

Supplementary Materials

Table S1. Growth traits determination after 40 days of maize cultivation and irrigation with Sewage water (treated in the lab scale or in the STP or untreated) and clean water as control.

Treatments	Dilution	Mean of leaf length	No. of leaf	Leaf breadth	Leaf radius	Max of Leaf length	Aerien part length	Root length
Block 1								
USW	D ₀	18,917	6	4.00	2.00	33.00	24.00	21.00
USW	D _{1/2}	18.786	7	2.50	1.25	35.50	48.00	20.00
USW	D _{1/4}	21.667	6	3.90	1.95	35.00	47.00	25.00
USW	D _{1/8}	23.875	8	4.50	2.25	38.00	51.00	27.00
USW	D _{1/16}	24.938	8	4.00	2.00	44.00	26.50	28.00
TSW	D ₀	24.375	8	5.00	2.50	38.00	50.00	22.00
TSW	D _{1/2}	26.250	6	5.00	2.50	39.00	48.00	26.00
TSW	D _{1/4}	25.571	7	4.00	2.00	44.00	57.00	25.50
TSW	D _{1/8}	20.000	5	2.50	1.25	32.00	40.00	29.50
TSW	D _{1/16}	22.100	7	3.50	1.75	39.50	50.50	25.40
TSWP	D ₀	21.625	8	3.50	1.75	36.00	48.00	25.00
TSWP	D _{1/2}	25.071	7	3.50	1.75	40.50	52.50	24.00
TSWP	D _{1/4}	19.250	6	3.50	1.75	34.00	44.00	27.00
TSWP	D _{1/8}	17.857	7	3.00	1.50	29.00	47.00	28.00
TSWP	D _{1/16}	20.000	8	3.00	1.50	33.50	52.50	30.00
Freshwater	D ₀	17.417	6	3.30	1.65	24.00	40.00	16.00
Block 2								
USW	D ₀	17.000	8	4.00	2.00	39.00	54.00	23.00
USW	D _{1/2}	22.571	7	3.50	1.75	32.00	43.00	21.00
USW	D _{1/4}	21.750	8	4.50	2.25	37.00	47.00	27.00
USW	D _{1/8}	20.857	7	3.50	1.75	37.00	47.00	28.00
USW	D _{1/16}	24.833	6	3.50	1.75	39.00	51.00	28.00
TSW	D ₀	24.250	8	5.00	2.50	39.00	52.00	24.00
TSW	D _{1/2}	32.429	7	5.00	2.50	43.00	57.00	26.00
TSW	D _{1/4}	23.875	8	5.30	2.65	39.00	52.00	33.00
TSW	D _{1/8}	28.643	7	5.00	2.50	49.00	59.00	24.00
TSW	D _{1/16}	21.083	6	3.50	1.75	34.00	46.00	27.00
TSWP	D ₀	24.571	7	4.40	2.20	39.00	53.00	23.00
TSWP	D _{1/2}	19.000	7	2.50	1.25	27.00	38.00	20.00
TSWP	D _{1/4}	24.857	7	5.00	2.50	42.00	45.00	33.00
TSWP	D _{1/8}	17.286	7	3.00	1.50	30.00	46.50	29.00
TSWP	D _{1/16}	19.667	6	2.50	1.25	27.00	37.00	26.50
Freshwater	D ₀	20.286	7	5.00	2.50	34.00	44.00	26.00

