Supporting materials

Table S1. Basic Physicochemical Characteristics of the Experimental Soil

pH	CEC (cmol/kg)	OM (g/kg)	Ah N (mg/kg)	Available P (mg/kg)	Available K (mg/kg)	Total Cd (mg/kg)	Total Zn (mg/kg)
7.45	15.2	6.57	80.5	21.4	97.5	2.56	58.6

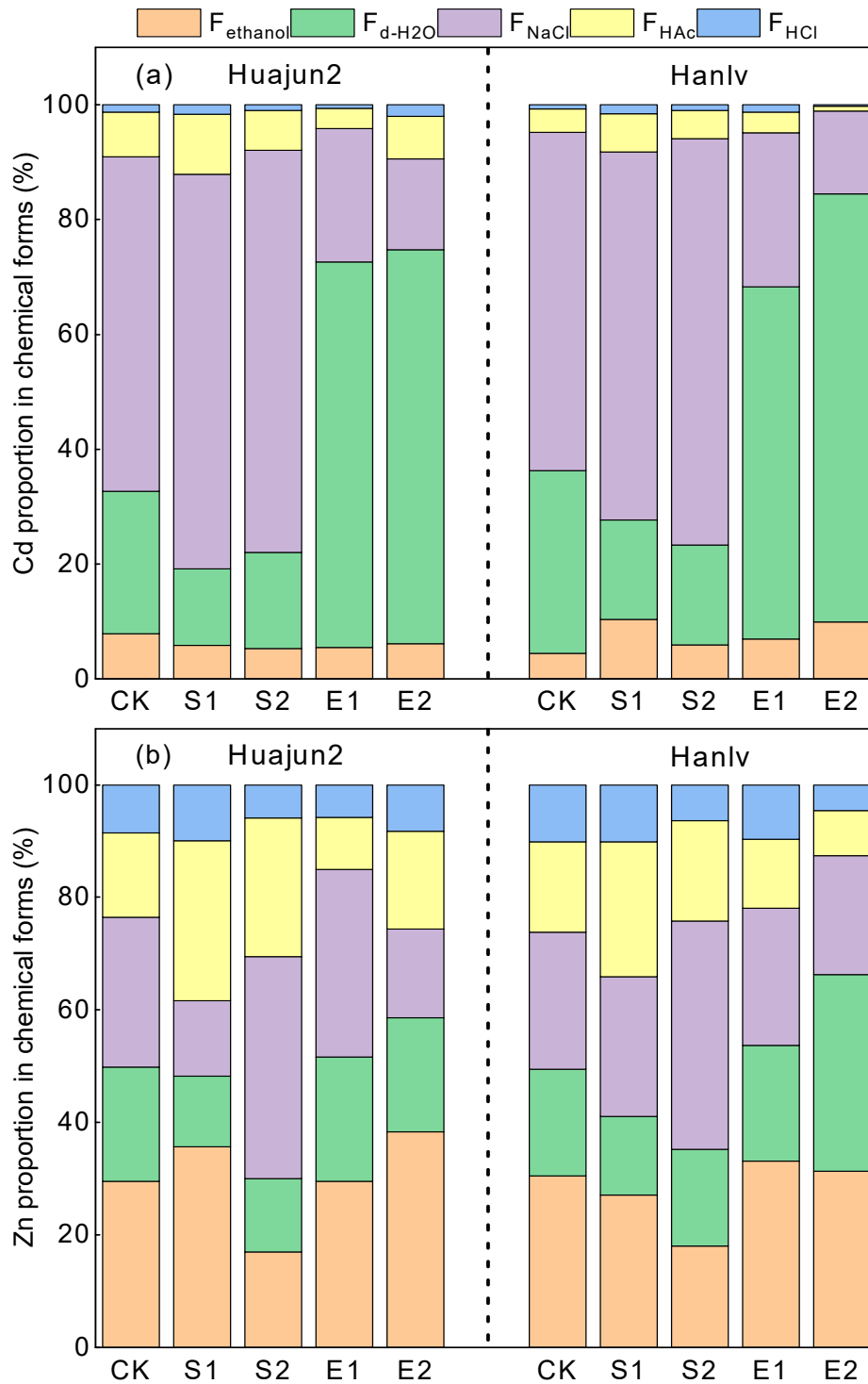CEC: cation exchange capacity; OM: organic matter; Ah N: alkali-hydrolysable N.

