

Supplementary Information

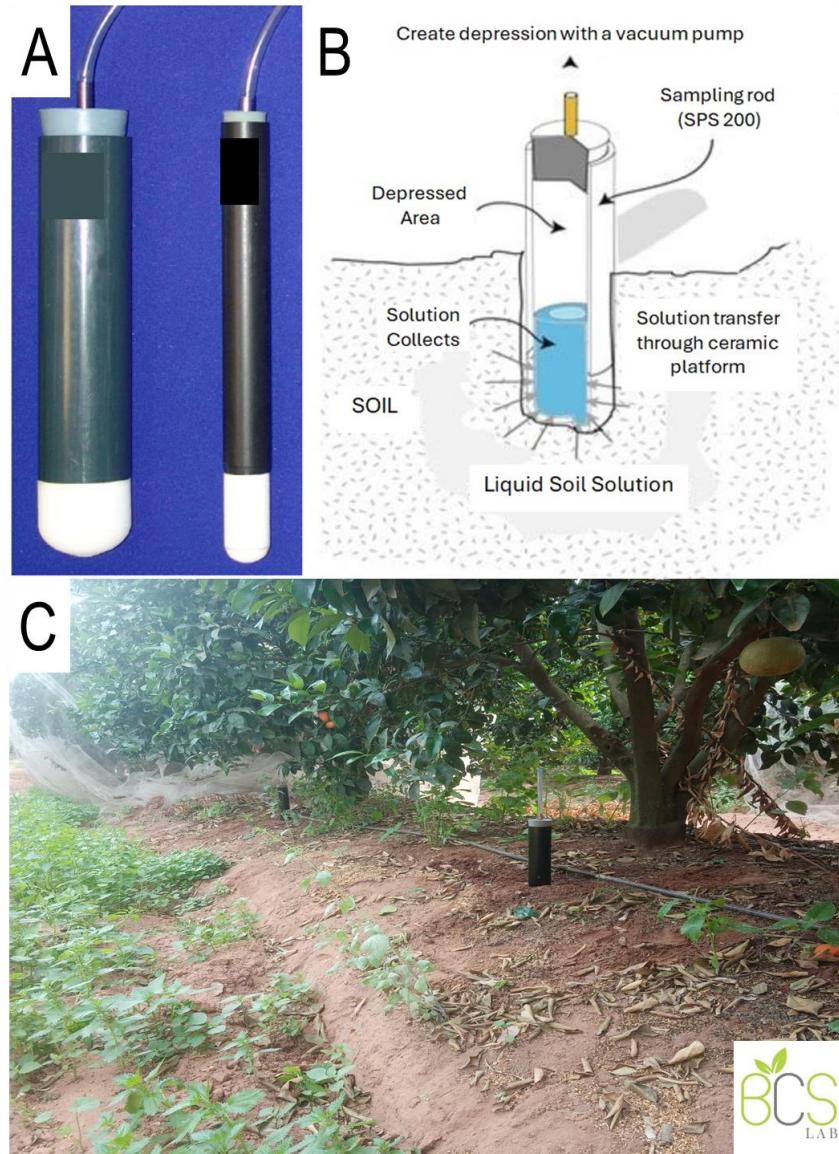


Fig. S1. Mobile lysimetry platform used to monitor minerals in citrus areas. (A) Mobile porous candle-type lysimeters. (B) Diagram representing the different constituents of a porous candle. (C) Installed mobile lysimeter in a surveyed citrus orchard.

A



B



Fig. S2. Laboratory procedures of soil solution (A) and foliar (B) for nutrient content analyses.

