592839).0 644</td></th>	<td>0 0.0 0.0 0.0</td> <td>0 592839).0 644</td>	0 0.0 0.0 0.0	0 592839).0 644
Corghum ETc nm 0.0 0.0 0.0 0.0 0.0 13.3 205.0 241.8 111.9 65.5 Cropped Area feddan 0.0 0.0 0.0 0.0 0.0 13.3 205.0 241.8 111.9 65.5 Cropped Area feddan 0.0 0.0 0.0 0.0 0.0 45.0 183.0 183.0 183.0 135.0 Water Requirement (1/.80) 0 0 0 0 0 0.4 0.0 223 13 194530 223 13 105737 47163 5 5 7 77131 <th7731< th=""> 77131 77131</th7731<>	0.0 0	.0 644	
Cropped Area Feddan 0.0 0.0 0.0 0.0 0.0 1.0 <th1.0< th=""> 1.0</th1.0<>	0.0 0		
Water Requirement Cum O		1.01	
Field Requirement(7.80) 0	0		
Sorgbus ETc ma 0.0 0.0 0.0 0.0 55.0 206.0 241.8 11.9 22.2 Cropped Area feddan 0.0 0.0 0.0 0.0 0.0 135.0 180.0 180.0 180.0 45.0 Nater Requirement cum 0 0 0 0 0 0 31166 155704 182774 84530 4192 Field Requirement (.80) 0 0 0 0 0 0 3358 194530 22338 105737 52373 Kaize ETc ma 0.0 0.0 0.0 135.0 180.0 180.1 131.2 32.6 0.0 Cropped Area feddan 0.0 0.0 0.0 133.0 180.0 180.0 43.0 <th< td=""><td></td><td>0 464261</td></th<>		0 464261	
S. Sorghun ETC ma 0.0 0.0 0.0 0.0 5.0 205.0 241.8 11.9 22.2 Cropped Area feldan 0.0 0.0 0.0 0.0 0.0 135.0 120.0 183.0 183.0 45.0 Nater Requirement cun 0 0 0 0 0 0 0 35.5 195.0 183.0 183.0 45.0 Kater Requirement (7.80) 0 0 0 0 0 3358 194530 23558 105737 52430 Kaize ETc ma 0.0 0.0 0.0 0.0 135.0 180.0 180.0 45.0 Cropped Area feddan 0.0 0.0 0.0 50.6 135.4 193.1 151.2 32.6 0.0 Kaize ETc ma 0.0 0.0 0.0 133.0 180.0 180.0 45.0 0.0 Waiter Requirement Cun 0 0 0 0 2857	0	0 580327	
Cropped Area feddan 0.0 0.0 0.0 0.0 133.0 180.0 180.0 480.0 45.0 Nater Requirement cum 0 0 0 0 0 0 135.0 180.0 180.0 45.0 Field Requirement (rm 0 0 0 0 0 3358 194530 22358 105737 5230 Field Requirement (// 80) 0 0 0 0 3358 194530 22358 105737 5230 Kaize Ele ma 0.0 0.0 0.0 50.6 195.4 193.1 151.2 32.6 0.0 Cropped Area feddan 0.0 0.0 0.0 135.0 180.0 180.0 45.0 0.0 Water Requirement Cum 0 0 0 0 28570 147751 145972 121550 6168 0		0.0 637	
Nater Requirement cum 0 0 0 0 31165 155704 182774 84590 4192 Field Requirement(7.80) 0 0 0 0 0 33358 194530 223358 105737 5240 Kaize Elc.ms 0.0 0.0 0.0 50.6 195.4 193.1 151.2 32.6 0.0 Cropped Area feddan 0.0 0.0 0.0 180.0 180.0 45.0 0.0 Water Requirement cum 0 0 0 28570 147751 145972 121850 6168 01).0	
Field Requirement(7.80) 0 0 0 0 0 33358 194530 223358 105737 5240 Maize Elc ms 0.0 0.0 0.0 50.6 195.4 193.1 151.2 32.6 0.0 Cropped Area feddan 0.0 0.0 0.0 135.0 180.0 180.0 45.0 0.0 Water Requirement 0 0 0 0 28570 147751 145972 121850 6168 01	0	0 458427	
Kaize ETC ma 0.0 0.0 0.0 50.6 195.4 193.1 151.2 32.6 0.0 Cropped Area feddan 0.0 0.0 0.0 135.0 180.0 180.0 45.0 0.0 Water Requirement cum 0 0 0 28570 147751 145972 121850 6168 01	0	0 573033	
Water Requirement cum 0 0, 0 0 0 28570 147751 145972 121850 6168 01	0.0).0 633	
Water Requirement cum 0 0; 0: 0: 28570 147751 145972 121850 6168 01	0.0 ().0	
	0	0 450411	
Field Requirement(7.80) 0 0 0 0 0 35838 184589 182455 152312 7710 01	0	0 563014	
5. Berseea Elc and 65.0; 78.7; 110.2; 141.1; 126.4; 0.0; 0.0; 0.0; 0.0; 18.5;	74.7 6	678	
Crepped Area feddan 180.0 180.0 180.0 180.0 135.0 0.0 0.0 0.0 0.0 0.0 45.0	180.0 180		
Nater Requirement cun 43375 55502 83339 102688 71676 0 0 0 0 0 3494	56451 473	313 478340	
Field Requirement(7,80) 62316 74378 104174 133360 89595 0 0 0 0 0 4367	70564 591	42 597925	
wheat Elema 79.2 i 10.2 154.3 i 197.6 ; 33.7 ; 0.0 ; 0.0 ; 0.0 0.0] 0.0]	10.01 5	8.4 613	
Cropped Area Teddan 180.0 180.0 180.0 180.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	45.0 180	0.0	
Viter Repuirement cum 53352 83303 116675 143363; 19114 0 0 0 0 0 0	1882 44	59 474343	
Field Requirement (7.80) 74315 104123 145814 186704 23892 0 0 0 0 0 0	2352 ! 55	99 592935	
Barley Elc ma 83.0 104.9 147.0 94.1 16.9 9.0 0.0 0.0 0.0 0.0 0.0	8.21 75	5.1 534	
Creeped Area (eddan 180.0 180.0 180.0 180.0 45.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	45.0 18	0.0	
Nater Requirement cun 66502 73336 11119 71125 3186 0 0 0 0 0 0 0	1552 55	776 389597	
Field Regul rement (/, 80, 83127 99)11 13899 88307 3982 0 0 0 0 0 0 0	1941 1 70	970 485995	
Erseen Ersen (C.O. 75.7: 82.7: 0.0: 0.0: 0.0: 0.0: 0.0: 0.0: 13.5i	74.7 : 6	2.6 383	
Cropped Area feddan 180.0 180.0 133.0 0.0 0.0 0.0 0.0 0.0 0.0 45.0 1	180.0 1 18	0.0	
Vater Regulationent cum 1 49876 59502, 45878 0 0 0 0 0 0 0 3494	56451 47	313 263516	