Figure S1. Proportions of Cd (a) and Zn (b) in different chemical forms in the shoots

of the two cultivars of pakchoi. $F_{ethanol}$, F_{d-H2O}, F_{NaCl}, F_{HAc}, and F_{HCl} represent chemical

forms of Cd or Zn extracted with 80% ethanol, deionized water, 1 M NaCl, 2% acetic

acid, and 0.6 M HCl, respectively. CK, S1, S2, E1, and E2 represent foliar treatments

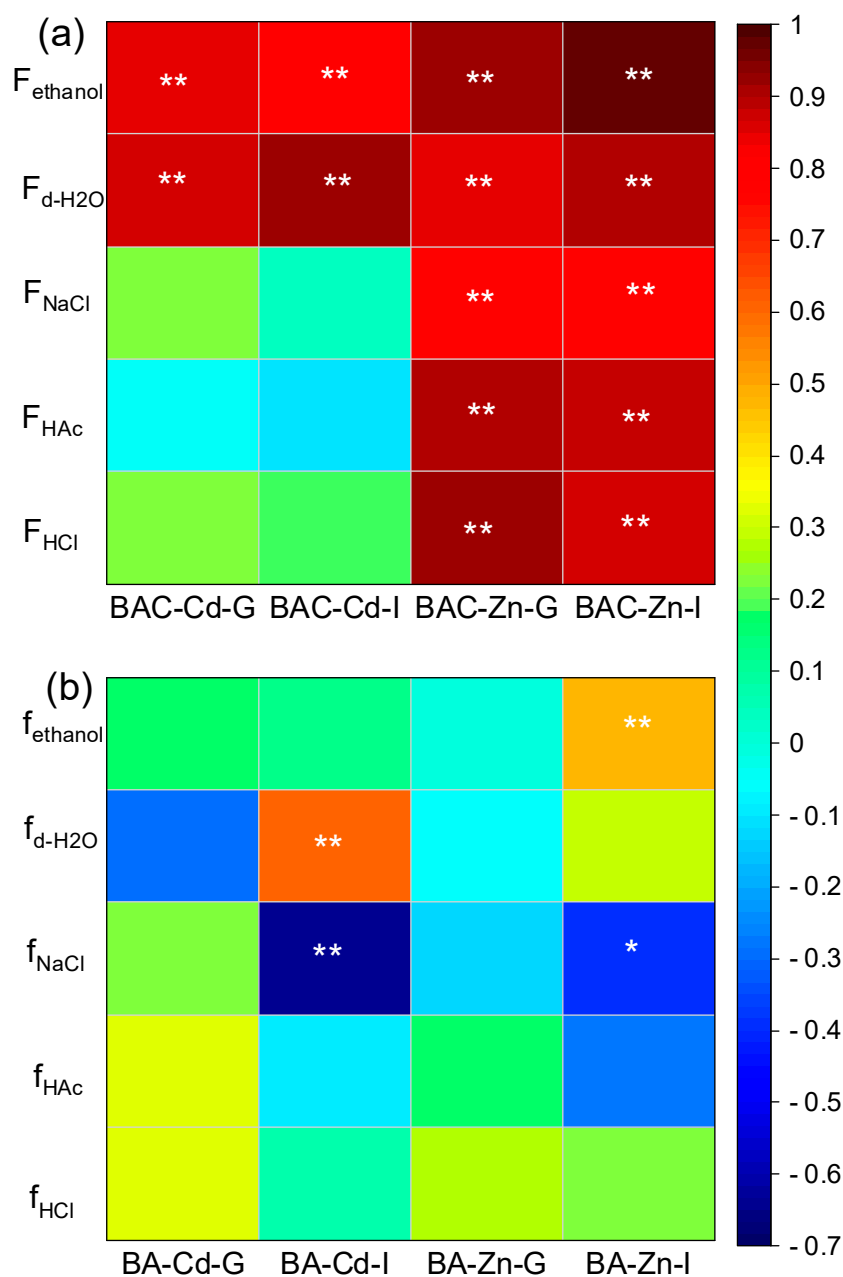applied with deionized water, 4 mM ZnSO₄, 12 mM ZnSO₄, 1.33 mM ZnNa₂EDTA, and 4 mM ZnNa₂EDTA, respectively.

