

Figure S1. Manhattan plot for ^{60}Co -induced SNPs/indels.

(A) Manhattan plot for ^{60}Co -induced SNPs in *hybs1*.

(B) Manhattan plot for ^{60}Co -induced indels in *hybs1*.

(C) Manhattan plot for ^{60}Co -induced SNPs in *hybs2*.

(D) Manhattan plot for ^{60}Co -induced indels in *hybs2*.

The x axis showed the chromosomal position. Chr 1-10 indicated the A subgenome and chr 11-20 indicated the B subgenome.

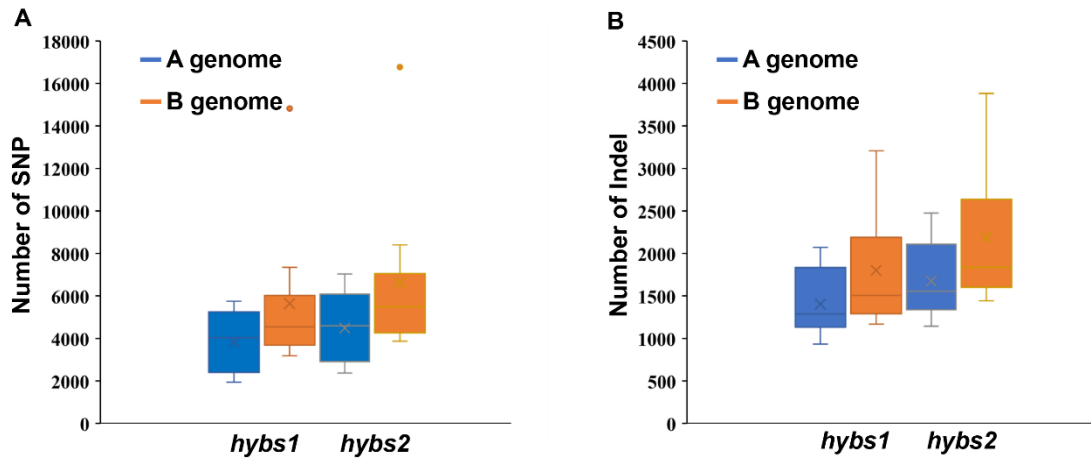


Figure S2. The number of ^{60}Co -induced SNPs/indels in *hybs1* and *hybs2*.

(A) Box-plots show the number of ^{60}Co -induced SNPs in different chromosome of *hybs1* and *hybs2*.

(B) Box-plots show the number of ^{60}Co -induced indels in different chromosome of *hybs1* and *hybs2*.

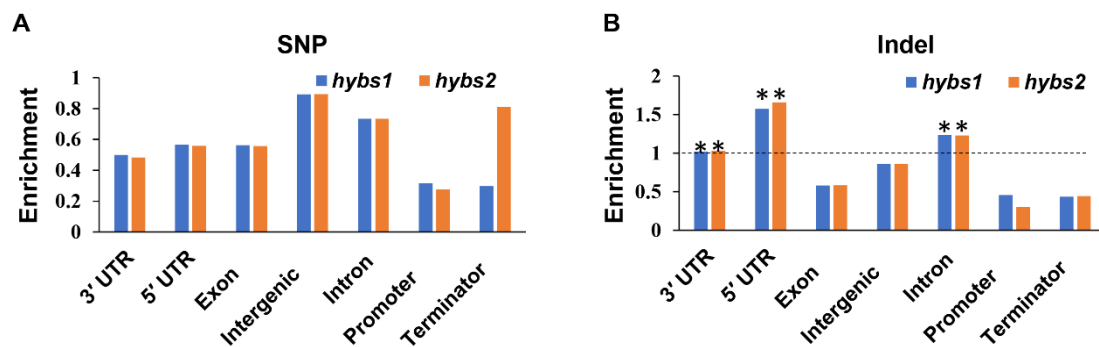


Figure S3. Relative enrichment of SNPs/Indels in different genomic elements.

(A) Relative enrichment of SNPs in different genomic elements.

(B) Relative enrichment of indels in different genomic elements.

The dashed line represents enrichment fold = 1.0. Permutation test; asterisks denote the observed value was >90% of the permutation value.