Field Requirement (1.80) 62345 74373 58598 0 0 0 0 0 0 0 0 4367	70564 59	142 329394	

Tab	le C-36 Summary o	f Field,	Mesqa a	nd Canal	Nater R	equireme	nt for 6	09 fedda	ns Large	Scale I	nvestors	(Beef C	attle)	
100	Iteas	Jan.	feb.	Mar.	Apr.	May	Jua.	Jul. 1	Aug.	Sep.	Oct.	Nov.	Dec.	Total
20 feds F	ield Requirement	282633	352055	417515	408971	157288	412655	754191	761550	288575]	61137	145421	241453	6500073
20 feds M	esqa Reg. (1.95)	297509	370585	471069	430495	165567	434334	793885	801542	303763	64355	153075	257319	6684283
2) feds (ahal Reg. (7.90)	330565	411751	523410	478328	183953	432643	882094	899713	337514	71506	170683	285910	4093653
													i	2.3
ield Reg.	in cun/fed/month	393	433	526	568	218	573	1047	1058	401 -	85	202	340	4861
1.1	in cun/fed/day	13	17	20	19	1	19	34	34	13	3	1°7	<u> </u>	157
	in lit/fed/sec	0.15	D.20	0.23	0.22	0.08	0.22	0.39	0.39	0.15	0.03	0.03	0.13	1.81
lesą́n Reg.	in cum/fed/month	413	\$15	854	533	230	693	1193	1113	422	89	213	357	5117
	in com/fed/day	13	18	21	20	7	20	36	36	11	3	1	12	. 165
	in lit/fed/sec	Û.15	0.21	15.0	0.23	0.09	0.23	0.41	0.42	0.16	0.03	0.08	0.13	1.91
'anal Req.	in cum/fed/month	459	572	727	G54	256	670	1225	1237	469	93	236	397	5686
	in cum/fed/day	15	20	23	22	8	22	40	- 10	16	3	8	13	183
	in lit/fed/sec	0.17	0.24	0.27	0.26	0.10	0.26	0.46	0.45	0.18	0.01	0.09	0.15	2.12
	an ya shi ku		(l			Re de	•		l a straig		1	<u> </u>	1
field Req.	ia scm/Net.Manh	6.54	. 8.14	10.35	9.45	3.64	9.54	17.41	17.61	6.67	1.41	3.36	5.65	80.91
	in mcm/Net.A/day	0.21	0.23	0.33	0.32	0.12	0.32	0.58	0.57	0.22	0.05	0.11	0.18	2.61
	in lit/Net.A/sec	2440	3365	3364	3643	1358	3632	6512	6573	2575	528	·		30219
lesqa Reg.	in com/Net.A/no!	6.83	8.57	10.83	9.96	3.83	10.05	18.35	18.54		1.49		i 5.95	85.20
	in mcm/Net.A/day	0.22	0.31	0.35	0.33	0.12	0.33	0.59		·				2.75
	in lit/Set.A/sec	2569	3542	4067	3841	1429	3875	· · · · · · · · · · · · · · · · · · ·	in	2710		÷	2232	31810
anal Req.	in mom/Net.A/mol	7.64	9.52	12.10	11.06	4.25	11.16	20.40	20.60		1.65			91.67
	in nom/Net.A/day	0.25	0 34	0.33	0.37	0.14	0.37							3.05
1.25	in lit/Net.Msec	2854	3936	4519	4267	1558	4306	7615	1 7530	3011	617	1517	2459	35344

Crops	Jan.	Feb. 1	Mar.	Apr. 1	May	Jun.	Jul.	Aug.			Nov. i		Total
eference Elo, sa/zonth	87.97	104.94	145.98	188.16	224.73	214.30	257.45	230.25	185.49	147.88	99.56 i	83.45	200
Grape Planted X	100				1					- 1 ()	1		
Cropped X	100	100	100	100	100	100	- 100	100	100	100	100	100	
CE=0.50 Kc	0.00	0.0)	0.40	0.60	0.65	0.70	0.70	0.65	0.55	0.45	0.35	0.00	
ETC ER	0.00	0.00	29.40	56.45	73.04	85.50	90.11	74.83	51.28	33.27	17.42	0.00	51
Olive Planted X	100	1								× .		;	
Cropped X	100	100	100	100	100	100	100	100	100	100	100	100	
CF=0.80 Ic	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
ETC AN	42.22	50.37	70.55	90.32	107.87	117.26	123.57	110.52	89.51	70.98	47.79	40.05	9
Grange Flanted 1	100	1	•				[L					I
Cropped X	100	100	100	100	100	100	100	100	100	100	100	100	<u> </u>
CF=0.80 Kc	0.75	0.75	0.8	0.80	0.70	0.65	0.65	0.65	0.65	0.70	0.70	0.70	
ETc ma	52.78	62.97	94.07	120.42	125.85	1 127.03	133.87	119.73	95.97	82.81	55.75	45.73	<u> 1</u>
Algood Planted V	100	1		I	ł	[1	<u>} * * *</u>	<u> </u>				
Cropped X	(01	100	100	100	100	100	100	100	100	100	100	100	_ ·
CF=0.80 Kc	0.00	0.00	0.65	0.75	0.75		0.80	0.70	0.70	0.65	0.55	0.00	9
ETC AG	0.00	0.00	76.43	112.90	134.84	156.35	164.77	128,94	104.43	76.90	43.81	0.00	<u>ب</u>
and a second second second			1		<u> </u>	L	1	<u> </u>	· · · · · ·			·	·
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		1	L	L	<u> </u>	· ·	<u></u>	<u> </u>		!	<u>}</u>		
			<u> </u>		<u> </u>	L	<u> </u>		·		<u> </u>	· · ·	

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Table C-35 Field Vat	er Regula	ement f	or Each f	lrop on i	20 fedda	uns Larg	e Scale i	Investors	; (Fraits	3 10 10	· · · · · · · · · · · · · · · · · · ·		
Crops	Jan.		Mar i	Apr.	May I	Jun. 1	Jul. i	Aug. 1	Sep.	Oct.	NOV .	Dec.	Total
Grape ETC and	0.01	0.0	23.4	56.41	73.0	85.51	90.1	74.81	51.3	33.3	17.4	0.0	51
Cropped Area feddan	180.0		180.01	180.0	180.0	180.0	180.0	180.0	180.01	150.01	180.0	180.0	
Vater Requirement cum	01	0	22224	42675	55217	64611	63120	56573 1	38770	25154 i	13172	0	38651
field Requirement(/.90)	1	0	24693	47417	61352	71824	75689	62853 :	43078 .	27949	14636	Ç	42943
Alive Elc m	42.21	50.4	70.6	90.3	107.9	117.3	123.6	110.5	89.5	71.01	47.8	40.1	96
