Supplementary material

Table S1. General Information of the monitored wells

ID	Site	Coordinates	Built by	Distance to the coast (Km)
P1	Sierra Papacal Municipality: Mérida	21.1228 N, 89.7277 W	CONAGUA	16.5
P2	Road Sierra Papacal-Chuburná Municipality: Progreso	21.2174 N, 89.8285 W	LIPC/LANRESC	3.8
P3	Chuburná Municipality: Progreso	21.2505 N, 89.8280 W	LIPC/LANRESC	0.26
P4	Nohuayún Municipality: Tetiz	20.9747 N, 89.9689 W	CONAGUA	22.4
P5	Road Hunucmá-Sisal Municipality: Hunucmá	21.0776 N, 89.9558 W	LIPC/LANRESC	12
P6	Road Hunucmá-Sisal Municipality: Hunucmá	21.1205 N, 89.9995 W	CONAGUA	6
P7	Sisal Municipality: Hunucmá	21.1630 N, 90.0468 W	LIPC/LANRESC	0.33

Table S2. SIM ions (m/z) of target compounds for OCP analysis.

ANALYTE	TARGET ION	QUALIFIER ION
α-HCH	219	221
β-HCH	219	221
γ-HCH (Lindane)	219	221
δ-HCH	219	221
Heptachlor	272	274
Aldrin	263	265
Chlorpyrifos	314	316
Heptachlor epoxide	263	265
trans-Chlordane	263	265
α-Endosulfan	263	265
cis-Chlordane	263	265
Dieldrin	263	265
4,4'- DDE	246	248

Endrin	263	265
β-Endosulfan (Endosulfan II)	265	263
4,4'-DDD	235	237
Endrin aldehyde	263	265
Endosulfan sulfate	265	263
4,4'-DDT	235	237
Endrin ketone	248	250
Methoxychlor	227	228

Table 3. SIM ions (m/z) of target compounds for PAH analysis.

ANALYTE	TARGET ION	QUALIFIER ION
Naphthalene	128	129
Acenaphthylene	152	153
2-Bromo naphthalene	208	206
Acenaphthene	154	152
Fluorene	166	165
Phenanthrene,	178	179
Anthracene	178	179
Fluoranthene	202	200
Pyrene	202	200
Benz[a]anthracene	228	227
Chrysene	228	227
Benzo[b]fluoranthene	252	253
Benzo(a)pyrene	252	253
Indeno[1,2,3-cd]pyrene	276	275
Dibenz[a,h]anthracene	278	279
Benzo[ghi]perylene	276	275

Table S4 Mean of biomarkers in *Allium cepa* roots exposed to water from ells of Yucatan, Mexico in September and October 2021. LR and IM are expressed in cm; AChE, CbE,GST, SOD, and CAT are expressed in nmol/min/mg protein; LPO and GSH are expressed in nmol/mg wet tissue.

Site	Month	LR	IM	AChE	CbE	GST	SOD	CAT	LPO	GSH
Control	Sep	1.4	25.84	11.0	18.24	448.68	1493.04	6.68	1.73E-03	2.20E-01
Control	Oct	2.7	23.61	0.07	74.09	1315.90	3005.98	1.00	1.90E-03	1.08E-02
P1	Sep	0.9	23.59	4.21	13.05	475.22	1494.62	6.43	1.75E-03	3.72E-02
P1	Oct	0.85	25.80	19.37	26.98	785.19	2254.95	21.40	1.70E-03	4.13E-02
P2	Sep	1.1	24.14	6.48	19.15	760.03	2016.28	11.88	1.68E-03	6.44E-02
P2	Oct	1.8	22.66	0.00	23.11	791.23	2635.73	12.63	1.69E-03	4.90E-02
P3	Sep	1.7	24.27	10.04	20.16	567.11	1708.65	8.46	1.68E-03	5.45E-02
P3	Oct	1.45	25.63	11.71	26.88	722.85	2382.86	13.61	1.70E-03	4.54E-02
P4	Sep	2	27.27	11.94	15.37	690.63	2228.75	13.48	1.69E-03	5.73E-02
P4	Oct	0.7	22.69	2.50	41.53	709.20	2522.42	24.29	1.70E-03	4.12E-02
P5	Sep	2	24.38	5.94	22.85	621.48	2070.03	7.13	1.69E-03	3.89E-02
P5	Oct	2.65	24.86	0.20	21.60	951.54	1596.12	13.16	1.72E-03	4.91E-02
P6	Sep	2.9	26.95	19.37	8.26	502.79	1806.16	11.60	1.72E-03	5.63E-02
P6	Oct	1.35	25.12	7.51	22.90	396.75	1710.68	12.12	1.74E-03	4.64E-02
P7	Sep	1.3	27.98	3.94	15.13	659.43	2013.71	10.25	1.70E-03	4.06E-02
P7	Oct	1	23.96	0.69	10.87	368.88	1039.13	9.11	1.72E-03	4.48E-02