

Appendix A Geographical location, vegetation characteristics and soil type at the sampling sites

Sampling site	Latitude longitude	Altitude (m)	Dominant grass species	Land use
S1	37°46'34"N 118°2'9"E	-2.2	<i>Portulaca oleracea</i> , <i>Digitaria sanguinalis</i> , <i>Sonchus brachyotus</i> DC.	Wheat soil
S2	37°46'37"N 118°2'9"E	2.1	<i>Setaria viridis</i> , <i>Sonchus brachyotus</i> , <i>Echinochloa crusgalli</i> , <i>Suaeda salsa</i>	Wheat soil
S3	37°48'39"N 117°58'46"E	0.0	<i>Xanthium sibiricum</i> , <i>Portulaca oleracea</i> , <i>Digitaria sanguinalis</i> , <i>Suaeda salsa</i>	Wild grass soil
S4	37°56'7"N 117°55'21"E	-10.1	<i>Calystegia hederacea</i> , <i>Setaria viridis</i> , <i>Herba Taraxaci</i> , <i>Echinochloa crusgalli</i>	Wheat soil
S5	37°56'6"N 117°55'25"E	-10.6	<i>Aster tartaric</i> , <i>Digitaria sanguinalis</i> , <i>Suaeda salsa</i>	Wild grass soil
S6	37°55'27"N 117°56'8"E	-10.4	<i>Sonchus brachyotus</i> D C. , <i>Setaria viridis</i> , <i>Echinochloa crusgalli</i> , <i>Suaeda salsa</i>	Wheat soil
S7	37°55'54"N 117°57'59"E	-9.8	<i>Calystegia hederacea</i> , <i>Setaria viridis</i> , <i>Echinochloa crusgalli</i>	Cotton soil
S8	37°56'3"N 117°55'24"E	-10.6	<i>Aster tartaric</i> , <i>Portulaca oleracea</i> , <i>Phragmites australis</i> , <i>Suaeda salsa</i>	Wild grass soil
S9	38°6'28"N 117°44'53"E	0.3	<i>Calystegia hederacea</i> , <i>Herba Taraxaci</i> , <i>Echinochloa crusgalli</i> , <i>Suaeda salsa</i>	Wild grass soil
S10	38°6'44"N 117°44'12"E	2.0	<i>Digitaria sanguinalis</i> , <i>Echinochloa crusgalli</i> , <i>Suaeda salsa</i>	Wild grass soil
S11	37°46'27"N 118°2'11"E	-3.3	<i>Polygonum aviculare</i> L., <i>Portulaca oleracea</i> , <i>Echinochloa crusgalli</i> , <i>Phragmites australis</i> , <i>Chloris virgata</i>	Malus pumila shrub soil
S12	37°46'24"N 118°2'13"E	-3.2	<i>Digitaria sanguinalis</i> , <i>Portulaca oleracea</i> , <i>Setaria viridis</i> , <i>Phragmites australis</i>	Wild grass soil
S13	37°46'24"N 118°2'13"E	-3.2	<i>Digitaria sanguinalis</i> , <i>Portulaca oleracea</i> , <i>Setaria viridis</i> , <i>Phragmites australis</i> ,	Maize soil
S14	37°46'21"N 118°2'15"E	-3.3	<i>Digitaria sanguinalis</i> , <i>Portulaca oleracea</i> , <i>Setaria viridis</i> , <i>Phragmites australis</i> ,	Maize soil
S15	37°46'22"N 118°2'13"E	-3.3	<i>Herba Taraxaci</i> , <i>Portulaca oleracea</i> , <i>Phragmites australis</i> , <i>Echinochloa crusgalli</i> , <i>Chloris virgata</i>	Rosidae shrub soil
S16	37°48'39"N 117°58'42"E	0.6	<i>Aster tartaric</i> , <i>Portulaca oleracea</i> , <i>Phragmites australis</i> , <i>Suaeda salsa</i>	Wild grass soil

Values are mean ± SE. Values with the same lowercase letter in the same column are not significantly different among different sampling sites.

Appendix B Soil chemical and biological properties and root colonization rate.