Cropped Area feddaa	180.0	180.0	180.01	183.0	180.0	180.0	180.01	180.01	180.0	180.0	180.0	180.0	
Vater Requirement cun	31921	38031	53337	68280	81551	88651	93422	835541	67672 1	53661	36129	30281	72654
Field Requirement(/.90)		42313	59264	75867	90612	98501	103803	92838	75191 -	59624	40143	33645	80726
Drange ETC MB	52.8	63.0		120.4	125.91	127.01	133.91	119.7	97.0 .	82.8	55.8	46.7	111
Cropped Area feddan	180.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0	180.01	180.0	180.0	
Vater Requirement cum	39901	47602	71116	91040	95143	96038	101208	90517	73311 !	62605	42150	35327	84595
Field Requirement(/.90.			79018	101156	105714		112453		81457 *	69561 1	46834	39253	93995
Almond ETC am	1 0.0	0.0	76.4	12.91	134.8	156.4	164.8	128.9	104.4	76.91	43.8	0.0	93
Cropped Area feddan			180.0	180.0	180.0	180.0	180.0	180.0	180.0 1	180.0	180.0	180.0	
Vater Requirement Cum	01		57782		101939	118201	124563	97480	78951	53133	33118	0	75551
Field Requirement(7.90							138403	103311	87723	64592	36798	0	83945
Flera vedailesicatit. 20	 `									•	1.1.1		
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										1	12.5		
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Table C-39 Summary O	Field,	Mesqa a	nd Canal	Water R	equirese	nt for 7	20 fedda	ins Large	Scale 1	nvestors	(fruits)	<u>) si</u>	
Iteos	Jan.	feb.	lar.	Apr	May 1			Aug.	Sep.		Nov i	Dec.	Total
20 feds field Requirement	79802	95204	162975	288542	370944	408368	430348	1 364582	287449	221725	138410		0016181
20 feds Kesga Reg. (1.95)	\$4002		171552					383770		230395			3174927
720 feds Canal Reg. (1.90)	93336	111349	190614	337593	433853	477623	503331	425411	336193	259327	161884	85261	3527697
					- 1		ł .	\		1			
field Reg. in cum/fed/sonth	111	132	226	401	515	567	\$38	506	399	308	192	101	4189
in cum/fed/day	4	5	7	13	17	19	19	16	13	, 10	6		135
in lit/fed/sec	0.04	0.05	0.08	0.15	0.19	0.22	55.0	0.19	0.15	0.11		0.04	1.56
lesga Reg. in cun/fed/month	117	: 139	238	422	542	597	6?3	533	420	324	202	107	4110
in cun/fed/day	- 4	5	8	14	17	20	20	17	14	10	1	· . 3	142
in lit/fed/sec	0.04	0.05	0.09	0.15	0.20	0.23	0.23	0.20	0.15	0.12	0.08	0.04	1.65
anal Reg. in cum/fed/month	130	155	265	459	603	663	699	- 592	457	360	225	118	4900
in cun/fed/day	4	6	9	16	19	22	23	- 19	16	12	1 7	<u>83</u> 4	158
in lit/fed/sec	0.05	0.05	0.10	0.18	0.22	0.26	0.26	0.22	0.18	0.13	0.03	0.04	1.83
			1		a sa sa sa		1	1	;	•		19. dag	1
Field Req. in mcm/Net.A/mnh	1.85	2.20	3.77	5.67	8.58	9.44	9.95	8.43	6.65	5.13	3.20	1.69	69.75
in mcm/Net.A/day		0.08	0.12	0.22	0.28	0.31	0.32	0.27	0.22	0.17	0.11	0.05	2.25
in lit/Net.Msec		910	1407	2575	3203	3643	3715	3148	2565	1914	1235	629	26041
lesga Reg. in mcm/Net.A/mont	1.94	2.32	3.97	7.03	9.03	9.91	10.43	8.87	7.00	5.40	3.37	1.77	73.42
in mcm/Net.A/day		0.03	0.13	0.23	0.29	0.33	0.34	0.29	0.23	0.17	0.11	0.06	2.37
in lit/Net.Nsec		958	1491	2711	3371	3835	3911	3313	2700	2015	1300	663	27412
anal Reg. in mom/Net.A/mol		2.57	4.41	7.81	10.03	11.05	11.64	9.86	7.17	6.00	3.74	1.97	81.58
in mcm/Net.A/day	[0.09	0.14	0.26	0.32	0.37	0.38	0.32	0.26	0.19	• Q.12	0.06	2.63
in lit/Net.A/sec		\$		3012	3745	4261	4345	3682	2999	2239	1444	736	30458
												1.1.1	

									1.1				
Table C-40 Summary o	f Each C	ategory'	s Unit N	ater Req	uirement				· · ·	an tha			
Category	Jan.	feb.	Mar.	Apr.	Hay	Jun.	Jul.	Aug. j	Sep.	Oct.	Nov. j	Dec.	Total
imall Scale & Graduate								1		<u> </u>	1		10 A A
Small Scale Farmers	Net Area	16650			100						1	· · · · ·	
Field Req. cun/fed/day	11.76	13.24	10.74	11.83	19.74	28.23	31.01	19.70	8.43	7.64	5.981	9.75	178.17
Mesqa Req. cum/ted/day	12.38	13.94	11.30	12.45	20.78	23.78	32.65	20.73	8.92	8.04	5.30 [10.27	187.55
Canal Reg. cum/fed/day	13.75	15.49	12.56	13.84	23.09	33.09	36.27	23.04 i	9.91	8.93	7.00	11.42	208.39
Graduate Farmers(Veg+Frui	Net Area	5550						· i					
Field Req. cum/fed/day	13.11	15.75	17.65	20.33	31.13	28.26	23.95	21.67	20.03	15.75	5.68	10.25	223.56
Mesqa Req. cum/fed/day	13.80	16.58	18.58	21.39	32.77	29.75	25.21	22.81 ;	21.08	16.53	5.97	10.79	235.33
Canal Req. cum/fed/day	15.33	18.42	20.64	23.77	36.42	33.06	28.01	25.34	23.42	18.42	6.64	11.99	261.47
Graduate Farmers(Veg+Live	iet Area	5550						·	1		1		
field Req. cum/fed/day	11.52	11.93	7.95	8.14	17.37	28.29	29.56	20.13	10.47	8.39	7.33	9.84	170.91
