

**Supplementary Figure 1.** Observed and predicted seed longevity. The two curves present the previously-reported negative logarithmic relation between the standard deviation of the frequency distribution of seed deaths in time (*σ*, days) and seed storage moisture content for rice (*Oryza sativa* L.) at 40℃ : these curves are derived from the seed viability equation (Ellis and Roberts, 1980) and the estimates of the viability constants *KE*, *CW*, *CH* and *CQ* for rice provided by Ellis and Hong (2007), where the broken curve is with constant values constrained to a common temperature term for all 12 crops they investigated and the continuous curve with the temperature term derived for rice alone. The symbols denote estimates for *σ* from the current study for all 80 rice seed lots produced in 2015-2017 and stored hermetically at 40℃ with the moisture contents shown: open symbols are for Japonica rice cv. Gleva (○, Experiment 1; ∆ , Experiment 2; □, Experiment 3; ◊, Experiment 4) and solid symbols for Indica rice cv. Aeron 1 (•, Experiment 4).