

Depth	IGSN	Sand	Silt	Clay	Texture	Water soluble fraction (EC in ds/m; concentrations in mg/kg soil; charge in meq/kg soil; SAR in mmole/L ^{0.5})																			Acetic acid leachable fraction (mg/kg soil)										
cm		%	%	%		pH	EC	Mg ²⁺	Ca ²⁺	Na ⁺	K ⁺	Sr ²⁺	Cl ⁻	SO ₄ ²⁻	PO ₄ ³⁻	NO ₃ ⁻	SAR	B	P	V	Fe	Zn	As	Pb	Ca	Mg	Sr	B	P	V	Fe	Zn	As	Pb	
Natural Site: Fabens																																			
0-20	IEELP002V	95	3	2	Fine Sand	6.6	0.1	129	120	0	214	0	39	18			3	0	0.05	0.59	0.03	0.11	0.10	0.00	0.02	3970	134	11	0.00	51.8	0.01	3	1.9	0.13	0.70
20-40	IEELP002W	80	13	7	Loamy Fine Sand	8.3	0.8	219	232	218	233	1	215	194			6	1	1.14	1.16	2.11	0.70	0.12	0.14	0.01	28119	506	44	0.00	33.6	0.05	3	4.1	1.11	1.23
40-60	IEELP002X	57	38	5	Sandy Loam	7.9	5.1	194	1116	2208	218	7	379	7234			20	9	5.46	0.00	1.50	0.03	0.18	0.19	0.01	27681	830	72	7.87	16.9	0.12	2	6.2	2.09	1.03
60-71	IEELP002Y	51	42	7	Loam	7.5	5.6	226	1541	2434	234	9	391	8980			18	9	6.46	0.00	1.28	0.05	0.23	0.18	0.01	21537	593	31	8.18	41.5	0.08	2	0.0	1.84	0.60
71-81	IEELP002Z	49	43	8	Loam	7.4	6.1	214	1364	2699	213	8	449	8922			23	10	4.84	0.00	0.86	0.04	0.09	0.14	0.01	23936	602	36	7.13	43.1	0.06	2	0.0	1.65	0.58
81-90	IEELP0030	43	51	6	Silt Loam	7.6	6.0	236	1519	2861	233	8	493	9426			28	10	4.49	0.00	0.67	0.04	0.13	0.12	0.00				8.56	59.9	0.04	2	0.0	1.63	0.53
90-99	IEELP0031	42	53	6	Silt Loam	7.5	6.2	230	1466	3007	221	8	550	9503			19	11	4.32	0.00	0.50	0.04	0.07	0.09	0.00				6.39	70.3	0.03	2	0.0	1.36	0.52
99-109	IEELP0032	40	58	3	Silt Loam	7.1	6.0	232	1453	2817	225	8	522	9236			22	10	3.73	0.00	0.41	0.03	0.12	0.08	0.00	24882	594	32	9.02	34.4	0.03	2	3.1	1.22	0.85
Pecan Fine soil profile																																			
0-10	IEELP0001	37	50	13	silt loam	7.3	1.8	180	1103	364	4	9	262	2456	11	167	2	0.54	1.47	0.02	0.05	0.18	0.02	0.00	23093	959	66	4.25	70.3	2.36	217	20.7	0.75	1.55	
10-20	IEELP0002	36	49	15	loam	7.4	2.9	240	1636	473	4	15	373	4363	9	209	2	0.48	0.98	0.02	0.04	0.17	0.02	0.00	26895	1275	98	3.19	66.9	0.16	102	12.3	0.93	1.84	
20-30	IEELP0003	32	63	6	silt loam	7.5	2.3	235	1075	522	4	11	335	3391	10	77	2	0.54	0.81	0.01	0.03	0.12	0.02	0.00	28474	1268	99	3.22	82.0	0.05	8	10.1	1.10	1.65	
30-40	IEELP0004	35	57	8	silt loam	7.6	2.3	221	843	612	3	9	452	3190	5	43	3	0.54	0.24	0.01	0.01	0.15	0.01	0.02	28667	1570	114	2.94	89.3	0.04	8	10.6	1.14	1.76	
40-50	IEELP0005	32	55	14	silt loam	7.6	2.8	266	1076	941	4	12	506	3845	0	41	4	0.63	0.39	0.01	0.02	0.3													

* Soil texture, pH and concentrations of major elements in water leachable and acetic acid leachable fractions of soils are reported in Ortiz and Jin (2021).

