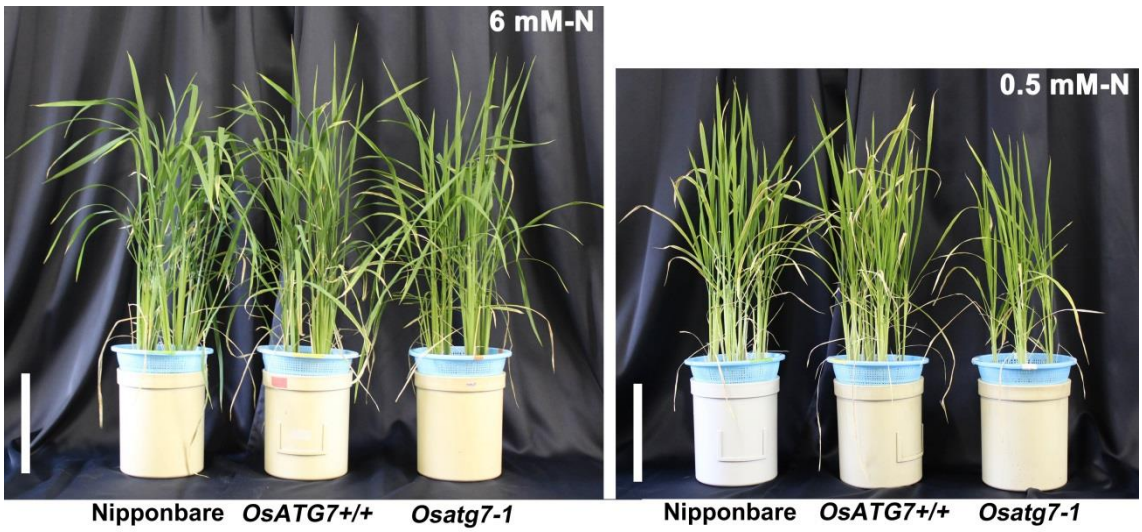
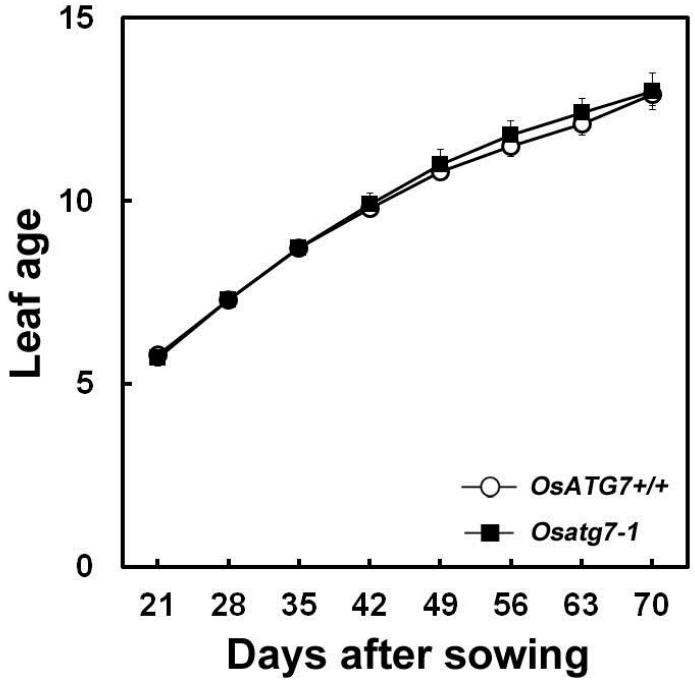
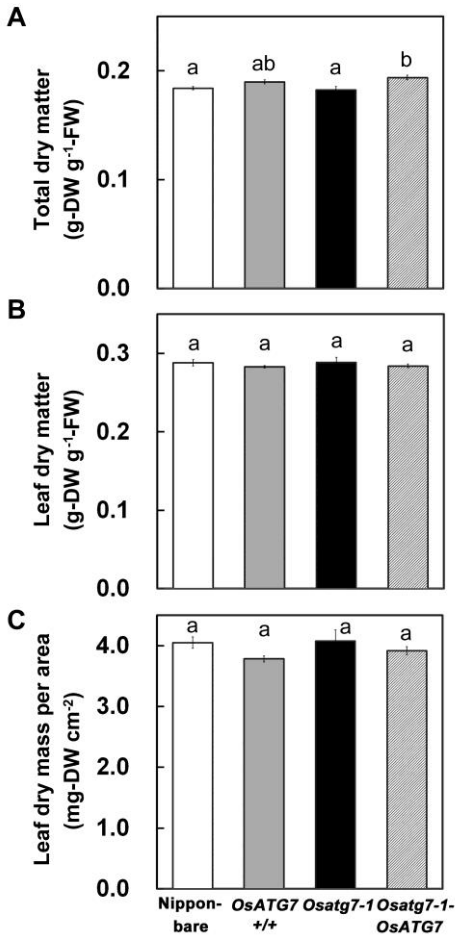


