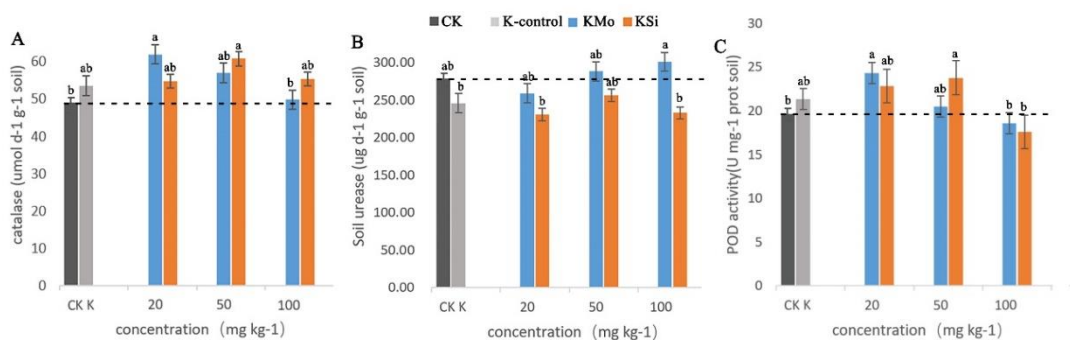
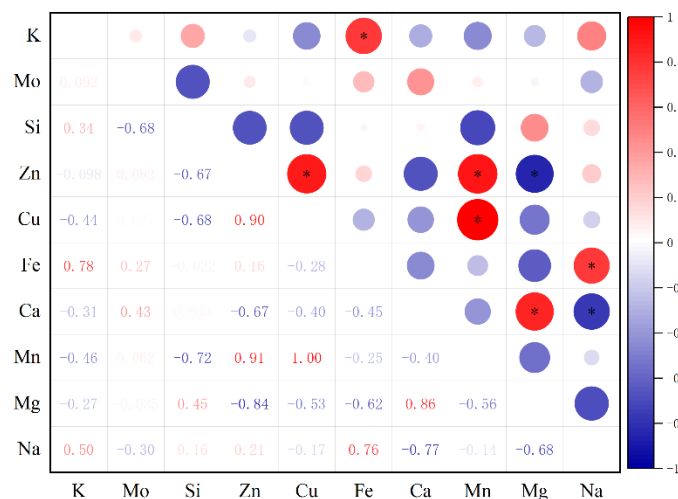


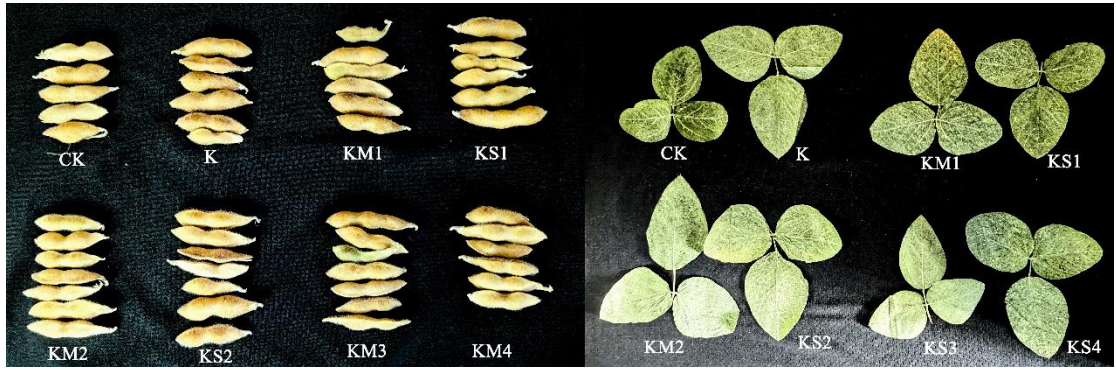
S1. Hydrodynamic particle size distribution of  $K_2SiO_3$  NMs and  $K_{18}Mo_8O_{33}$  NMs. (A) KMo is  $K_{18}Mo_8O_{33}$  NMs, (B) KSi is  $K_2SiO_3$  NMs, and size represents the particle size.



S2. Soil catalase activity (A), soil urease activity (B), and soil peroxidase activity (C). Each column represents the average of four replicates. The lower case letters (a, b) indicate significant differences among N levels ( $P < 0.05$ ).



S3. Correlation analysis of different element contents in soybean plants. The red and blue boxes indicate positive and negative correlations, respectively. The numbers indicate correlation coefficients,  $r$ . Asterisks indicate significant correlations. \*,  $P < 0.05$ .



S4. Images of soybean seeds and leaves in various treatments