Block3								
USW	D _o	18.833	6	4.00	2.00	33.00	30.00	22.00
USW	D _{1/2}	17.429	7	3.20	1.60	34.00	44.00	23.00
USW	D _{1/4}	22.286	7	4.00	2.00	36.00	47.00	25.00
USW	D _{1/8}	20.857	7	3.50	1.75	37.00	47.00	28.00
USW	D _{1/16}	22.000	8	4.00	2.00	39.00	52.00	26.00
TSW	D _o	19.625	8	5.00	2.50	39.00	52.00	24.00
TSW	D _{1/2}	22.143	7	5.50	2.75	39.00	49.00	27.00
TSW	D _{1/4}	23.429	7	4.50	2.25	44.00	56.50	26.00
TSW	D _{1/8}	17.667	6	3.00	1.50	33.00	44.00	28.00
TSW	D _{1/16}	20.286	7	3.00	2.50	34.00	45.00	26.00
TSWP	D _o	25.286	7	5.00	2.50	39.00	50.00	22.00
TSWP	D _{1/2}	21.857	7	3.50	1.75	33.00	45.00	22.00
TSWP	D _{1/4}	20.000	7	3.00	1.50	32.00	47.00	26.00
TSWP	D _{1/8}	22.333	6	3.00	1.50	33.00	47.50	28.00
TSWP	D _{1/16}	20.500	6	2.50	1.25	31.00	37.50	27.00
Freshwater	D _o	18.500	6	3.00	1.50	33.00	40.00	30.00

Table S2: Experimental responses in the randomized complete block (RCB) design

Block	Run	A: Treatment	B: Dilution	R1:Total Phenol (mg GA/g) /FW	R2:Chll(a+b) (mg/g)/FW	R3:Carotenoid $\mu\text{g/ml}$ /FW	R4 :POD (Units mg^{-1} /FW)	R5 : CAT (Units mg^{-1} /FW)
(1)	1	USW	D1/8	340.47	8.72875	0.56207	4.8	1.7
	2	Control	D1/4	312.07	4.37815	1.33145	1.8	0.82
	3	TSWP	D1/4	326.32	8.70667	0.95627	1.76	0.77
	4	TSW	D1/4	328.13	8.916713	1.403454	2	1.2
	5	control	D1/8	312.07	4.378157	1.382373	1.77	0.8
	6	control	D1/2	312.07	4.378157	0.364043	1.824	0.77
	7	TSWP	D0	422.86	7.103693	0.733279	1.94	1.2
	8	TSW	D0	366.55	8.860357	0.520203	3.2	1.8
	9	TSWP	D1/16	70.882	10.44841	1.342666	1.73	0.75
	10	TSW	D1/16	76.19	10.46104	1.093985	2.3	1,4
	11	TSWP	D1/2	298.52	8.292809	1.062006	1.88	0,89
	12	TSW	D1/2	124.67	9.933486	1.372761	2.7	2,412
	13	USW	D1/2	318.54	8.290826	0.670642	4.9	1,4
	14	control	D0	309.01	4.597301	1.393136	1.73	0,811
	15	TSWP	D1/8	93.889	8.784964	1.083104	1.88	0,83
	16	TSW	D1/8	107.79	9.556311	1.372915	2.2	1.1
	17	USW	D0	297	9.522237	0.352662	5.4	2.02
	18	control	D1/16	309.42	4.597301	1.291303	1.76	0.77
	19	USW	D1/4	304.86	8.432385	0.424652	5.02	1.8

	20	USW	D1/16	365.38	10.37983	0.948291	4.6	1.5
(2)	21	USW	D1/4	303.27	8.219151	0.500297	5.077	1.833
	22	control	D1/8	261.89	3.629449	1.06962	1.78	0.78
	23	TSWP	D1/4	321.55	9.018123	0.920017	1.747	0.758
	24	TSW	D1/4	330.12	9.0029	1.41702	2.04	1.24
	25	TSWP	D1/8	113.11	11.22868	1.453244	1.865	0.81
	26	TSW	D1/8	104.62	9.324879	1.267291	2.25	1.123
	27	control	D1/16	262.1	3.479983	1.103764	1.8	0.83
	28	control	D0	261.46	3.417798	1.148767	1.78	0.83
	29	USW	D0	280.77	9.349168	0.340009	5.32	1.85
	30	USW	D1/8	346.81	8.765673	0.489012	4.68	1.64
	31	control	D1/2	261.5	3.526761	1.06816	1.77	0.832
	32	control	D1/4	261.59	3.417798	1.148767	1.82	0.82
	33	TSWP	D0	435.78	7.607792	0.680201	1.96	1.15
	34	TSW	D0	378.73	9.35827	0.509899	3.25	1.82
	35	USW	D1/2	328.92	8.714181	0.655379	4.87	1.46
	36	TSWP	D1/2	340.21	9.619537	1.350123	1.89	0.88
	37	TSW	D1/2	119.71	9.716814	1.208431	2.78	2.455
	38	TSWP	D1/16	87.206	12.77201	1.641259	1.743	0.76
	39	TSW	D1/16	80.359	11.13248	1.121412	2.321	1.378
	40	USW	D1/16	317.54	9.088912	0.830354	4.63	1.56
(3)	41	TSWP	D1/8	99.236	9.640934	1.247754	1.91	0.823
	42	TSW	D1/8	110.17	3.351988	1.126647	2.26	1.074