Mesqa Req. cum/fed/day	12.13	12.55	8.37	8.57	18.28	29.78	31.12	21.19	11.02	8.83	7.72	10.35	179.91
Canal Req. cum/fed/day	13.47	13.95	9.30	9.52	20.32	33.09	34.57	23.54	12.25	9.81	8.57 1	11.59	199.90
mail Scale Investor			· ·			1.1			1		1	21.1	
Vegetable:Beef Cattle	et Area	8325			2		Paris 1		N				1.1
Field Req. cum/fed/day	12.15	15.52	12.76	4.46	8.15	23.27	35.24	23.87	9.82	3.24	4.57	9.91	162.98
Mesga Req. cwa/fed/day	12.78	15.34	13.43	4.70	8.59	24.49	37.10	25.13	10.34	3.42	4.81	10.43	171.56
Canal Req. cum/fed/day	14.21	18.15	14.92	5.22	9.54	27.21	41.22	27.92	11.49	3.79	5.31	11.59	190.62
Vegetable+Fruit	Set Area	8325			1.1	1.1.1							10021
Field Req. cum/fed/day	7.36	10.60	10.52	9.05	10.03	18.74	25.55	20.60	12.51	6.26	4.73	5.88	141.91
Mesga Req. cum/fed/day	7.75	11.16	11.07	9.52	10.55	19.73	27.00	21.68	13.17 (6.59	4.98	6.19	143.38
Canal Req. cum/fed/day	8.61	12.40	12.30	10.58	11.73	21.92	30.00	24.09	14.63	7.32	5.53	6.88	165.98
arge Scale Investor				14 ¹⁵				1. ji - 1 / 1			;	••••••••••••••••••••••••••••••••••••••	10
Land Use Crop	iet Area	16650						1.5			1	s d	10.00
Field Req. cum/fed/day	12.70	18.61	17.91	13.10	8.85	15.70	33.79	26.26	17.95	1.81	1.41	9.74	137.39
Masga Reg. cum/fed/day	13.37	19.59	18.85	13.79	9.33	16.52	35.57	27.64	18.89	1.90	1.43	10.25	144.62
Canal Reg. cus/fed/day	14.85	21.77	20.95	15.32	10.35	18.35	39.52	30.71	20.99	2.12	1.65	11.39	160 69
Daity	Vet Area	16650		1. 2.20		1.1				1.148			
Field Req. cum/fed/day	13.78	18.94	20.93	13.22	3.03	19.10	33,79	34.12 :	13.36	2.70	6.08	11.43	144.78
Mesga Req. cum/fed/day	14.51	19.94	22.09	13.92	3.19	20.11	35.57	35.92	14.06	2.81	6 49 1	12.09	152.40
Canal Reg. cum/fed/day	16.12	22.15	24.54	15.47	3.55	22.34	39.52	39.91	15.63 (3.16	7.11	13.43	169.34
Beef Cattle	Set Area	16650			1. A.	1.00	in the second						
Field Req. cua/fed/day	12.65	17.46	20.05	18.93	7.05	19.10	33.79	34.12	13.36	2.74	6.73	10.95	156.81
Hesqa Req. cum/fed/day	13.33	18.58	21.11	19.93	7.12	20.11	35.57	35.92	14.06	2.88	7.09	11.53	165.07
Canal Reg. cum/fed/day	14.81	20.42	23.45	22.14	8.24	22.34	39.52	39,91	15.63	3.20	7.87	12.81	183.41
Fruit	et Area	16650											
Field Req. com/led/day	3.58	4.72	7.30	13.36	16.62	18.91	19.28	16.33	13.31	9.93	6.411	3.27	135.13
Mesqa Reg. cum/fed/day		4.97	7.63	14.07	17.43	19.90	20.30	17.19	14.01	10.45	6.75	3.41	142.25
Canal Reg. cum/fed/day	4.18	5.52	8.54	15.63	19.44	22.11	22.55	19.10	15.56	11.62		3.82	158.05

Table C-11 Summary (of Each C	ategory'	s Water	Requirem	ent and	Project	Water Re	quirecen	t				
Category	Jan.	teb.	Kar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct. 1	Nov.	Dec.	Total
Small Scale & Graduate	Net Area		142										
field Req. in cum/Net.A/day	332486											273988	
Mesga Reg. in cum/Net.A/day				373665							180822		
Canal Reg. in cum/Net.A/day	328873	437589	375300	415183	699295	917951	\$51340	654916	363013	305438	200913	320454	6030274
												-	
Small Scale Investor	Net Area		1.1.1.1.1.1	8 - 1 g	1.1						1. 1994		· •
Field Req. in cum/Net.A/day	162405	217451	193747	112475	151402	349720			185935	79092	77406	131458	
Kesqa Req. in cum/Net.A/daj	170953	228895	203344	118394	159370	368126	533628		195721	83254	81430	138377	
anal Req. in cum/Net.A/day	189948	254328	226605	131549	177078	409029	592920	432978	217468	92505	90533	153752	2968694
		1.1											
Large Scale Investor	et Area	66600				i	1.1.1		· · · · ·				
field Req. in cum/Net.A/day	711328	994590	1102958	975969	592073	1212347	2008832	1845397	\$65316	286070		590003	
Respa Req. in cum/Net.A/day	743767	1045937	1161009	1027338	623235	1276155	2114560	1942523	1015122	301127	361535		-0E+07
Canal Req. in com/Set.A/da	831963	1163264	1290010	1141484	692483	1417950	2349511	2158359	1129025	334585	491705	690062	1.12+07
				1.									•
Frand Total	Net Area	111000		199		1			· · · · · · · · · · · · · · · · · · ·	· · · · ·		I	1 N
field Req. in cum/Net.A/day	1206320	1586180	1617587	1443425	341372	2346924	3329174	2775547	1461628	626311	592645	995450	1.7E+07
Mesga Reg. in cum/Net.A/day	269705	1669563	1702723	1519395	1411971	2470445	3504394	2921628	1538556	659275	623837		.8E+07
Canal Req. in cum/Net.A/da	410783	1855181	1001015	4 6 6 6 6 6 6									D 0C+07
			1031312	1022511	1009990	2744940	<u>3893771</u>	3245253	1103200	132328	63315Z	1164269	2.05101
	1. S.		1.1.1.1.1.1	Sec. A.		2.4	1.1.1.1						1 - A - A - A