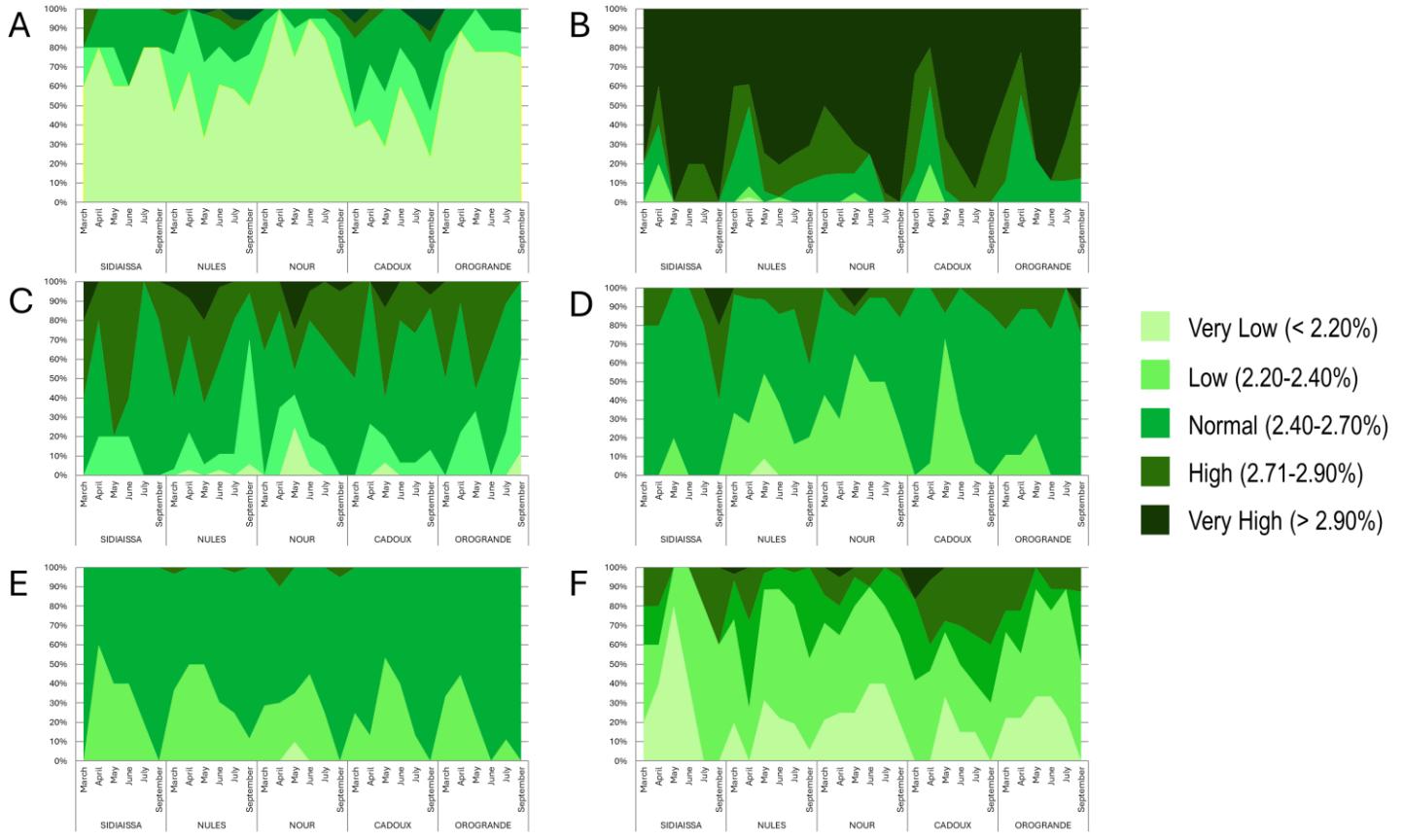


Fig. S3. Distribution of foliar macroelements in five varieties of clementine in the Souss-Massa region. (A) Nitrogen (N); (B) Phosphorus (P); (C) Potassium (K); (D) Calcium (Ca); (E) Magnesium (Mg); (F) Sulfur (S)