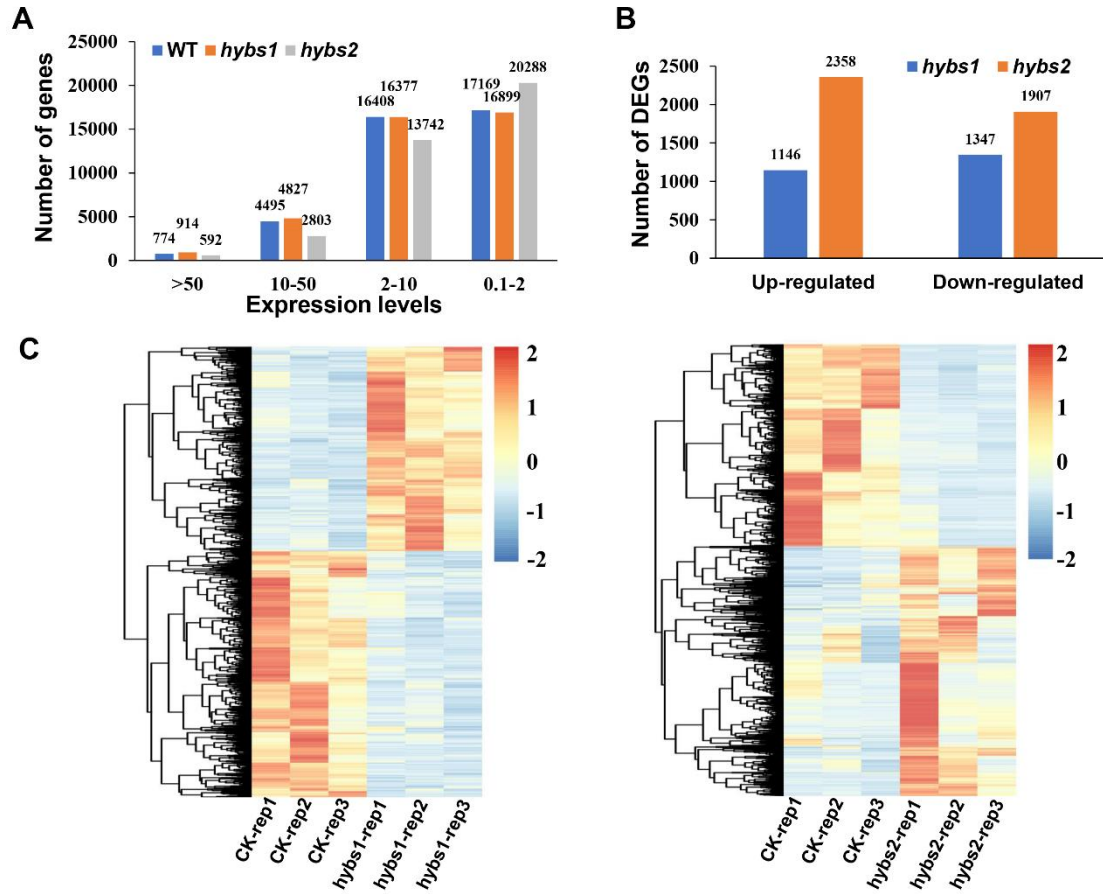


Figure S4. RNA-Seq analyses of *hybs1* and *hybs2*.

- (A) The number of genes with different expression levels in WT, *hybs1*, and *hybs2*.
- (B) The number of up-regulated and down-regulated genes in *hybs1* and *hybs2* as compared with WT.
- (C) Heatmap showing the relative expression of genes in WT, *hybs1* and *hybs2*.

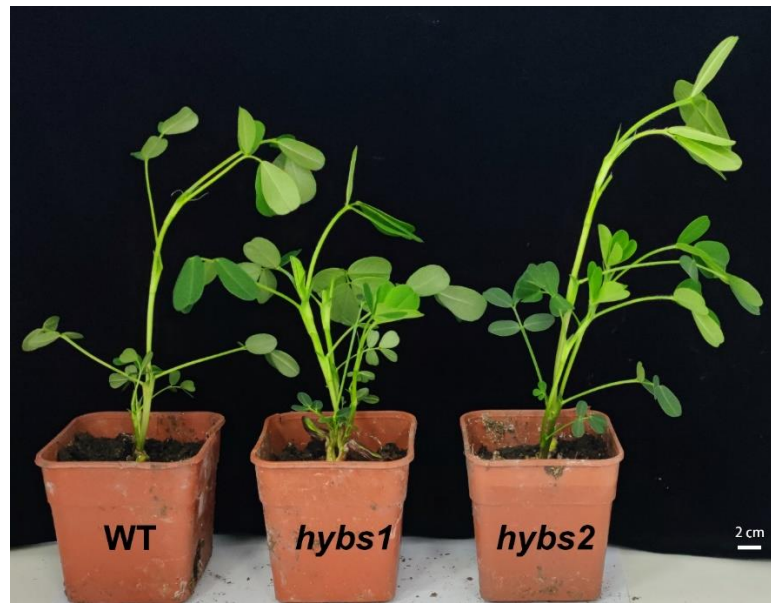


Figure S5. Plant height of WT, *hybs1*, and *hybs2*.

The phenotype of WT, *hybs1*, and *hybs2* in 10-d-old plants grown in a greenhouse under a 15-h light (26°C)/9-h dark (25°C) photoperiod. Scale bars are 2 cm.