

Supplementary Figures

Supplementary Figure 1

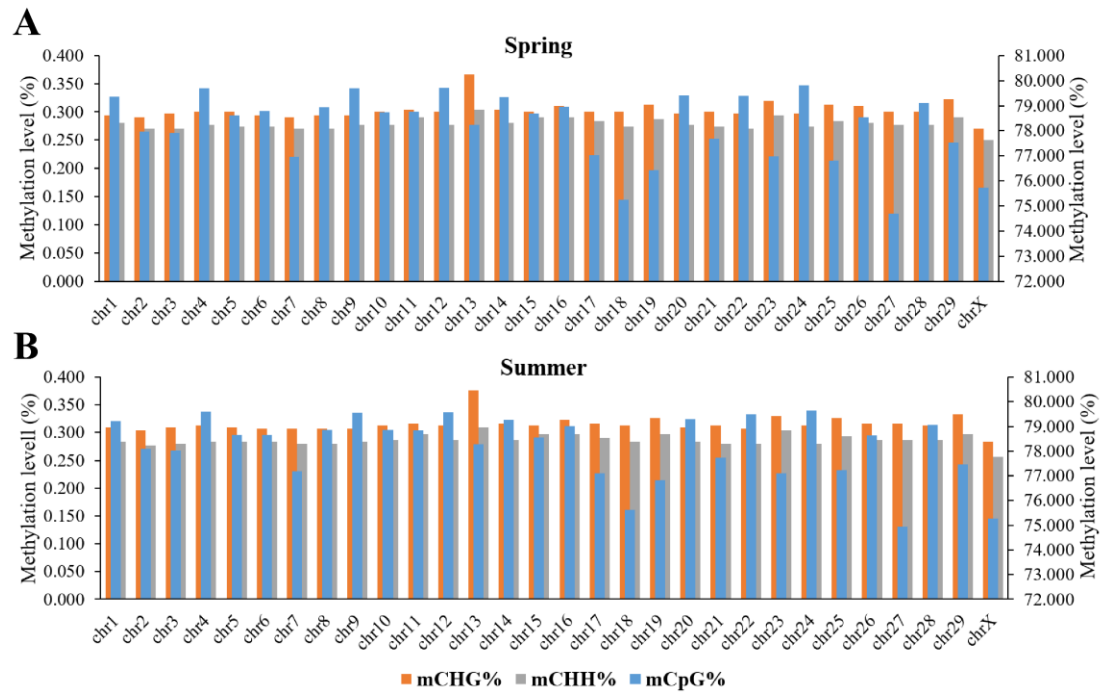


Figure S1: Chromosome-wide DNA methylation levels in spring and summer groups.

(A) Methylation levels across chromosomes (chr1–chrX) in the spring group; (B) Methylation levels across chromosomes (chr1–chrX) in the summer group. Three DNA methylation contexts are shown: mCHG%, mCHH%, and mCpG%. The left Y-axis represents the average methylation level for non-CpG contexts (CHG and CHH), while the right Y-axis represents CpG methylation levels.

Supplementary Figure 2

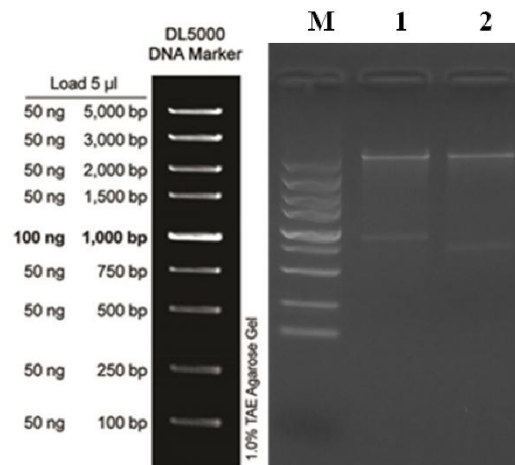


Figure S2: Agarose gel electrophoresis of luciferase reporter plasmid after double enzyme digestion. Lane 2 shows the double digestion product of the PGL3-DNLZ plasmid with *MluI* and *HindIII*; M represents the DNA marker.

Supplementary Figure 3

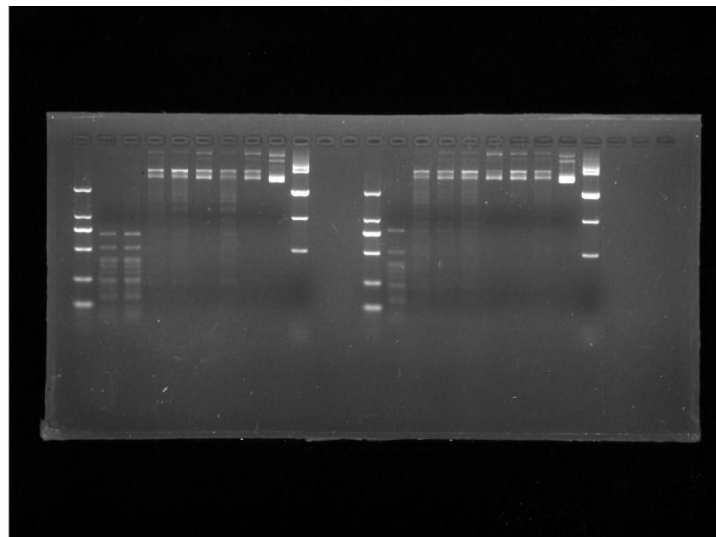


Figure S3. Full electrophoresis image corresponding to Figure 7B. HpaII digestion-based methylation identification of the recombinant plasmid under different enzyme concentrations. The complete gel image is shown.