Figure S2. Correlation coefficients for the relationships between bioaccessible content (BAC) of Cd and Zn in the gastric (G) and small intestinal (I) phases and Cd and Zn content in different chemical forms (a), and for the relationships between Cd and Zn

bioaccessibility (BA) in the gastric and small intestinal phases and Cd and Zn proportions in different chemical forms (b). $f_{ethanol}$, f_{d-H2O}, f_{NaCl}, f_{HAc}, and f_{HCl} represent the proportions of Cd or Zn extracted with 80% ethanol, deionized water, 1 M NaCl, 2% acetic acid, and 0.6 M HCl, respectively. ** and * represent 1% and 5% levels of significance (two-tailed), respectively.

Table S2. The relationships between bioaccessible content of Cd (BAC-Cd) and Zn (BAC-Zn) in the gastric and small intestinal phases and Cd and Zn content in different chemical forms as given by stepwise multiple linear regression analysis ($n = 30$).

The gastric phase	The small intestinal phase
$\text{BAC-Cd} = 0.098 + 0.745\ F_{d-H2O} + 0.673\ F_{NaCl}$	$\text{BAC-Cd} = 0.023 + 0.779\ F_{d-H2O} + 0.424\ F_{NaCl}$
($R^2 = 0.934$, $p < 0.001$)	($R^2 = 0.916$, $p < 0.001$)
$\text{BAC-Zn} = 1.090 + 0.659\ F_{NaCl} + 4.222\ F_{HCl}$	$\text{BAC-Zn} = 0.524 + 0.766\ F_{ethnaol} + 0.215\ F_{NaCl}$
($R^2 = 0.968$, $p < 0.001$)	($R^2 = 0.950$, $p < 0.001$)

(a)

FNaCl

FHAc FHCl

Fethanol

BAC-Cd-G

BAC-Cd-I

Fd-H2O

RDA2 (3.43%)

RDA1 (90.51%)

(b)