Appendix Table 2. Elemental chemistry of water samples collected from the pecan orchard*

Water Type	Sample Date	pH	EC $\mu\text{S/cm}$	NO_3^- ppm	PO_4^{3-} ppm	Cl^- ppm	SO_4^{2-} ppm	Ca^{2+} ppm	K^+ ppm	Mg^{2+} ppm	Na^+ ppm	Si ppm	Sr ppm	B ppb	P ppb	V ppb	Fe ppb	Zn ppb	As ppb	Pb ppb
Irrigation: River Water	5/23/18	8.51	1043	11.3	2.3	116	175	73	10.6	9.7	132	7.5	0.8	235	890	8.5	6.3	18.6	4.8	0.2
	6/13/18	8.42	861	4.8	1.1	82	150	67	8.5	7.8	102	8.7	0.7	192	574	9.8	6.4	6.6	4.8	0.4
	6/30/18	8.63	1106	8.4	1.7	120	186	77	9.1	10.2	135	10.0	0.9	227	842	7.6	5.9	7.0	5.4	0.2
	7/16/18	8.48	842	4.9	0.9	79	138	63	7.9	7.1	96	8.7	0.7	177	497	8.3	5.2	0	4.8	0.1
	8/3/18	8.55	1110	7.1	0.8	120	192	79	8.7	10.7	136	9.4	0.9	232	646	9.4	6.1	11.1	5.8	0.3
	8/26/18	8.42	988	6.5	0.9	105	167	69	8.7	9.3	122	9.4	0.8	208	575	10.1	6.3	11.2	5.8	0.7
	9/15/18	8.96	1184	6.5	1.0	144	195	74	9.5	11.1	154	9.1	1.0	261	716	11.1	5.4	0	6.5	0.2
	10/8/18	8.64	2070	38.3	4.5	354	348	89	16.5	17.0	340	11.7	1.4	476	2646	13.6	11.4	12.5	7.9	0.3
Irrigation: Ground Water	3/23/19													509	134	0.2	14.3	0	3.6	6.6
	4/26/19	7.34	3010											498	119	1.0	15.0	0	3.4	8.1
Soil Water (15 cm)	9/9/18	8.12	1439	9.2	5.2	139	282	148	24.4	12.4	154	17.0	1.5	1283	1052	28.4	59.8	80.9	49.9	4.6
	10/2/18	8.71	1690	68.6	4.5	199	283	171	28.5	18.5	192	15.2	1.8	1265	656	34.1	71.6	42.7	48.7	0.2
	11/6/18			101.2	1.2	728	1311	561	43.6	90.9	612	22.9	6.2	1125	744	29.0	59.1	201.1	47.9	0
	5/9/19													841	1828	2.2	142.7	0.0	7.7	0
Soil Water (30 cm)	9/9/18	7.89	2910	212.7	11.4	312	695	356	44.3	39.4	318	21.6	4.1	443	2435	15.4	13.9	43.4	15.8	1.2
	10/2/18	7.88	2600	114.7	6.6	306	549	286	38.1	32.7	308	19.6	3.3	401	2188	10.0	14.6	61.7	16.0	0.8
Soil Water (60 cm)	9/9/18			259.0	3.6	743	1399	524	54.8	94.0	630	30.2	6.0	861	2295	19.9	33.5	44.3	15.9	0.3
	10/2/18			548.2	0.4	825	1534	609	49.9	102.6	687	28.8	6.9	899	697	19.3	35.8	41.1	7.1	0.4
	11/6/18	7.92	4820	268.4	4.3	423	576							742	858	21.5	33.4	43.0	14.0	0
	5/9/19													708	847	21.7	28.1	0.0	15.6	0
Soil Water (120 cm)	9/9/18	8.11	4630	191.9	1.6	1952	3103	1007	89.4	238.9	1568	25.4	13.1	743	5536	5.8	37.5	240.0	25.5	1.0
	10/2/18	7.83	4310	254.7	0.4	2080	3286	1067	90.9	248.4	1648	25.6	13.9	675	3509	10.1	41.6	54.4	19.7	0.4
	11/6/18	7.67	4350	492.4	0.8	1804	2796							463	2329	10.6	22.2	16.1	14.4	0
Water Well 1 (WW1)	9/9/18	7.76	2770	0.7	0.2	377	577	193	20.8	24.2	404	18.1	2.1	714	0	4.2	14.7	66968	14.6	0.8
	9/15/18	7.95	3100	20.6	0.3	360	592	264	27.6	36.4	418	20.4	3.1	775	200	14.9	17.5	6317	20.9	0.8
	10/2/18	7.9	1356	0.5	0.2	172	231	82	13.6	4.9	186	15.1	0.9	302	108	4.4	6.1	19704	18.8	6.2
	11/6/18	7.52	1506	0.0	0.8	195	264	77	11.2	2.8	192	15.4	0.7	340	70	1.6	5.3	104919	12.3	4.5
	2/19/19													675	0	2.2	26.7	27196	1.3	0
	5/9/19	6.68												486	54	0.1	4299.0	7127	3.0	0
Water Well 2 (WW2)	10/3/18	7.97	2260	0.3	0.2	166	230	80	14.0	5.1	195	15.5	0.9	360	168	8.5	6.1	6575	19.9	3.1
	11/6/18	7.95	2600	1.1	0.5	325	511	211	23.0	37.9	345	16.8	2.7	561	378	6.0	13.8	6.0	31.3	0.5
	2/19/19													378	344	6.2	10.4	0	37.7	0
	5/9/19	6.73	3280											418	321	3.7	47.9	0	31.0	0
Water Well 3 (WW3)	10/3/18	7.61	2900	1.4	0.3	370	552	191	32.0	56.3	340	18.4	3.0	488	197	10.2	11.4	0	26.1	0
	11/6/18	7.49	3130	0.5	0.8	381	612	298	30.8	58.8	369	18.0	3.7	550	434	5.8	27.5	0	23.3	0.3
	2/19/19													738	256	11.4	25.9	12.2	19.0	0

