Supplementary Materials

Table S1, Average ± standard deviation of the measured parameters in water samples collected from various irrigation water resources of Al-Ahsa Oasis, KSA (TWW: treated wastewater; GW: groundwater; GW+AD: groundwater mixed with agriculture drainage; Mixed: TWW+GW+AD)

Parameters	**TWW**	**GW**	**GW + AD**	**Mixed**	**All Data**	
					Average ± SD	**Min – Max**
Temp. (°C)	27.8±4.74	29.1±5.68	27.5±4.38	27.1±4.77	27.9±4.97	16.1–38.0
pH	7.66±0.61	7.60±0.39	7.81±0.30	7.93±0.30	7.72±0.45	6.09–8.83
TDSx10^3 (mg/L)	1.42±0.33	2.32±1.25	3.19±0.92	2.60±1.06	2.27±1.13	0.86–5.95
ECx10^3 (µs/cm)	2.36±0.54	3.86±1.08	5.32±1.53	4.48±1.93	3.79±1.87	1.43–9.82
Turb. (NTU)	1.36±0.65	0.64±0.44	0.83±0.53	1.27±0.67	1.02±0.65	0.11–2.81
Cl_2 (mg/L)	0.12±0.08	0.09±0.05	0.13±0.17	0.10±0.04	0.11±0.09	0.02–0.98
Cl (mg/L)	496±139	933±598	1246±396	978±438	872±501	268–2500
HCO_3 (mg/L)	180±38.4	197±44.5	286±87.6	284±118	227±87.0	78–552
SO_4 (mg/L)	373±99.4	530±236	888±286	743±355	596±311	219–1489
Na (mg/L)	361±103	589±338	856±258	685±323	593±318	144–1541
K (mg/L)	27.1±7.70	34.2±28.8	55.9±18.7	46.2±18.4	38.7±22.6	4.64–185
Ca (mg/L)	140±23.9	229±109	337±121	277±130	233±122	80.1–673
Mg (mg/L)	47.9±15.1	76.2±46.3	111±43.3	87.1±36.1	76.5±42.4	24.7–221
Hardness	548±109	891±436	1307±431	1082±501	908±469	315–2368
DO (mg/L)	7.73±2.21	7.64±1.50	8.62±1.39	8.24±2.04	7.98±1.85	1.47–10.9
BOD (mg/L)	3.41±2.68	1.33±0.83	1.74±0.79	4.06±2.22	2.61±2.17	0.01–8.89
COD (mg/L)	18.4±12.5	13.3±12.2	20.5±12.4	24.3±10.5	18.5±12.5	1.0–51
NH_4 (mg/L)	0.47±0.37	0.23±0.08	0.30±0.16	0.45±0.35	0.36±0.29	0.11–1.59
NO_3 (mg/L)	5.77±4.25	5.47±2.07	4.01±1.12	3.50±2.92	4.87±3.07	0.46–15.1
PO_4 (mg/L)	1.58±0.64	0.05±0.02	0.17±0.31	1.14±0.72	0.76±0.84	0.01–3.25
IWQI (%)	**48.9±4.51**	**42.9±9.39**	**34.7±6.82**	**38.1±8.31**	**41.9±9.0**	**19.9–69.5**