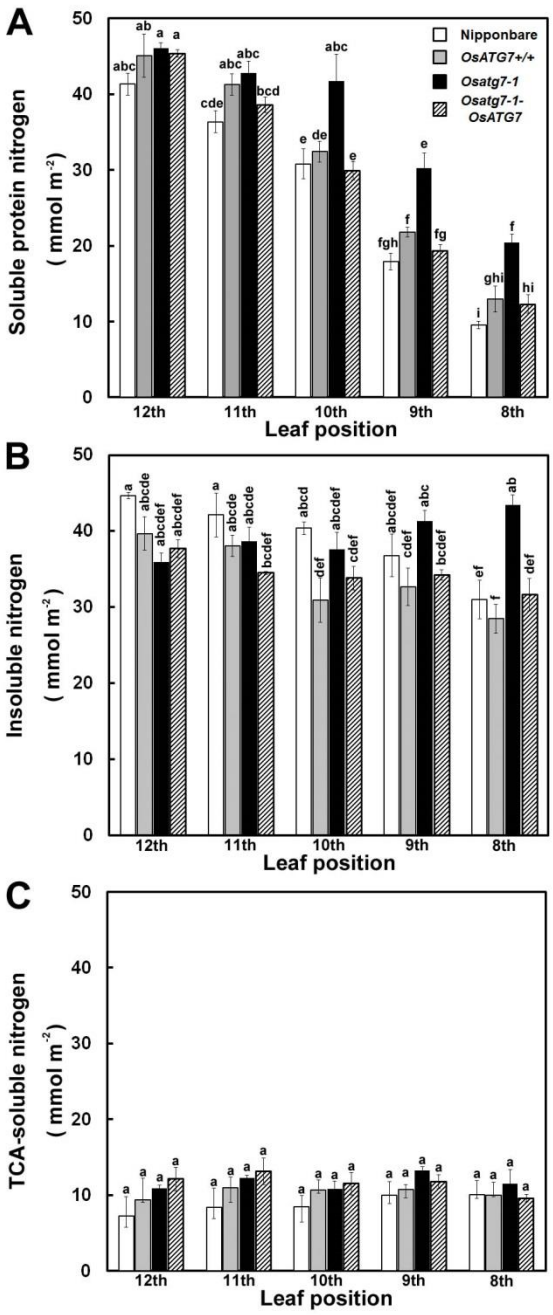
Supplemental Figure S1. Effects of nitrogen nutrition on growth of *Osatg7-1*. Nipponbare, *OsATG7*+/+, and *Osatg7-1* were hydroponically grown with basal nutrient solution containing 6 mM or 0.5 mM nitrogen for 77 d after germination. Bars = 20 cm.