field Req. in cum/Net. Num	B.7E+07	4.4E+07	5.CE+07	4.32+07	4.22+07	7.02+07	1.00+03	8.66+07	4.4E+07	1.9E+07	1.8E+07	3. IE+07	5.92+08
Kesoa Reg. in cum/Net. Man	N3.9E+07	4.4E+07 4.7E+07	6.GE+07 5.3E+07	4.3E+07 4.6E+07	4.2E+07 4.4E+07	7.0E+07 7.4E+07	1.0E+03 1.1E+08	8.6E+07 9.1E+07	4.4E+07 4.6E+07	1.9E+07 2.0E+07	1.8E+07 1.9E+07	3.1E+07 3.2E+07	5.9E+08 5.2E+08
field Req. in cum/Net.A/mn Kesga Req. in cum/Net.A/mn Jenal Req. in cum/Net.A/mn	N3.9E+07	4.4E+07 4.7E+07	6.GE+07 5.3E+07	4.3E+07 4.6E+07	4.2E+07 4.4E+07	7.0E+07 7.4E+07	1.0E+03 1.1E+08	8.6E+07 9.1E+07	4.4E+07 4.6E+07	1.9E+07 2.0E+07	1.8E+07 1.9E+07	3.1E+07 3.2E+07	5.9E+08 5.2E+08
Kesoa Reg. in cum/Net. Man	N3.9E+07	4.4E+07 4.7E+07	6.GE+07 5.3E+07	4.3E+07 4.6E+07	4.2E+07 4.4E+07	7.0E+07 7.4E+07	1.0E+03 1.1E+08 1.2E+08	8.6E+07 9.1E+07 1.0E+08	4.4E+07 4.6E+07 5.1E+07	1.9E+07 2.0E+07 2.3E+07	1.8E+07 1.9E+07 2.1E+07	3.1E+07 3.2E+07 3.6E+07	5.9E+08 5.2E+08 5.9E+08
Kesoa Reg. in cum/Net. Man	h3.9E+07 h1.45+07	4.4E+07 4.7E+07	5.0E+07 5.3E+07 5.9E+07	4.3E+07 4.6E+07	4.2E+07 4.4E+07 4.9E+07 12.08	7.0E+07 7.4E+07 8.2E+07 21.14	1.0E+03 1.1E+08 1.2E+08 23.99	8.6E+07 9.1E+07 1.CE+C8 25.09	4.4E+07 4.6E+07 5.1E+07 13.17	1.9E+07 2.0E+07 2.3E+07 5.64	1.8E+07 1.9E+07 2.1E+07 5.34	3.1E+07 3.2E+07 3.6E+07 8.97	5.9E+08 5.2E+08 5.9E+08 155.43
Kesqa Req. in cum/Net.Man Tenal Req. in cum/Net.Man	h3.9E+07 h1.45+07 d 10.87	4.4E+07 4.7E+07 5.2E+07 14.29	5.0E+07 5.3E+07 5.9E+07	4.3E+07 4.6E+07 5.1E+07	4.2E+07 4.4E+07 4.9E+07 12.08 12.72	7.0E+07 7.4E+07 8.2E+07 21.14 22.26	1.0E+03 1.1E+08 1.2E+08 29.99 31.57	8.6E+07 9.1E+07 1.0E+08 25.09 26.32	4.4E+07 4.6E+07 5.1E+07 13.17 13.85	1.9E+07 2.0E+07 2.3E+07 5.64 5.94	1.8E+07 1.9E+07 2.1E+07 5.34 5.62	3.18+07 3.28+07 3.68+07 8.97 9.44	5.9E+08 5.2E+08 5.9E+08 155.43 163.61
<pre>tesqa Req. in cum/Net.A/and Tenal Req. in cum/Net.A/and F. Req. in cum/day/11100</pre>	h3.9E+07 h1.45+07 d 10.87 d 11.44	4.4E+07 4.7E+07 5.2E+07 14.29	5.0E+07 5.3E+07 5.9E+07 14.57	4.3£+07 4.6£+07 5.1£+07 13.00	4.2E+07 4.4E+07 4.9E+07 12.08 12.72	7.0E+07 7.4E+07 8.2E+07 21.14	1.0E+03 1.1E+08 1.2E+08 29.99 31.57	8.6E+07 9.1E+07 1.CE+C8 25.09	4.4E+07 4.6E+07 5.1E+07 13.17	1.9E+07 2.0E+07 2.3E+07 5.64	1.8E+07 1.9E+07 2.1E+07 5.34	3.1E+07 3.2E+07 3.6E+07 8.97	5.9E+08 5.2E+08 5.9E+08 155.43 163.61
<pre>/esqa Req. in cum/Net.A/mn enal Req. in cum/Net.A/mn F. Req. in cum/day/11100 M. Req. in cum/day/11100 C. Req. in cum/day/11100</pre>	h3.9E+07 h1.4E+07 d i0.87 d i1.44 d i2.71	4.4E+07 5.7E+07 5.2E+07 14.29 15.04 16.71	5.0E+07 5.3E+07 6.9E+07 14.57 15.34 17.04	4.3£+07 4.6£+07 5.1£+07 13.00 13.69 15.21	4.2E+07 4.4E+07 4.9E+07 12.08 12.72 14.13	7.0E+07 7.4E+07 8.2E+07 21.14 22.26 24.73	1.0E+03 1.1E+08 1.2E+08 23.99 31.57 35.08	8.6E+07 9.1E+07 1.0E+08 25.09 26.32 29.25	4.4E+07 4.6E+07 5.1E+07 13.17 13.85 15.40	1.9E+07 2.0E+07 2.3E+07 5.64 5.94 6.60	1.8E+07 1.9E+07 2.1E+07 5.34 5.62 6.24	3.1E+07 3.2E+07 3.6E+07 8.97 9.44 10.49	5.92+08 5.22+08 5.92+08 155.43 163.61 181.79
Vesqa Req. in cum/Net.//mnl Venal Req. in cum/Net.//mnl F. Req. in cum/day/11100 M. Req. in cum/day/11100	h3.9E+07 h1.4E+07 d i0.87 d i1.44 d i2.71	4.4E+07 5.7E+07 5.2E+07 14.29 15.04 16.71	5.0E+07 5.3E+07 6.9E+07 14.57 15.34 17.04 11.93	4.3£+07 4.6£+07 5.1£+07 13.00 13.69 15.21 10.69	4.2E+07 4.4E+07 4.9E+07 12.08 12.72 14.13 9.94	7.0E+07 7.4E+97 8.2E+07 21.14 22.26 24.73 17.38	1,0E+(3 1,1E+08 1,2E+08 29,99 31,57 35,08 24,66	8.6E+07 9.1E+07 1.0E+08 25.09 26.32 29.25 20.56	4.4E+07 4.6E+07 5.1E+07 13.85 15.40 10.83	1.9E+07 2.0E+07 2.3E+07 5.64 5.94 6.60 4.64	1.8E+07 1.9E+07 2.1E+07 5.34 5.62 6.24 4.39	3.1E+07 3.2E+07 3.6E+07 9.44 10.49 7.37	5.92+03 5.22+03 5.92+03 155.43 163.61 181.79 127.80
<pre>/esqa Req. in cum/Net.A/mn enal Req. in cum/Net.A/mn F. Req. in cum/day/11100 M. Req. in cum/day/11100 C. Req. in cum/day/11100</pre>	h3.9E+07 1.45+07 0 11.45 0 11.44 0 12.71 0 8.93	4.4E+07 4.7E+07 5.2E+07 14.29 15.04 16.71 11.75	5.0E+07 5.3E+07 6.9E+07 14.57 15.34 17.04	4.3£+07 4.6£+07 5.1£+07 13.00 13.69 15.21	4.2E+07 4.4E+07 4.9E+07 12.08 12.72 14.13	7.0E+07 7.4E+97 8.2E+07 21.14 22.26 24.73 17.38	1.0E+03 1.1E+08 1.2E+08 23.99 31.57 35.08	8.6E+07 9.1E+07 1.0E+08 25.09 26.32 29.25	4.4E+07 4.6E+07 5.1E+07 13.17 13.85 15.40 10.83 11.40	1.9E+07 2.0E+07 2.3E+07 5.64 5.94 6.60	1.8E+07 1.9E+07 2.1E+07 5.34 5.62 6.24 4.39 4.62	3.1E+07 3.2E+07 3.6E+07 3.6E+07 9.44 10.49 7.37 7.76	5.92+08 5.22+08 5.92+08 155.43 163.61 181.79

