

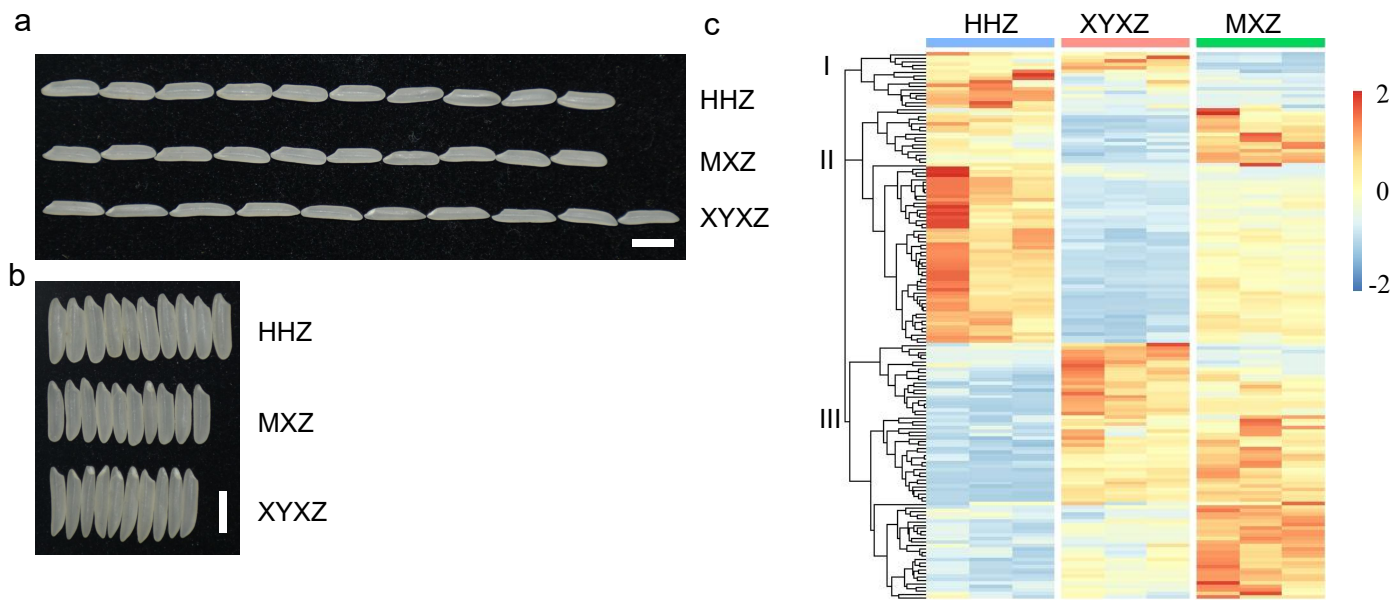


Fig. S1 The grain shape and DAMs of the three varieties.

a, b The difference of grain length (a) and grain width (b) in HHZ, MXZ and XYXZ. Scale bar: 5 mm.

c A heat map shows the variations of 158 DAMs among HHZ, MXZ and XYXZ.

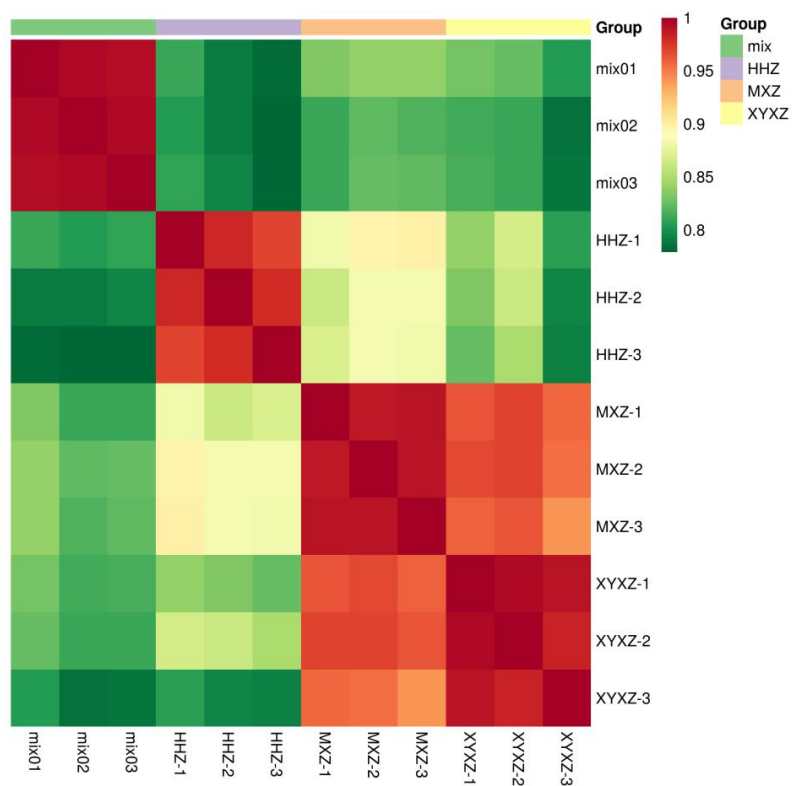


Fig. S2 The correlation analysis of all samples

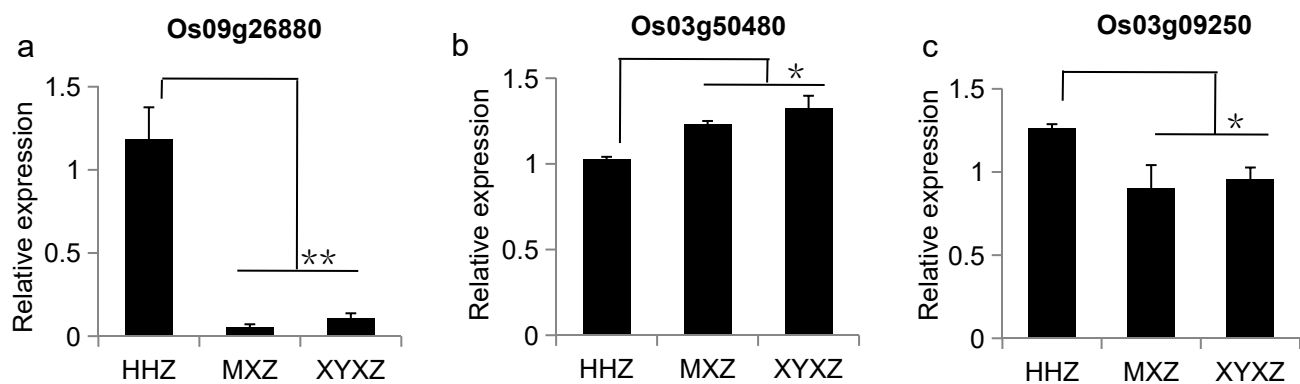


Fig. S3 Expression analysis of genes for correlational different metabolism.

Data represent mean values $\pm$ SE of three independent biological repeats. * and ** indicate a significant difference between different varieties at $P \leq 0.05$ and $P \leq 0.01$ respectively by the Dunnett's test.