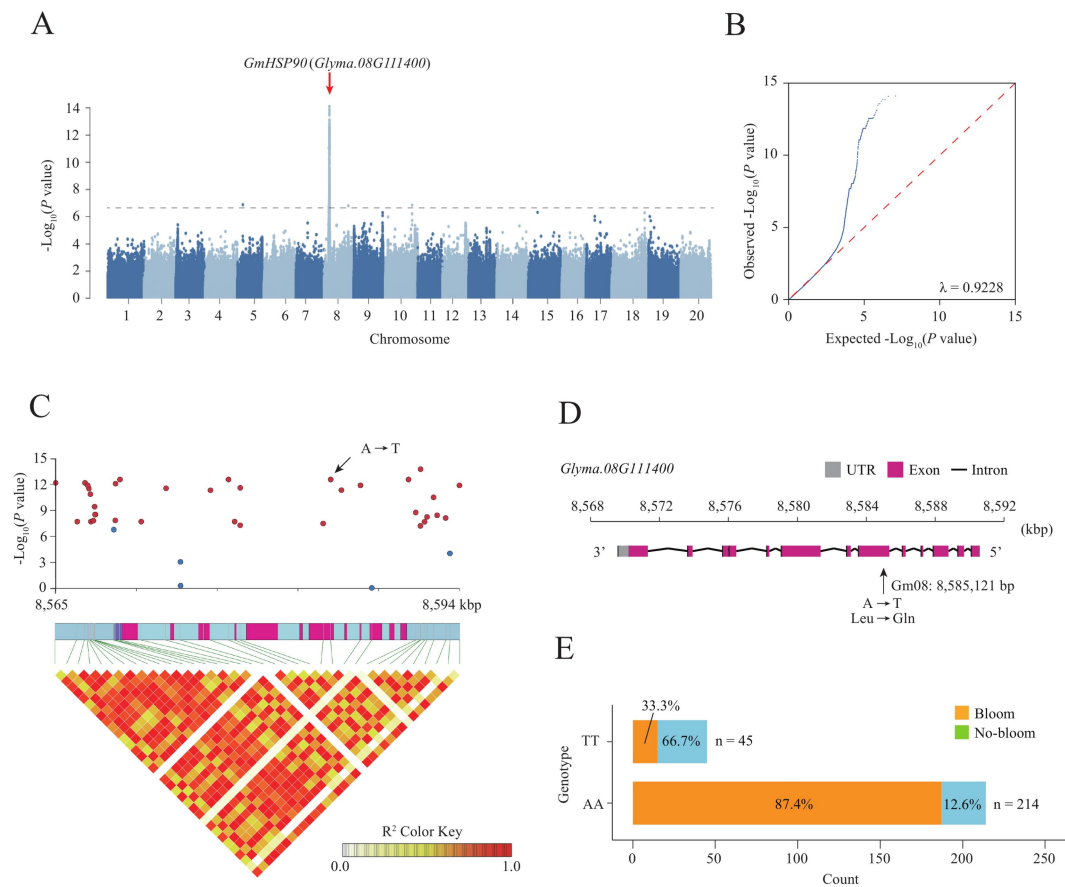




Supplementary Fig. S3. GWAS analysis of the seed coat bloom trait. (a) Manhattan plot for the bloom trait, with the potential causal gene *GmHSP90* (*Glyma.08G111400*) indicated. (b) QQ plot of the GWAS results, λ denotes the genomic inflation factor. (c) Heatmap illustrating SNP markers in LD block within the region of the *GmHSP90* gene. (d) Gene structure and mutation information for the *GmHSP90* gene. Candidate functional variation is indicated by a black arrow. (e) Distribution of bloom and no-bloom phenotypes among the AA and TT genotypes.