Erratum to: The endoplasmic reticulum stress induced by highly expressed OsrAAT reduces seed size via pre-mature programmed cell death

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Due to an unfortunate turn of events, part of a paragraph in the ‘Results’ section of the above-mentioned publication is missing. The correct text is published below and should be treated as definitive by the reader:

The accumulation of high levels of OsrAAT in the rice endosperm decreased the expression of storage proteins

According to a previous study, a reduction in the level(s) of one or a few storage protein(s) can be compensated for by increases in the levels of other storage proteins (Kawakatsu et al. 2010). To further elucidate whether the accumulation of OsrAAT impacts endogenous storage proteins, we monitored the mRNA expression profiles of eight members of glutelin gene family, a globulin gene and four members of the prolamin gene family by quantitative PCR (qPCR). As shown in Fig. 2 and Supplemental Fig. 1, the mRNA expression levels of *GluA-1*, *GluB-1*, *GluB-2*, *GluB-3*, *GluB-4*, *Glb-1* and *RM1* were significantly decreased at 3, 6 and 9 DAP. The gene expression levels of most of the

storage proteins, except for *GluA-1*, were increased in 132-10. In contrast, the gene expression levels of most of the storage proteins in 132-17, except for *GluC*, were dramatically suppressed at 3, 6 and 9 DAP. To identify the competitive effects of exogenous protein expression on the endogenous storage proteins via the transcriptional and/or translational machinery in endosperm cells, we monitored the protein levels of the three different types of storage proteins. As shown in Fig. 3, we found that prolamin and glutelin levels were not obviously affected in 132-10, but were dramatically affected in 132-17. However, globulin was obviously suppressed in both 132-10 and 132-17. In addition, globulin mRNA expression was increased in 132-10, suggesting that the overexpression of OsrAAT in the rice endosperm could significantly affect the expression of glutelin and prolamin at both the transcriptional and post-transcriptional levels, whereas globulin could be regulated at the post-transcriptional level (Figs. 2, 3). Taken together, these results indicated that the accumulation of high levels of OsrAAT in the rice endosperm seriously affected endogenous storage protein expression at either the transcriptional or post-transcriptional level.

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