	43	USW	D1/4	305.04	8.343147	0.507845	5.09	1.822
	44	control	D1/2	260.73	3.928382	1.001332	1.78	0.78
	45	control	D1/8	261.62	3.853649	1.082424	1.774	0.8
	46	TSWP	D1/16	85.025	12.58956	1.617813	1.742	0.7756
	47	TSW	D1/16	81.306	11.16615	1.116219	2.319	1.384
	48	TSWP	D1/2	321.17	9.110413	1.278666	1.9	0.876
	49	TSW	D1/2	126,66	10.15812	1.263314	2.775	2.425
	50	control	D1/16	261,72	3.853649	1.082424	1.77	0.79
	51	USW	D0	336,13	11,09504	0.403502	5.41	1.87
	52	USW	D1/2	337,19	8,769916	0.709396	4.867	1.454
	53	USW	D1/8	347,59	8,776887	0.489638	5.5	1.93
	54	control	D0	261,72	3.853649	1.082424	1.79	0.822
	55	TSWP	D0	442,26	7.704625	0.688859	1.94	1.23
	56	TSW	D0	385,57	9.310371	0.546624	3.18	1.83
	57	USW	D1/16	317,16	9.179755	0.748893	4.626	1.55
	58	control	D1/4	261,5	3.853649	1.082424	1.78	0.79
	59	TSWP	D1/4	321.74	8.63601	0.948518	1.75	0.763
	60	TSW	D1/4	337.1	9.154054	1.440811	2.06	1.2

Table S3. Models final equations in terms of coded factors for all the tested responses