Table C-42 Leaching	z Regulto	ecent for	r Each Ci	op on 1	0 feddans Small	Scale Fai	raers		<u> </u>			
Crops	Jan.	Feb.	Kar.	Apr.	Nay / Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
I.Sorghum ETc nm	0.0	0.0	0.0	0.0	16.9 195.4	270.3	138.2	42.0	0.0	0.0	0.0	662.7
LR(ECe=6.8, LR=4.3%) n-	0.0	0.0	0.0	0.0	0.7. 8.4	11.6	. 5.9	1.8	0.0	0.0	0.0	28.4
Leaching Required't cun	0.0	0.0	0.0	0.0	7.6 88.0	121.8	5.53	18.9	0.0	0.0	0.0	293.5
2.Water Melon ETC an	0.0	0.0	0.0	3.8	67.4 183.2	244.6	195.7	4.7	0.0	0.0	0.0	699.4
LR(ECe=16., LR=4.41) BT	0.0	0.0	0.0	9.0	3.0 8.1	10.8	8.6	0.2	0.0	0.0	0.0	30.8
Leaching Required't cur	0.0	0.0	0.0	1.7	31.1 84.6	113.0	90.4	2.2	0.0	0.0	0.0	323.1
3.Tonato ETc ma	0.0	2.6	77.2	197.6	236.0 123.1	28.6	0.0	0.0	0.0	0.0	0.0	665.0
LR(ECe=13., LR=5.41) set	0.0	0.1	4.2	10.7	12.7 6.6	1.5	0.0	0.0	0.0	0.0	0.0	35.9
Leaching Requirem't cum	0.0	1.5	43.8	112.0	133.8 69.8	16.2	0.0	0.0	0.0	0.0	0.0	377.1
f.Cantaloup ETc an	0.0	0.0	2.9	35.3	213.5 232.1	241.6	112.2	0.0	0.0	0.0	0.0	840.6
LR(ECe=16., LR=4.4%) Bet	0.0	0.0	0.1	1.6	5.01 4.6	10.8	4,9	0.0	0.0	0.0	0.0	37.0
Leaching Requirem't com	0.0	0.0	1.4	16.3	93.6 107.2	113.0	51.9	0.0	0.0	0.0	0.0	383.4
5.Berseen ETc no	65.0	59.0	0.0	0.0	0.0; 0.0	0.0	0.0	0.0	55.5	74.7	62.6	317.7
LR(ECe=1.5, LR=23.1) no	15.1	13.5	0.0	0.0	0.0 0.0	0.0	0.0	0.01	12.7	17.1	14.3	72.8
Leaching Requirem't cum	95.2	85.2	0.0	0.0	0.01 0.0	0.0	0.0	0.0	80.0	107.7	90.3	458.4
5.Green Pepper ETc m	0.0	0.0	0.0	0.0	0.0 0.0	0.0	86.3	143.21	140.5	5.0	0.0	381.0
LR(ECe=1.5, LR=23.1) en	0.0	0.0	0.0	0.0	0.0 0.0	0.0	19.8	34.2	32.2	1.1	0.0	87.2
Leaching Requirem't cur	0.0	0.0	0.0	0.0	0.0 0.0	0.0	207.6	358.7	337.81	12.0	0.0	915.1
7. Hedical Plant ETc m	88.0	73.5	33.1	0.0	0.0 0.0	0.0	0.0	0.0	14.8	79.6		372.4
LR(ECe=1.5, LR=23.X) Er	20.1	15.8	7.6	0.0	0.0 0.0	0.0	0.0	0.0	3.4	18.2	19.1	85.3
Leaching Requirem't cur	211.5	176.6	79.5	0.0	0.0 0.0	0.0	0.0	0.0	35.6	191.5	200.5	895.4
8. Broad Bean Elic m	101.2	120.7	102.9	9.4	0.0 0.0	0.0	0.0	0.01	0.0	6.0	71.8	411.9
LR(ECe=1.5, LR=23.X) m	23.2	27.6	23.6	2.2	0.0 0.0	0.0	0.0	0.0	0.0].4	16.4	94.3
Leaching Requirem't cur	243.2	290.2	247.4	22.6	0.0 0.0	0.0	0.0	0.0	0.0	14.4	172.6	990.4
9. Wheat Erc w	79.2	110.2	154.3	197.6	42.7 0.0	0.0	0.0	0.0	0.0	10.0	58.4	652.3
LR(ECe=5.0, LR=4.9%) ar	3.9	5.4	7.5	9.7	2.1 0.0	0.0	0.0	0.0	0.0	0.5	2.9	32.0
Leaching Requiren't cur	16.3	22.7	31.8	49.7	8.8 0.0	0.0	0.0	0.0	0.0	2.0	12.0	131.2
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l teos	Jan.	Feb.	Kar.	Apr.	Nay	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
O feds Field Requirement	566	576	404	193	289	350	364	412	380	453	323	476	4782
O feds Canal Reg. (1.90)	629	640	413	215	311	383	404	458	422	504	361	528	\$313
ield Reg. in cum/fed/month	57	. 58	40	19	28	35	36	41	33	45	33	43	478
in cua/fed/day	1.83	2.06	1.30	0.64	0.90	1.17	1.17	1.33	1.27	1.46	1.09	- 1.53	15.42
in lit/fed/sec	0.02	50.0	0.02	0.01	0.01	0.01	0.01	0.0Ż	0.01	0.02	0.01	9.02	0.18
anal Reg. in cum/fed/month	63	64	45	21	31	- 39	40	45	42	50	36	53	531
in cun/fed/day	2.03	2.29	1.45	0.72	1.00	1.50	1.30	1.48	· J.41	1.62	1.21	1.70	17.14
in lit/fed/sec	0.02	0.03	9.02	0.01	0.01	0.01	50.0	0.02	0.02	50.0	0.01	50.0	0.20
field Req. in mcm/Net.A/mnh	0.94	0.96	0.67	0.32	0.47	0.58	0.61	0.69	0.63	0.75	0.55	0.79	7.95
in mcm/Net.A/day	0.03	0.03	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.26
in lit/Net.A/sec	352	397	251	124	174	225	2 26	255	244	282	210	296	2972
anal Reg. in mcm/Net.A/mch	1.05	1.07	0.75	0.36	0.52	0.65	0.57	0.76	0.70	0.84	0.61	0.88	8.85
in ocm/Net.A/day	0.03	0.04	0.02	0.01	50.0	0.02	50.0	0.02	0.02	0.03	0.02	0.03	0.29
in lit/Net.A/sec	391	411	279	138	193	250	251	285	271	313	234	328	3303

Table C-44 Leaching	g Require	esent for	r Each Ci	rop on 19) feddan:	s Gradua	te Farnel	rs (Vege	tables+fi	ait)			
Crops	Jan.	Feb.	Mar.]	Apr.	Kay	Jun.	Jul.	Aug.	Sep. 1	Oct.	Nav.	Dec.	Total
L.Squash Elc mi	0.0	0.0	0.0	2.8	28.1	183.2	206.0	207.2	69.9	0.0	0.0	0.0	697.3
LR(ECe=15., LR=4.7%) are	0.0	0.0	0.0	0.1	1.3	8.6	9.7	9.7	3.3	0.0	0.0	0.0	32.8
Leaching Requirem't cum	0.0	0.0	0.0	1.4	13.9	90.4	101.5	102.3	34.5	0.0	0.0	0.0	344.1
2.Tonato ETc m	0.0	2.6	77.2	197.6	235.0	123.1	28.6	0.0	0.0	0.0	0.0	0.0	665.0