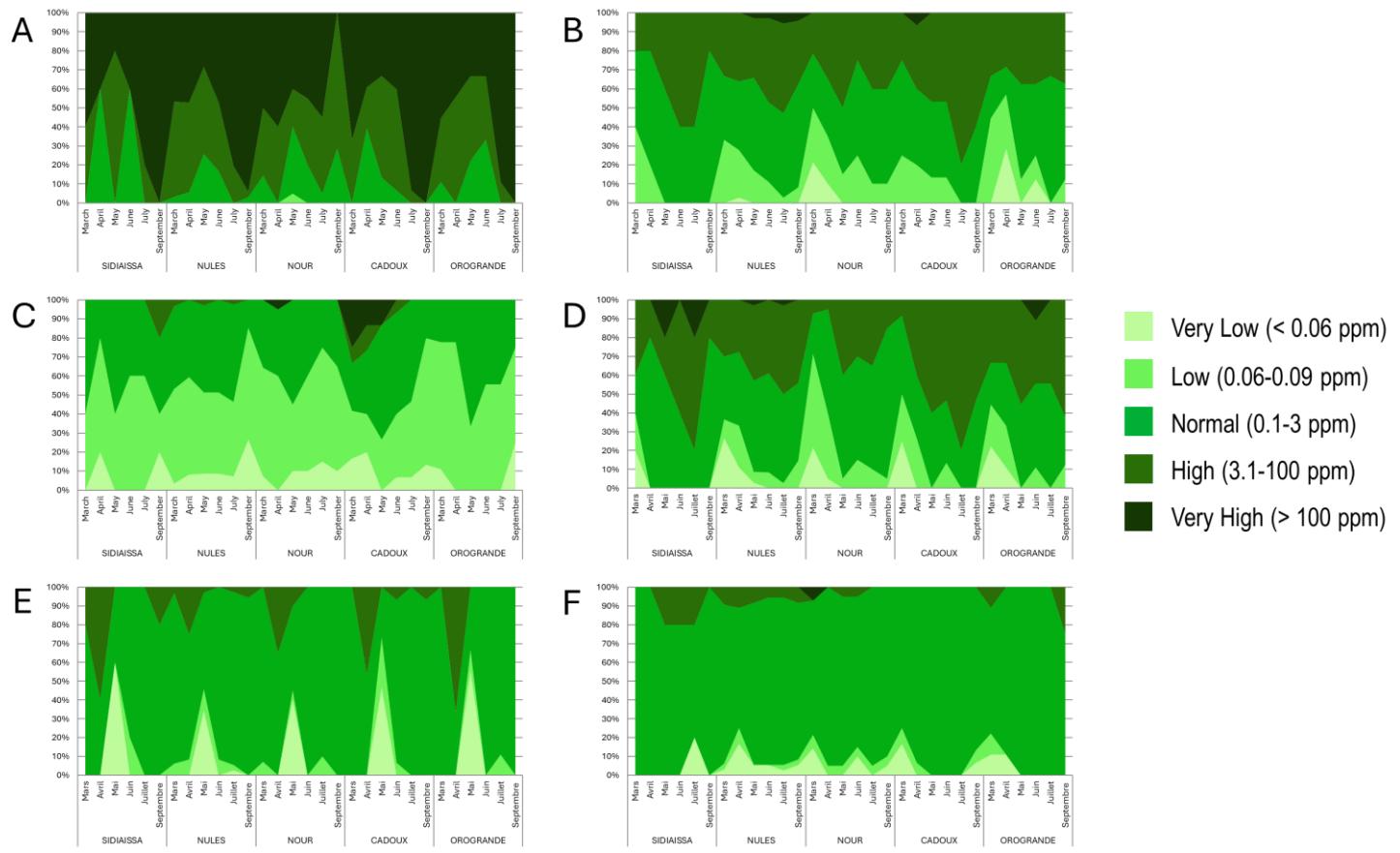


Fig. S4. Distribution of foliar Oligoelements in five varieties of clementine in the Souss-Massa region. (A) Iron (Fe); (B) Manganese (Mn); (C) Copper (Cu); (D) Zinc (Zn); (E) Bore (B); (F) Molybdenum (Mo).