Responses	Final Equation in Terms of Coded Factors
R1: Total phenols/FW	$\begin{aligned} & -84,55 \text{ A}[1]\text{B}[1] \\ & -102,39 \text{ A}[2]\text{B}[1] \\ & 89,2 \text{ A}[3]\text{B}[1] \\ & 13,79 \text{ A}[1] \quad 83,91 \text{ B}[1] \quad 1,82 \text{ A}[1]\text{B}[2] \\ \text{Total Phenol/FW} = & 264,24 + 58,87 \text{ A}[2] + -1,75 \text{ B}[2] + 6,86 \text{ A}[2]\text{B}[2] \\ & -60,4 \text{ A}[3] \quad 45,2 \text{ B}[3] \quad -78,42 \text{ A}[3]\text{B}[2] \\ & -55,97 \text{ B}[4] \quad -44,84 \text{ A}[1]\text{B}[3] \\ & -63,92 \text{ A}[2]\text{B}[3] \\ & 82,74 \text{ A}[3]\text{B}[3] \\ & 56,47 \text{ A}[1]\text{B}[4] \\ & 77,82 \text{ A}[2]\text{B}[4] \\ & -40,35 \text{ A}[3]\text{B}[4] \end{aligned}$
R2: Chll(a+b)/FW	$\begin{aligned} & +0.2894 \text{ A}[1]\text{B}[1] \\ & +1.22 \text{ A}[2]\text{B}[1] \\ & -3.98 \text{ A}[1] \quad -0.2761 \text{ B}[1] \quad +0.1588 \text{ A}[3]\text{B}[1] \\ \text{Chll(a+b)/FW} = & +7.92 + +1.12 \text{ A}[2] + -0.0545 \text{ B}[2] + +0.0560 \text{ A}[1]\text{B}[2] \\ & +1.37 \text{ A}[3] \quad -0.4179 \text{ B}[3] \quad -0.3976 \text{ A}[2]\text{B}[2] \\ & -0.4228 \text{ B}[4] \quad +0.6971 \text{ A}[3]\text{B}[2] \\ & +0.3582 \text{ A}[1]\text{B}[3] \\ & -0.2943 \text{ A}[2]\text{B}[3] \\ & +0.1489 \text{ A}[3]\text{B}[3] \\ & +0.4336 \text{ A}[1]\text{B}[4] \\ & +0.1362 \text{ A}[2]\text{B}[4] \\ & -1.46 \text{ A}[3]\text{B}[4] \end{aligned}$
R3: Carotenoids/FW	$\begin{aligned} & +0.3835 \text{ A}[1]\text{B}[1] \\ & +0.0741 \text{ A}[2]\text{B}[1] \\ & +0.1247 \text{ A}[1] \quad -0.2842 \text{ B}[1] \quad -0.3090 \text{ A}[3]\text{B}[1] \\ \text{Carotenoids/FW} = & 0.9842 + -0.4087 \text{ A}[2] + +0.0162 \text{ B}[2] + -0.3138 \text{ A}[1]\text{B}[2] \\ & +0.1346 \text{ A}[3] \quad +0.0226 \text{ B}[3] \quad +0.0868 \text{ A}[2]\text{B}[2] \\ & +0.0680 \text{ B}[4] \quad +0.1466 \text{ A}[3]\text{B}[2] \end{aligned}$

	<div> <div>+0.0561 A[1]B[3]</div> <div>-0.1205 A[2]B[3]</div> <div>+0.2791 A[3]B[3]</div> <div>+0.0013 A[1]B[4]</div> <div>-0.1299 A[2]B[4]</div> <div>+0.0689 A[3]B[4]</div> </div>
R4: POD/FW	<div> <div>-0.3104 A[1]B[1]</div> <div>+0.0955 A[2]B[1]</div> <div>-0.9980 A[1] +0.2952 B[1] +0.4058 A[3]B[1]</div> <div>POD/FW = +2.78 + +2.21 A[2] + +0.0482 B[2] + -0.0387 A[1]B[2]</div> <div>-0.2708 A[3] -0.1178 B[3] -0.1552 A[2]B[2]</div> <div>-0.0574 B[4] +0.1945 A[3]B[2]</div> <div>+0.1360 A[1]B[3]</div> <div>+0.1942 A[2]B[3]</div> <div>-0.3578 A[3]B[3]</div> <div>+0.0502 A[1]B[4]</div> <div>+0.0647 A[2]B[4]</div> <div>-0.2149 A[3]B[4]</div> </div>
R5: CAT/FW	<div> <div>-0.1757 A[1]B[1]</div> <div>+0.0270 A[2]B[1]</div> <div>-0.4393 A[1] +0.1937 B[1] +0.0335 A[3]B[1]</div> <div>CAT/FW = +1.24 + +0.4503 A[2] + +0.1438 B[2] + -0.1528 A[1]B[2]</div> <div>+0.3471 A[3] -0.0910 B[3] -0.3984 A[2]B[2]</div> <div>-0.1248 B[4] +0.6974 A[3]B[2]</div> <div>+0.0980 A[1]B[3]</div> <div>+0.2167 A[2]B[3]</div> <div>-0.2851 A[3]B[3]</div> <div>+0.1152 A[1]B[4]</div> <div>+0.1889 A[2]B[4]</div> <div>-0.3656 A[3]B[4]</div> </div>