LR(ECe=13., LR=5.4%) #5	0.0	0.1	4.2	10.7	12.7	6.6	1.5	0.0	0.0	0.0	0.0	0.0	35.9
Leaching Requires't cur	0.0	3.0	87.5	224.0	267.6	139.6	32.4	0.0	0.0	0.0	0.0	0.0	754.1
3.Cantaloup ETc m	0.0	0.0	2.9	35.3	213.5	232.1	241.6	115.5	0.0	0.0	0.0	0.0	840.6
LR(ECe=16., LR=4.4%) m	0.0	0.0	0.1	1.6	9.4	10.2	10.8	4.9	0.0	0.0	0.0	0.0	37.0
Leaching Requires' t cur	0.0	0.0	1.4	16.3	98.6	107.2	113.0	51.9	0.01	0.0	0.0	0.0	388.4
4.Medical Plant ETc m	88.0	73.5	33.1	0.0	0.0	0.0	0.0	0.0	0.0	14.8	79.6	83.4	372.4
LR(ECe=1.5, LR=23.%) 657	20.1	16.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	3.4	18.2	19.1	85.3
Leaching Requirem't cum	211.5	176.6	79.5	0.0	0.0	0.0	0.0	0.0	0.0	35.6	191.5	200.5	835.4
5.Green Pepper 👘 Elc nu	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.3	149.2	140.5	5.0	0.0	381.0
LR(ECe=1.5, ER=23.%) nm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.8	34.2	32.2	1.1	0.0	87.2
Leaching Requirem't cur	0.0	0.0	0.0	0.0	0.0	- 0.0	0.0	415.2	717.4	675.6	23.9	0.0	
6.Broad Bean ETC mm	101.2	120.7	102.9	9.4	0.0	0.0	0.0	0.0	0.0	0.0	6.0	11.8	411.9
LR(ECe=1.5, LR=23.%) #	23.2	27.6	23.6	2.2	0.0	0.0	0.0	0.0	0.0	0.0	1.4	16.4	
Leaching Requirem't cur	486.5	530.4	494.8	45.2	0.0	0.0	i 0.0	0.0	0.0		28.7	345.1	1980.7
7.Peach Efc m	0.0	0.0	76.4	112.9	134.8	156.4	164.8	128.9	104.4	76.9	43.8	0.0	999.4
LR(ECe=5.5, LR=11.%) as	0.0	0.0	8.2	12.1	14.4	16.7	17.6	13.8	11.2	8.2	4.7	0.0	106.9
Leaching Requirem't cur	0.0	0.0	85.9	126.8	151.5	175.7	185.1	144.9	117.3	86.4	- 49.2	0.0	1122.8
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	25	}	19			1	<u> </u>					• • • • • • • • • • • • • • • • • • •	
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Iteas	Jan.	Feb.	Kar.	Apr.	Yay	Jun.	Jul.	Aug.	Sep.	Get.	Nov.	Dec.	Total
0 feds Field Requirement	693	760	749	414	532	\$13	432	714	869	793	293	\$45	7318
Q feds Canal Reg. (1.90)	776	814	832	450	591	570	480	794	966	885	326	606	8131
					Ξ.v								
ield Reg. in cum/fed/month	70	76	75	41	53	51	43	71	87	80	23	55	73
in cun/fed/day	2.25	2.71	2.42	1.38	1.71	1.71	1.39	2.30	2.90	2.57	0.98	1.76	23.6
in lit/fed/sec	0.03	0.03	0.03	50.0	0.02	0.02	0.02	0.03	0.03	0.03	0.01	0.02	0.2
anal Req. in cun/fed/month	78	84	83	45	59	57	45	79	91	89	- 33	63	81
in cum/fed/day	2.50	3.02	2.68	1.53	1.91	1.90	1.55	2.56	3.22	2.86	1.09	1.95	26.2
in lit/fed/sec	0.03	0.03	0.03	50.0	0.02	0.02	0.02	0.03	0.04	0.03	0.01	9.02	0.3
						1995				1.1			
ield Reg. in mcm/Net.North	0.39	0.42	0.42	0.23	0.30	0.28	0.24	0.40	0.48	0.44	0.16	Ó.30	4.0
in mcm/Net.Nday		0.02	0.01	0.01	0.01	0.01	0.01	0.01	50.0	9.01	0.01	0.01	0.1
in hit/Net.A/sec	145	174	155	89	110	110	· · 90	148	185	165	63	113	151
anal Reg. in mcm/Net. North	0.43	0.47	0.46	0.26	0.33	0.32	0.27	0.44	0.54	0.49	0.18	0.34	4.5
in ncm/Net.A/day		\$0.0	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.62	0.01	0.01	0.1
in lit/Net.N/sec		194	172	93	122	122	99	164	207	184	70	126	168

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Requirement for Each Grop on 10 feddans Graduate Farmers (Vegetables+Livestock) Tabl 46

Table C-16 Leaching				_						0.1	No.	Baa	Total
Crops of Andre	Jan.	Feb.	Mar.	Apr.	Kar	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
Sorghum ETc ar	0.0	0.0	0.0	0.0	16.9	195.4	270.3	138.2	42.0	0.0	0.01	0.0	662.7
LR(ECe=6.8, LR=4.33) m	0.0	0.0	0.0	0.0	0.7	8.4	11.6	5.9	1.8	0.0	0.0	0.0	28.4
Leaching Required't cur	0.0	0.0	0.0	0.0	7.6	88.0	121.8	62.2	18.9	0.0	0.0	0.0	298.5
2.Squash Ele ac	0.0	0.0	0.0	2.8	28.1	183.2	205.0	207.2	69.9	0.0	0.0	0.0	697.3
LR(ECe=15., LR=4.7%) m	0.0	0.0	0.0	0.1	1.3	8.6	9.7	9.7	3.3	0.0	0.01	0.0	32.8
Leaching Requiren't cur	0.0	0.0	0.0	1.4	13.9	90.4	101.6	102.3	34.5	0.0	0.01	0.0	344.1
3. Tonato ETC BUT	0.0	2.6	77.2	197.6	236.0	123.1	28.6	0.0	0.0	0.0	0.0	0.0	665.0
LR(ECe=13., LR=5.41) ar	0.0	0.1	4.2	10.7	12.7	\$.6	1.5	0.0	0.0	0.0	0.0	0.0	_35.9
Leaching Requires't cur		1.5	43.8	112.0	133.8	69.8	16.2	0.0	0.0	0.0	0.0	6.0	377.1
I.Cantaloup ETc no	0.0	0.0	2.9	35.3	213.5	232.1	241.6	112.2	0.0	0.0	0.0	0.0	840.6
LR(ECe=15., LR=4.41) 67		0.0	0.1	1.6	9.4	10.2	10.8	4.9	0.0	0.0	0.0	0.0	37.0
Leaching Requirem't cur	م م م م م م م م م م م م	0.0	1.4	16.3	98.6	107.2	113.0	51.9	0.0	0.0	0.0	0.0	338.4
5.Berseen ETC F		59.0	0.0	وممتنسس	0.0	0.0	0.0	0.0	0.0	55.5	74.7	62.6	317.7
LR(ECe=1.5, LR=23.1) m		13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	17.1	. 14.3	72.8