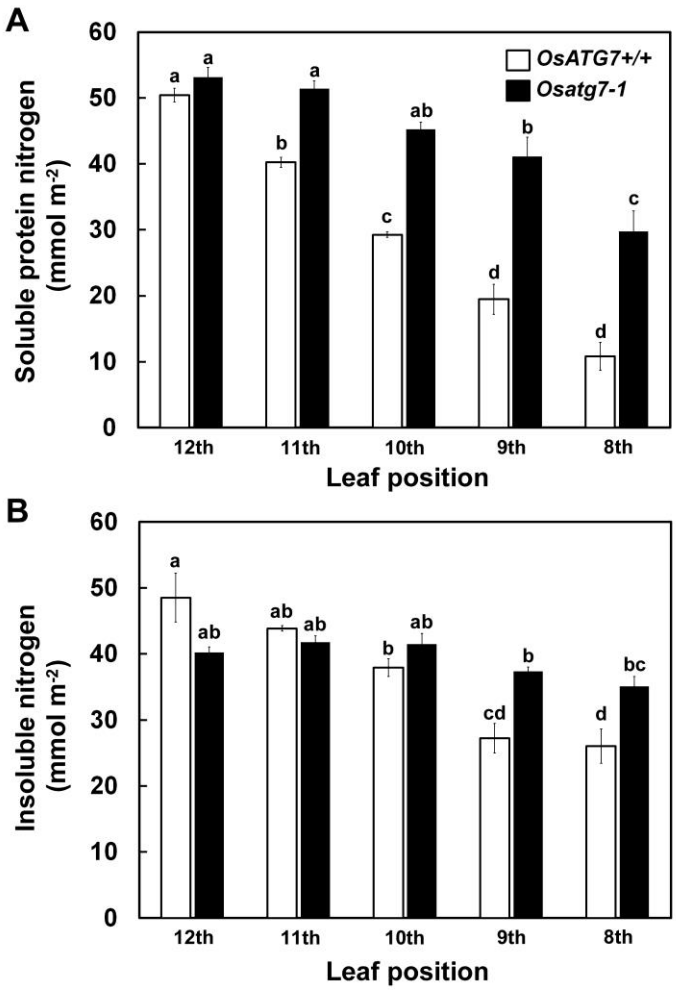
Supplemental Figure S2. Leaf aging of *Osatg7-1* mutant occurs at the same rate as *OsATG7+/+*. Leaf age was calculated as the sum of the leaf number on the main stem and the ratio of the leaf length of the two uppermost leaves on the main stem. Data are means ± sd (n = 8).



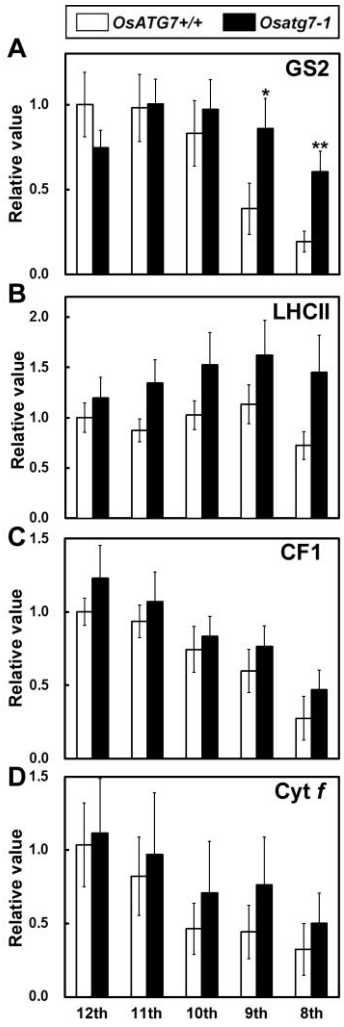
Supplemental Figure S3. Evaluation of tissue dry matter concentrations between *Osatg7-/-* and control plants. Total and leaf dry weight (in Fig. 3A) was evaluated as dry matter content per fresh weight (A and B). Leaf thickness was estimated by the leaf dry matter per area (C). Data are means ± se (n = 4). Different letters in each graph denote significant difference based on Tukey's HSD test ($\alpha = 0.05$).