* Concentrations of major elements, pH and EC are analyzed and reported by Ortiz and Jin (2021)

Appendix Table 3A: Concentrations of different trace elements in the fertilizers/amendments

Soil Amendment	B mg/kg	P mg/kg	V mg/kg	Fe mg/kg	Zn mg/kg	As mg/kg	Pb mg/kg	Name	Loading rates Kg/acre/Yr
F1	0	668	3	14	68	0	50	K ₂ CO ₃	6.8
F2	212	968	4	2087	184	1	53	H-85 Potassium	2.26
F3	27	615	3	16	103	0	51	UREA	90.7
F4	23509	665	3	46884	74819	0	54	Triplex micro	
F5	145	206890	3	405	0	18	61	Rootex	2.26
F6	11648	71504	5	18615	35128	5	64	Redox Supreme	
F7	0	692	1	41	267282	0	63	Triplex Zn	
F8	0	140405	63	751	119	9	46	DiKap	

Appendix Table 3B: Total accumulation rates of different trace elements in these fertilizers/amendments*

Element	B	P	V	Fe	Zn	As	Pb
Unit	mg/m ² /yr	mg/m ² /yr	mg/m ² /yr	mg/m ² /yr	mg/m ² /yr	mg/m ² /yr	mg/m ² /yr
Loading rate	0.8	131.0	0.08	1.8	2.5	0.01	1.3

*These rates are underestimated due to incomplete data from the orchard