Leaching Requirem't cum		141.9	0.0			0.0	0.0	0.0	0.0	133.3	179.5	150.5	763.9
S.Green Pepper Elc m		0.0				0.0	0.0	86.3	149.2	140.5	5.0	0.0	381.0
LR(ECe=1.5, LR=23.X) ar		0.0	0.0	0.0	3.0	0.0	0.0	19.8	34.2	32.2	1.1	0.0	87.2
Leaching Required't cum			0.0		0.0	0.0	0.0	207.6	358.7	337.8	12.01	0.0	916.1
7. Kedical Plant ETC or		73.5	33.1	0.0		0.0	0.0	0.0	0.0	14.8	79.6	83.4	372.4
		15.8	7.5	0.0		0.0	0.0	0.0		3.4	18.2	19.1	85.3
LR(ECe=).5, LR=23.%) and	· · ·		79.5			<u> </u>	0.0	0.0			191.5	200.5	835.4
Leaching Requirem t cur		120.7	102.9	1 9.4	÷	0.0	0.0				6.01	71.8	411.9
B. Broad Bean ETC M			23.6			0.0				0.0			91.3
LR(ECe=1.5, LR=23.%) m				<u> </u>	÷	<u></u>							990.4
Leaching Requirem't cur	243.2	290.2	247.4	1 22.0	; U.V	1 0.0	<u>; v.v</u>	1 0.0					

lters	Jan.	feb.	Ker.	Apr.	Kay	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
O feds Field Requirement	613	610	372	152	254	355	353	424	412	507	397	524	4974
0 feds Canal Req. (/.90)	632	678	413	169	282	395	392	471	458	583	442	582	5526
ield Req. in cum/fed/ponth	61	. 61	37	<u>)</u> 15	25	36	35	42	41	- 51	40	52	497
in cun/fed/day	1.98	2.18	1.20	0.51	0.82	1.18	1.14	1.37	1.37	1.63	1.32	1.69	15.04
in lit/fed/sec	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.02	50.0	50.0	0.02	0.02	0.19
anal Req. in cum/fed/month	- 58	68	41	17	28	39	39	··· 47	46	56	41	58	553
in cun/fed/day	2.20	2.42	1.33	0.56	0,91	1.32	1.26	1.52	1.53	1.82	1.47	1.88	17.83
in lit/fed/sec	0.03	0.03	0.02	0.01	0.01	0.62	0.01	50.0	9.62	\$0.0	9.02	\$0.0	0.21
					1. N. 1. 1.		1. 12.11					1.1	1
ield Req. in mon/Net.A/anh	0.34	0.34	0.21	0.08	0.14	0.20	0.20	0.24	0.23	0.28	0.22	0.29	2.76
in mcm/Net.A/day	0.01	0.01	6.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
in lit/Net.A/sec	127	140	17	33	53	76	. 73	83	88	105	85	109	1031
anal Req. in mcm/Net.A/mrk	0.38	0.38	0.23	0.09	0.15	0.22	0.22	0.26	0.25	0.31	0.25	0.32	3.07
in mcm/Net.A/day	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
in lit/Net.A/sec	141	156	85	36	58	85	81	93	98	117	95	121	1145

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Table C-48 Leaching		event Ior	e tach ti	rop on li	00 fedda	ns Small	Scale 1	nvestors	lVegeta	cle + Be	et Cattl	e)	1
Crops	Jan.	feo.	Mar.	Apr. 1	Kay	Jun.	Jul.	Aug.	Sep.	0ct.	Nov.	Dec.	Total
. Sorshiet ETC er	0.0	0.0	0.0	0.0	0.0	55.0	206.0	241.8	83.9	0.0	0.0	0.0	585.6
LR(ECe=6.8, LR=4.3%) ar	0.0	0.0	0.0	0.0	0.0	2.4	8.8	10.4	3.6	0.0	0.0	0.0	25.2
Leaching Requirem't cun	0.0	0.0	0.01	0.0	0.0	247.6	927.7	1089.0	378.0	0.0	0.0	0.0	2642.4
.Potato ETc av	0.0	0.0	0.0	14.1	179.8	256.5	206.0	49.3	0.0	0.0	0.0	0.0	696.7
LR(ECe=1.7, LR=20.1) en	0.0	0.0	0.0	2.8	35.4	50.5	40.6	7.9	9.0	0.0	0.0	0.0	137.2
Leaching Requirem't cur	0.0	0.0	0.0	231.9	3718.9	5306.0	4260.2	833.5	0.0	0.0	0.0	0.0	14410.5
.Tomato ETc ar	0.0	0.0	0.0	4.7	39.3	256.5	270.3	147.4	28.0	8.9	0.0	0.0	755.1
LR(ECe=13., LR=5.4%) ar	0.0	0.0	0.0	0.3	2.1	13.9	14.6	8.0	1.5	0.5	0.0	0.0	40.8
Leaching Requirem't cum	0.0	0.0	0.0	26.7	223.0	1454.4	1532.7	835.5	158.6	50.3	0.0	0.0	4281.3
Soybean ETC au	0.0	0.01	0.0	0.0	0.0	24.4	180.2	207.2	149.2	41.4	0.0	0.0	605.4
LR(ECe=5.0, LR=5.9%) mm	0.0	0.0	0.0	0.0	0.0	1.4	10.6	12.2	8.8	2.6	0.0	0.0	35.7
Leaching Requirem't cum	0.0	0.0	0.0	0.0	0.0	151.3	1116.4	1283.8	924.2	274.8	0.0	. 0.0	3750.6
.Berseen ETc nr	66.0	53.0	0.0	0.0	0.0	0.0	0.0	0.0)	0.0	\$\$.5	74.7	62.6	317.7
LR(ECe=1.5, LR=23.%) @@	15.1	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	. 17.1	14.3	72.8
Leaching Requirem't cun	1566.3	1419.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1333.4	1795.5	1504.8	7639.4
i.Barley ETc an	88.0	104.9	147.0	94.1	16.9	0.0	0.0	0.0	0.0	0.0	8.2	75.1	534.1
LR(ECe=8.0, LR=3.6%) 64	3.2	3.8	- 5.3	3.4	0.5	0.0	0.0	0.0	0.0	0.0	0.3	2.7	19.2
Leaching Required't cur	332.5	395.7	555.6	355.6	63.7	0.0	0.0	0.0	0.0	0.0	31.0	283.9	2019.1
.Cablege ETc na	83.6	101.9	55.1	0.0	0.0	0.0	0.0	0.0	0.0	2.2	37.3	58.4	341.6
LR(ECe=12., LR=5.81) are	4.8	6.1	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.2	3.4	19.8
Leaching Requiren't cur	508.9	639.1	335.7	0.0	0.0	0.0	0.0	0.0	0.0	13.5	227.4	355.7	2080.3
3.Onion ETc na	66.0	99.7	132.3	18.8	0.0	0.0	0.0	0.0	0.0	2.2	12.4	50.1	331.5
LR(ECe=7.4, LR=9.5%) m	6.3	9.5	12.6	1.8	0.0	0.0	0.0	0.0	0.0	5.0	1.2	4.8	36.2
Leaching Requirem't cum	658.1	991.5	1319.5	187.7	0.0	0.0	0.0	0.0	0.0	22,1	124.1	499.4	3805.5