78.1%

0.4%

6%

0.1% 0.5% 14.9%

- F$_{ethanol}$
- F$_{d-H2O}$
- F$_{NaCl}$
- F$_{HAc}$
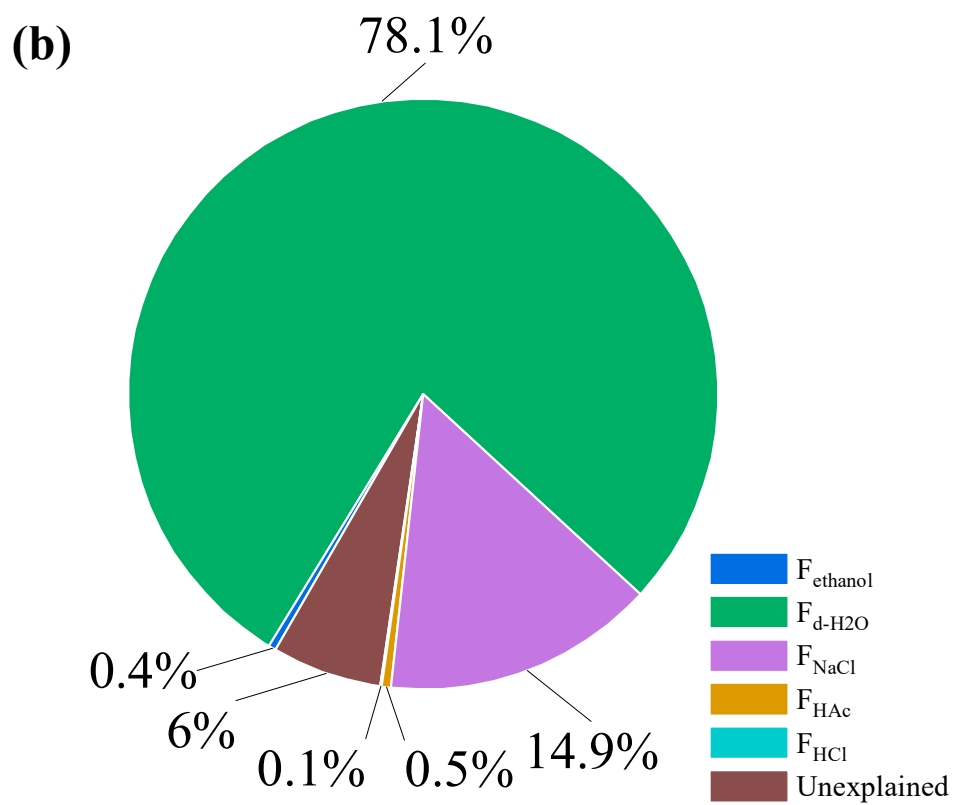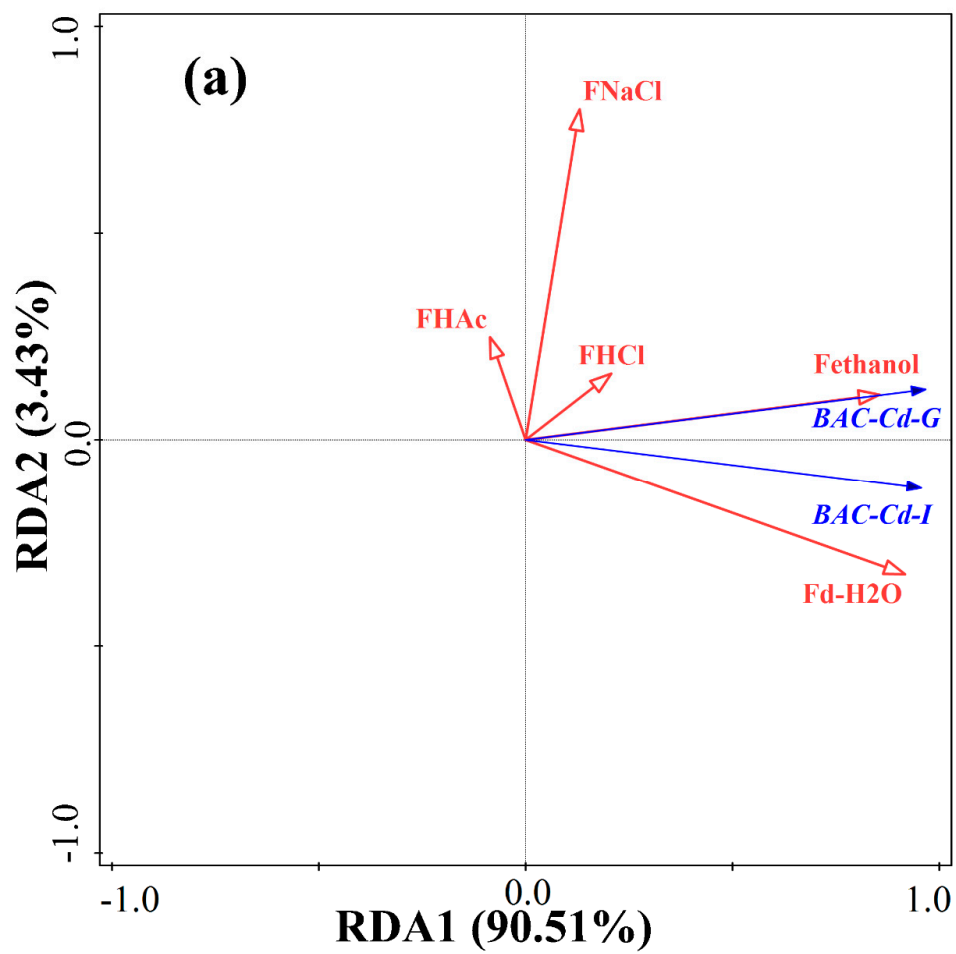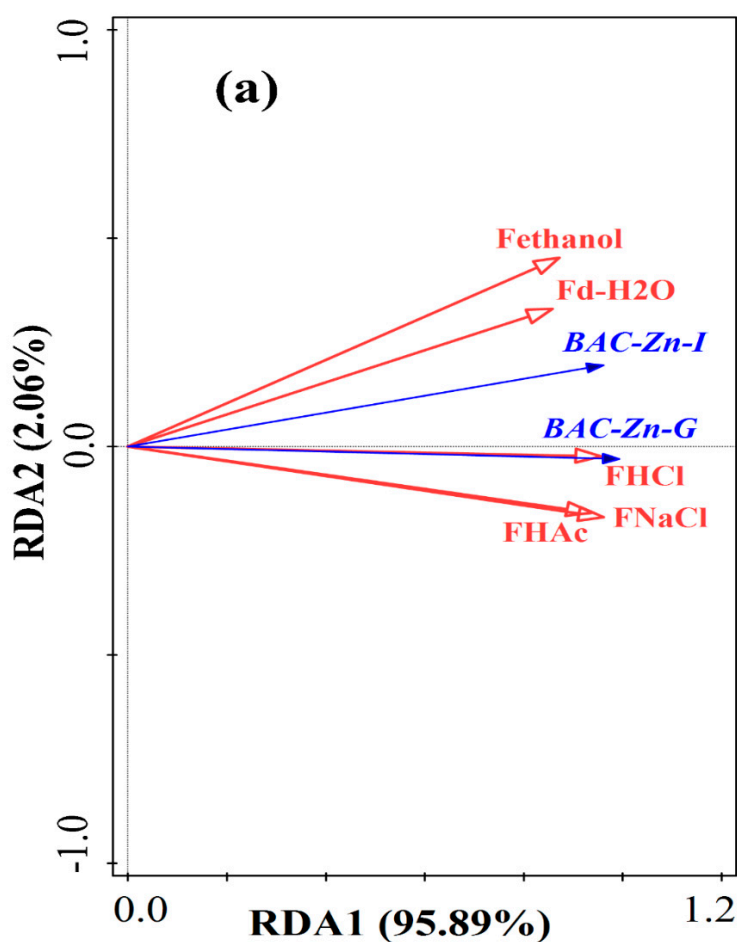- F$_{HCl}$
- Unexplained

