

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Details of 257 soybean accessions.

File Name: Supplementary Data 2

Description: Sequencing summary of 257 re-sequenced soybean accessions.

File Name: Supplementary Data 3

Description: Genomic positions of putative significant GWAS SNPs and corresponding candidate genes in 257 soybean accessions.

File Name: Supplementary Data 4

Description: Predicted genes in the mapping region from 43,672 kb to 43,756 kb according to the *Glycine max* Wm82.a2.v1 reference genome.

File Name: Supplementary Data 5

Description: GO biological process enrichment of candidate genes using the deep-learning-based DeepGOPlus model.

File Name: Supplementary Data 6

Description: Sequencing summary of the transcriptome.

File Name: Supplementary Data 7

Description: Primers used in this study.