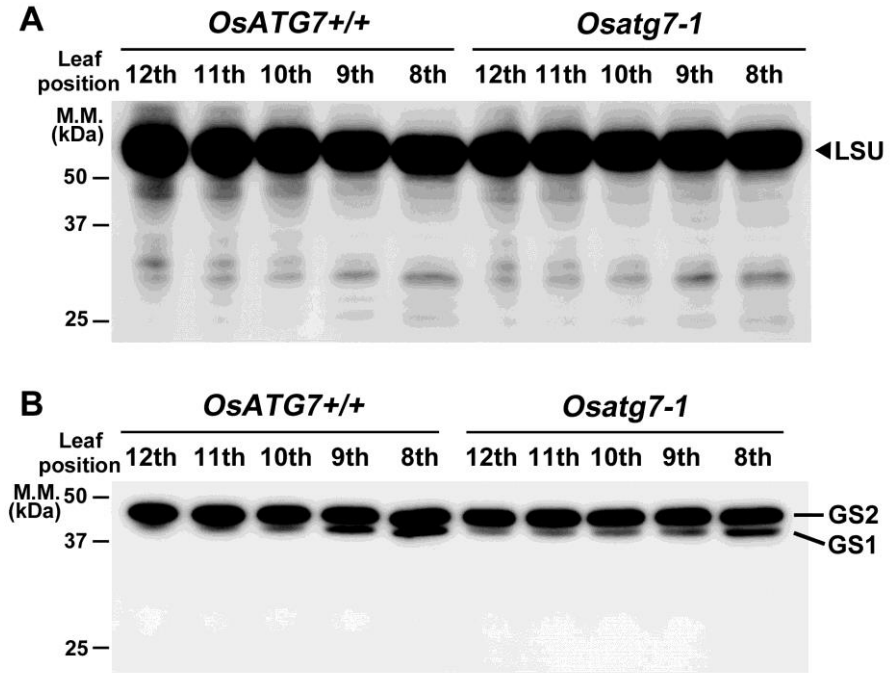
Supplemental Figure S4. Comparison of age-dependent changes in the fractionated nitrogen. Samples were prepared from the whole leaf extracts. Graphs show the soluble protein nitrogen (A), insoluble nitrogen (B) and free nitrogen (C) between *Osatg7-1* and the control plants. Data are means ± se (n = 4). Different letters in each graph denote significant difference based on Tukey's HSD test ($\alpha = 0.05$).



Supplemental Figure S5. Comparison of age-dependent changes in fractionated nitrogen from the middle, living parts of leaves. Soluble protein nitrogen (A) and insoluble nitrogen (B) were fractionated from the middle, living parts of leaves by the same methods as Supplemental Figure S4. Data are means ± se (n = 4). Different letters in each graph denote significant difference based on Tukey's HSD test ($\alpha = 0.05$).



Supplemental Figure S6. Comparison of age-dependent thylakoid protein accumulation between *OsATG7*+/+ and *Osatg7-1*. Age-dependent change of thylakoid proteins (LHCII, CF1 and Cyt *f*; B, C and D) and stromal glutamine synthetase (GS2; A) were semi-quantitatively determined in the middle, living parts of leaves from different leaf positions of *OsATG7*+/+ and *Osatg7-1* by immunoblotting. Data are shown as relative values normalized by the value of 12th leaves of *OsATG7*+/+ as 1.0. Data are means ± se (n = 4). Asterisks (*) and (**) in the graphs denote significant difference between the leaves in the same position analyzed by Student's *t*-test at α = 0.10 and 0.05, respectively.



Supplemental Figure S7. Comparison of age-dependent changes in immunoblot profiles of Rubisco large subunit (LSU) and glutamine synthetase (GS) between *OsATG7+/+* and *Osatg7-1*. Samples were prepared from the middle, living parts of leaves. Equal amounts (10 μg) of soluble proteins were applied to all lanes and subjected to immunoblotting with either anti-Rubisco-LSU or anti-GS antibodies following SDS-PAGE. The anti-GS antibodies react with both chloroplastic GS (GS2) and cytosolic GS (GS1).