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8 8:49



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8 8:51



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Table 13 Effect of conjunctive use of irrigation water and organic manure on soil total N balance(kg/ha)* in the open field potato crop grown under drip fertigation (pooled over two years: 2004-05 and 2005-06).

Treatments	Initial N status	N added by OM & fertilizers	Total N status	N uptake by potato	Expected balance	Actual balance	Net gain(+) or loss(-)
A. Irrigation regimes							
I ₁ – 60% ETo	1866	224	2090	225	1865	1735	-130
I ₂ – 80% ETo	1866	224	2090	356	1734	1542	-192
B. OM levels							
M ₁ – 12.5 t/ha	1866	243	2109	191	1918	1758	-160
M ₂ – 25.0 t/ha	1866	305	2171	390	1781	1520	-261
C. Mean	1866	224	2090	291	1799	1639	-160

* Data statistically not analyzed

ETo = Reference evapo-transpiration

OM = Organic manure

N = Nitrogen

Table 14 Effect of conjunctive use of irrigation water and organic manure on soil available P balance(kg/ha)* in the open field potato crop grown under drip fertigation (pooled over two years: 2004-05 and 2005-06).

Treatments	Initial P status	P added by OM & fertilizers	Total P status	P uptake by potato	Expected balance	Actual balance	Net gain(+) or loss(-)
A. Irrigation regimes							
I ₁ – 60% ETo	60.7	217.5	278.2	37.4	240.8	97.7	-143.1
I ₂ – 80% ETo	60.7	217.5	278.2	50.5	227.7	105.2	-122.5
B. O M levels							
M ₁ – 12.5 t/ha	60.7	205.0	265.7	31.1	234.6	101.2	-133.4
M ₂ – 25.0 t/ha	60.7	230.0	290.7	56.7	234.0	101.7	-132.3
C. Mean	60.7	217.5	278.2	43.9	234.3	101.4	-132.9

* Data statistically not analyzed

ETo = Reference evapo-transpiration

OM = Organic manure

P = Phosphorus

Table 15 Effect of conjunctive use of irrigation water and organic manure on soil available K balance(kg/ha)^{*} in the open field potato crop grown under drip fertigation (pooled over two years: 2004-05 and 2005-06).

Treatments	Initial K status	K added by OM & fertilizers	Total K status	K uptake by potato	Expected balance	Actual balance	Net gain(+) or loss(-)
A. Irrigation regimes							
I ₁ – 60% ETo	140.1	224.0	364.1	316.4	47.7	133.3	+85.6
I ₂ – 80% ETo	140.1	224.0	364.1	449.3	85.2	135.4	+50.2
B. O M levels							
M ₁ – 12.5 t/ha	140.1	243.0	383.1	264.9	118.2	133.3	+15.1
M ₂ – 25.0 t/ha	140.1	305.0	445.1	500.8	55.7	135.4	+79.7
C. Mean	140.1	224.0	364.1	382.9	18.8	134.3	+115.5

* Data statistically not analyzed

ETo = Reference evapo-transpiration

O M = Organic manure

K = Potassium

Table 8a : Chemical analysis of irrigation waters in Kuwait

Chemical analysis	Al Wafra	Al Abdali	Sulaibiya	Shegaya well	Sewage effluent	Sweet water
• pH	7.3	7.8	7.6	7.5	7.4	7.7
• EC x 10 ⁶ – micromhos /cm	9300	6400	6600	4000	3400	1400
• TDS – ppm	5700	4470	4560	2800	2200	830
• Carbonates – CO ₃ ppm	Nil	Nil	Nil	Nil	Nil	Nil
• Bicarbonates – HCO ₃ ppm	122	146	171	171	488	12
• Chlorides– Cl ppm	74	727	461	461	470	163
• Sulphates– SO ₄ ppm	1441	2078	1195	1195	528	387
• Calcium– Ca ppm	600	170	296	296	220	41
• Magnesium– Mg ppm	122	30	141	141	49	31
• Sodium– Na ppm	1196	1262	306	306	391	101
• Potassium– K ppm	31	12	6	6	12	-

Table 8b : Chemical analysis of treated waste water (Tertiary/third stage)

Item	Value(range)
1. pH	6.5-7.5
2. EC(Mmhos/cm)	1100-2200
3. TDS(mg/L)	800-1500



المديرية العامة لشئون الزراعة
والثروة السمكية

قطاع الثروة النباتية
ادارة البحوث والمشاكل الزراعية
مراقبة البحوث والتجارب الزراعية
قسم بحوث التربة والمياه

الدكتور / سعيد

المحترم

السيد / رئيس قسم بحوث التربة والمياه
تحية طيبة وبعد ،

الموضوع : نتائج تحليل

للسعادة

نفيدكم بأن الجهة المختصة بالقسم قد قامت بإجراء التحاليل المطلوبة من قبلكم على عدد (٦) عينات
والمقدمة بتاريخ ٢٠٠٧/٤/٢٤ وكانت النتائج كما يلي :

(ppm) K	(ppm) P	% N	EC مللهم	pH	نوع التحليل نوع العينة	V.O.M كتلية
153.93	15.1	0.083	2.84	7.57	I ₂ W ₀	1.507
205.24	13.4	0.538	2.49	7.54	I ₂ W ₁	1.44
234.56	17.1	0.422	1.949	7.70	I ₁ W ₁	1.373
168.59	9.6	0.040	1.916	7.69	I ₁ W ₀	0.603
146.6	19.33	0.477	2.24	7.63	I ₂ W ₂	1.005
249.22	12.6	0.095	4.67	7.44	I ₁ W ₂	1.239

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