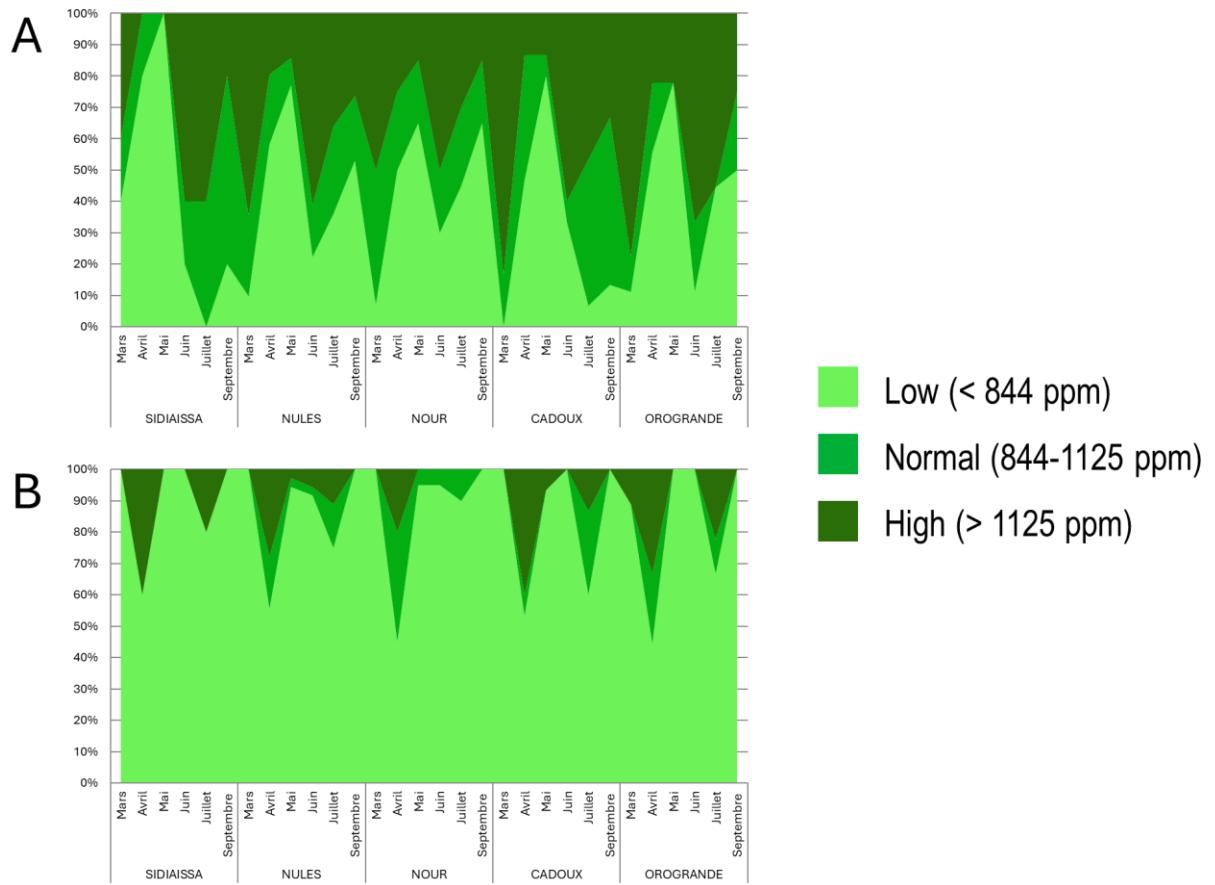


Fig. S5. Distribution of foliar phytotoxic elements in five varieties of clementine in the Souss-Massa region. (A) Chloride (Cl); (B) Sodium (Na)