Salinity	Site	Salt content (g kg ⁻¹)	Soil pH	ESP (%)	Organic matter (g kg ⁻¹)	Available P (mg kg ⁻¹)	Exchangeable K (mg kg ⁻¹)	Root colonization rate (%)	Microbial biomass carbon (mg kg ⁻¹)	Microbial biomass nitrogen (mg kg ⁻¹)
Non-saline	S7	0.56±0.01h	8.46±0.01b	9.59±0.35g	15.24±0.19a	8.56±1.27de	376.47±20.13b	82.0±3.1a	532.72±153.78b	3.28±0.66gh
	S11	0.80±0.07fgh	8.05±0.03fg	5.33±0.33h	10.27±0.49d	4.02±0.47e	262.24±13.31d	56.0±9.5ab	280.28±11.44cd	30.51±1.45b
	S12	0.92±0.06gh	8.02±0.04fg	4.74±0.58h	12.49±0.61d	4.37±0.70e	191.48±3.93ef	46.7±9.8ab	243.43±9.83cd	20.91±1.53c
	S13	0.73±0.16fg	7.95±0.03g	11.8±0.65gf	8.35±0.2ef	30.27±2.46b	166.2±5.77ef	35.3±7.0ab	237.73±7.51cd	12.67±1.27e
Slightly	S1	1.52±0.14efg	8.02±0.02fg	12.16±0.97gf	14.34±0.39ab	20.42±1.89c	281.59±13.65cd	58.0±13.0ab	514.9±19.98b	10.02±0.72ef
	S3	1.43±0.11fg	8.09±0.06efg	19.21±1.81e	10.23±0.49d	3.33±0.49e	298.18±9.67cd	20.7±6.9b	521.49±34.18b	3.4±0.31gh
	S4	1.53±0.03efg	8.19±0.01de	13.08±1.02gf	14.37±0.24ab	10.03±0.89de	441.72±21.28a	39.3±10.0ab	578.49±22.62b	4.62±0.68gh
	S9	1.67±0.29ef	8.43±0.04b	26.43±0.55d	10.63±0.71d	5.95±0.55e	202.87±18.52e	58.7±11.4ab	332.97±61.85c	4.83±0.30gh
	S14	1.57±0.16efg	8.14±0.03ef	11.16±0.53gf	8.31±0.43ef	8.73±1.13de	143.6±6.10ef	38.0±10.5ab	85.89±8.14de	16.56±0.84d
Intermedia tely	S2	3.20±0.25cd	8.09±0.06efg	19.21±1.81e	10.23±0.49d	3.33±0.49e	298.18±9.67cd	42.7±4.4ab	521.49±34.18b	3.4±0.31gh
	S6	2.33±0.15de	8.46±0.03b	29.7±0.77cd	7.78±0.40ef	13.90±1.23d	325.82±26.10bcd	50.0±11.9ab	770.53±90.69a	2.18±0.53gh
	S15	2.71±0.74de	8.26±0.03cd	14.48±0.82f	7.58±0.11f	38.53±1.99a	128.2±10.18f	40.7±10.9ab	81.2±3.35de	12.36±0.99e
Severely	S16	5.01±0.95b	8.7±0.03a	14.71±0.61f	4.69±0.32g	5.05±0.50e	257.46±19.41d	45.3±12.6ab	49.66±5.63e	3.78±0.60gh
	S5	4.36±0.93cd	7.96±0.03g	31.97±2.18bc	10.38±0.44d	26.55±3.82b	169.82±11.55ef	51.3±12.1ab	292.15±19.02cd	4.96±0.28gh
	S10	4.63±0.25c	8.08±0.04efg	3.99±0.33h	12.95±0.22bc	28.64±2.97b	283.48±7.22cd	40.7±9.0ab	158.82±5.35cde	39.98±3.48a
	S8	5.73±0.45a	8.26±0.03cd	37.3±2.18a	9.75±0.87de	14.62±0.83d	338.4±33.21bc	32.7±4.5b	292.74±39.77cd	2.66±0.32gh

Values are mean \pm SE (n=5). Values with the same lowercase letter in the same column are not significantly different among different sampling sites. Non-saline soil: soluble salt content $<1 \text{ g kg}^{-1}$; Slightly saline soil: soluble salt content $1\text{-}2 \text{ g kg}^{-1}$; Intermediately saline soil: soluble salt content $2\text{-}4 \text{ g kg}^{-1}$; Severely saline soil: soluble salt content $>4 \text{ g kg}^{-1}$ (Bao, 2000).