Figure S3. Redundancy analysis of the correlations between bioaccessible Cd content (BAC-Cd) in the gastric (G) and small intestinal (I) phases and Cd content in different chemical forms. The length of arrows representing chemical forms and the cosine of the angle between the arrows of bioaccessible Cd content and the arrows of chemical forms indicate the correlational strength between bioaccessible Cd content and chemical forms (a). The explained variations were obtained from the partial redundancy analysis investigating the effects of Cd chemical forms on bioaccessible Cd content (b).
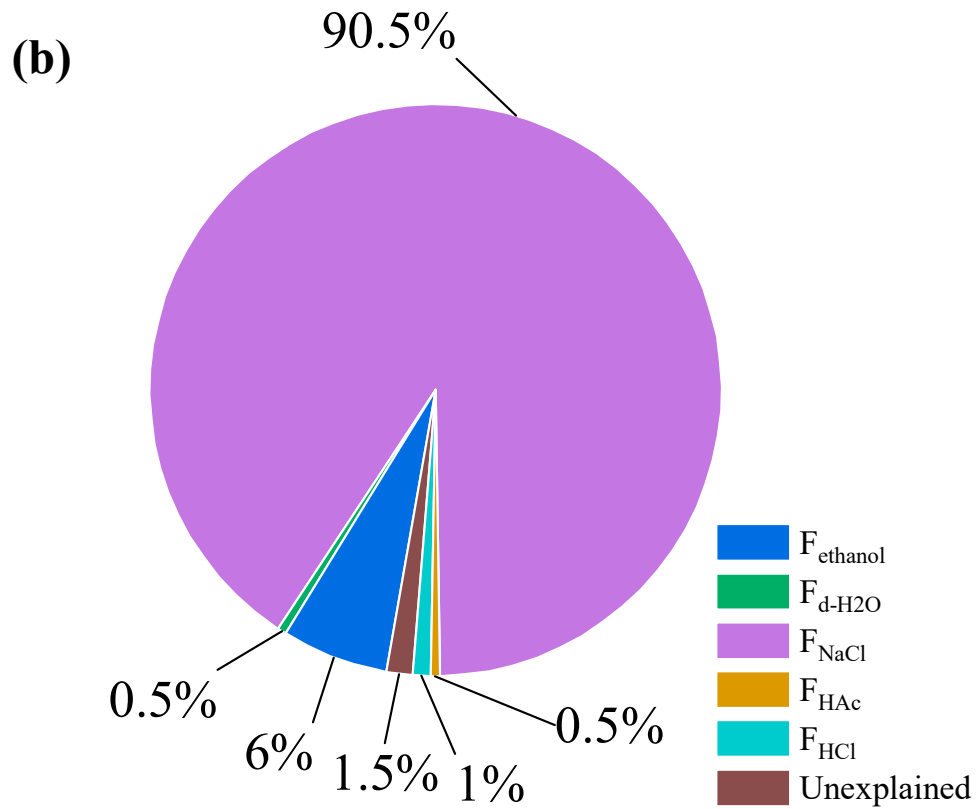
Figure S4. Redundancy analysis of the correlations between bioaccessible Zn content (BAC-Zn) in the gastric (G) and small intestinal (I) phases and Zn content in different chemical forms. The length of arrows representing chemical forms and the cosine of the angle between the arrows of bioaccessible Zn content and the arrows of chemical forms indicate the correlational strength between bioaccessible Zn content and chemical forms (a). The explained variations were obtained from the partial redundancy analysis investigating the effects of Zn chemical forms on bioaccessible Zn content (b).