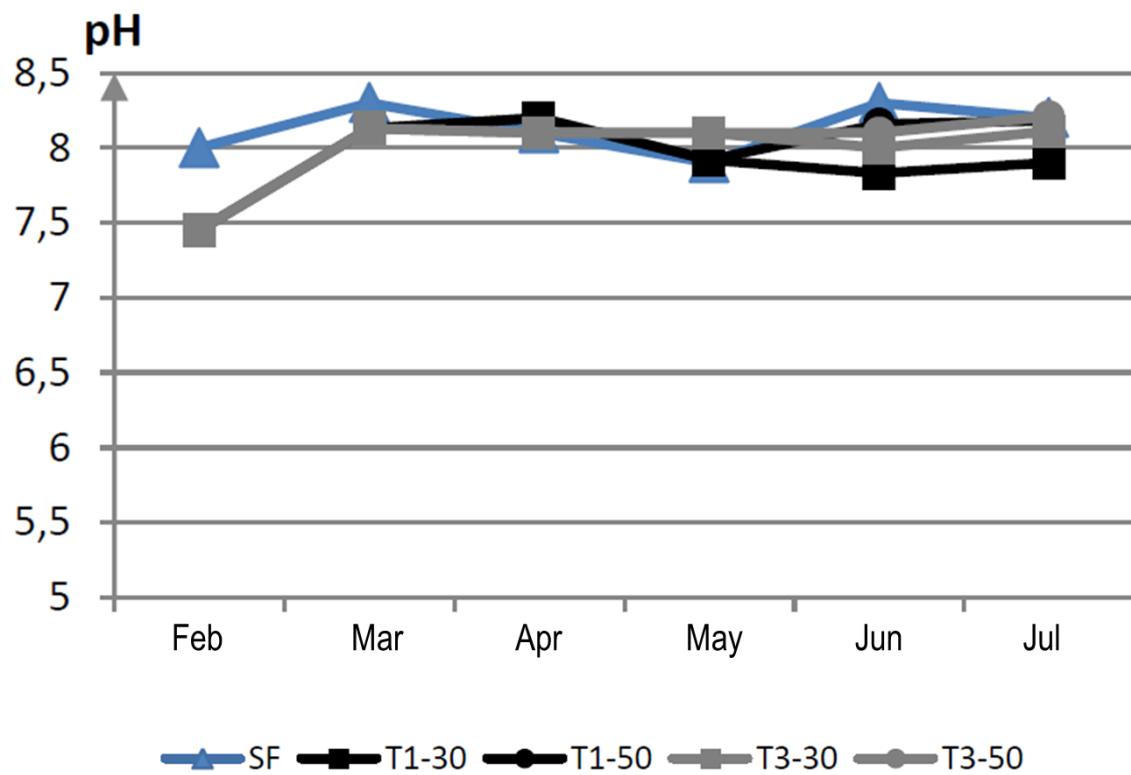


Fig. S6. pH Variation trends in the soil and fertilizer solutions from February to July in the experimental plot of “Nules” grafted on “*Citrus macrophylla*”

Table S1. List of surveyed citrus orchards in the Souss-Massa region (Morocco)

Region	Orchard	Plots	Variety	Rootstock
HMER (H)	X1	1	SIDI AISSA	Bigaradier
		2	NULES	Bigaradier
	X2	1	NULES	Bigaradier
		2	NULES	Bigaradier
	X3	1	NOUR	Bigaradier
	X4	1	NOUR	Bigaradier
	X5	1	OROGRANDE	Bigaradier
	X6	1	NULES	Bigaradier
		2	OROGRANDE	Bigaradier
	X7	1	CADOUX	Bigaradier
		2	SALUSTUANA	Bigaradier
	X8	1	W NAVEL	Bigaradier
		2	NULES	Bigaradier
OULED BERHIL (OB)	X9	1	NULES	Bigaradier
	X10	1	OROGRANDE	Bigaradier
	X11	1	SIDI AISSA	Bigaradier
		2	NULES	Bigaradier
	X12	1	ESBAL	Carrizo
		2	OROGRANDE	Bigaradier
		3	SIDI AISSA	Carrizo
		4	NOUR	Bigaradier
IGLI RZAGNA (IR)	X13	1	NOUR	Bigaradier
		2	MAROC LATE	Bigaradier
	X14	1	MAROC LATE	Bigaradier
		2	CADOUX	Bigaradier
	X15	1	CADOUX	Bigaradier
	X16	1	CADOUX	Bigaradier
	X17	1	OROGRANDE	Carrizo

		2	NULES	Bigaradier
		3	NULES	C. Troyer
	X18	1	CADOUX	Bigaradier
AIT IAZZA (AI)	X19	1	MAROC LATE	Bigaradier
		2	CADOUX	Bigaradier
	X20	1	NULES	Bigaradier
		2	LARACHE	Bigaradier
	X21	1	NULES	Marophylla
	X22	1	LANE LATE	Bigaradier
	X23	1	NULES	Bigaradier
	X24	1	NOUR	Bigaradier
OULED TAIMA (OT)	X25	1	NULES	Carrizo
		2	NOUR	Carrizo
	X26	1	CADOUX	Bigaradier
	X27	1	NULES	Marophylla
	X28	1	LANE LATE	Bigaradier
		2	NOUR	Bigaradier
	X29	1	NULES	Marophylla
		2	NOUR	Bigaradier