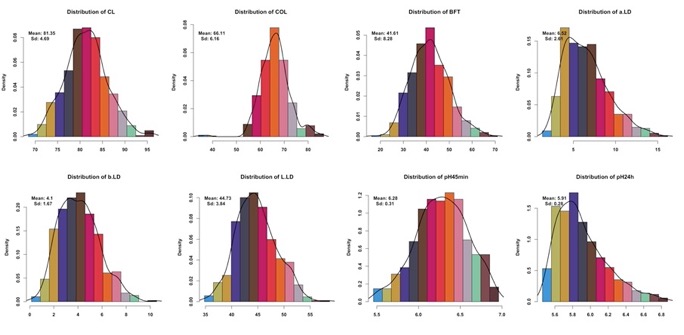


**Figure S1.** SNP density after quality control.



**Figure S2.** Principal component analysis of 508 animals.



**Figure S3.** Phenotypic distribution of eight traits. Sd represents standard deviation.





**Figure S4**. Manhattan and Q-Q plots for 4 traits (b.LD, L.LD, pH45min,pH24h). The red line is the genome-wide threshold (0.05/31,106) and the blue line (1/31,106) is the suggestive threshold. The -log10(*P*-value) of each SNP (y-axis) across the chromosomes (x-axis), along with the corresponding Q-Q plots. The λ represents genomic inflation factors.