

Fig. S1. Plant materials and brown planthopper (BPH) populations used in this study. **a** Plant populations derived from backcrossing with T65. **b** Plant populations derived from backcrossing with PTB33. The infested BPH populations were shown by red, yellow, pale green, and dark green boxes for the 1966-Hadano, 1989-Chikugo, 1999-Koshi, and 2013-Koshi BPH populations, respectively.

**BPH population
(Rice population)**

1966-Hadano, Japan
(T65 backcross)

1989-Chikugo, Japan
(T65 backcross)

1999-Koshi, Japan
(T65 backcross)

2013-Koshi, Japan
(T65 backcross)

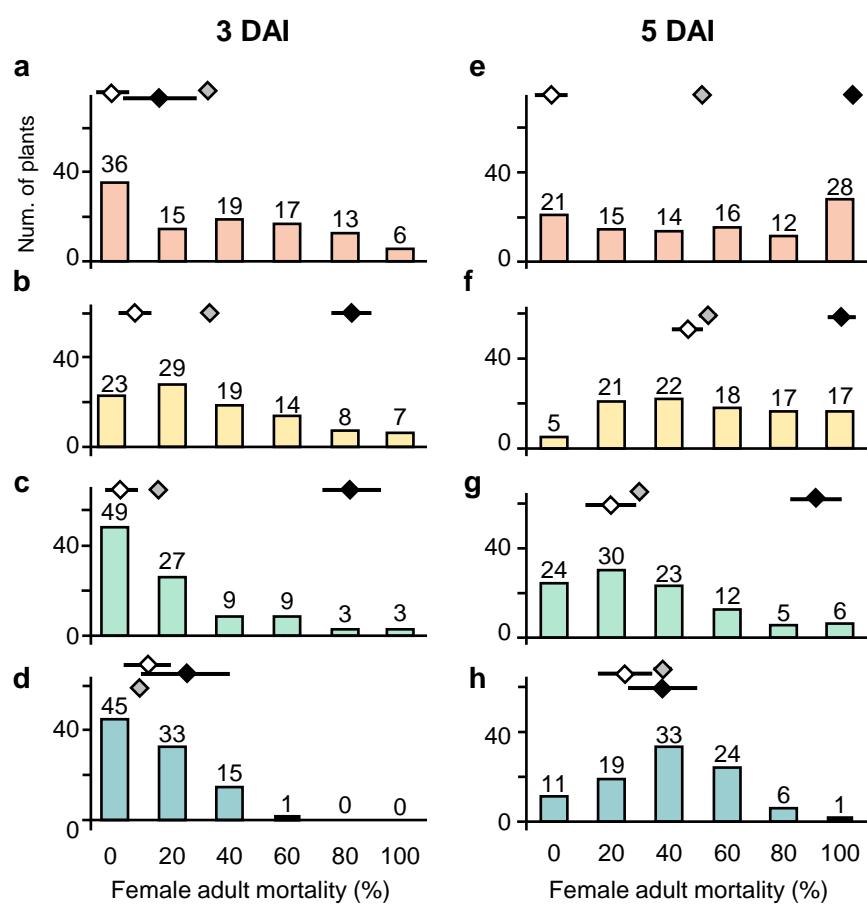


Fig. S2. Frequency distribution of female adult mortality (%) in the four populations derived from backcrossing with T65 at 3 days after infestation (a-d) and 5 days after infestation (e-h). Each of four populations were infested by 1966-Hadano BPH (a, e), 1989-Chikugo BPH (b, f), 1999-Koshi BPH (c, g), and 2013-Koshi BPH (d, h), respectively. Black, white and grey diamonds indicate the mean in PTB33, T65 and the populations, respectively. Error bars indicate standard error.

**BPH population
(Rice population)**

1966-Hadano, Japan
(PTB33 backcross)

1989-Chikugo, Japan
(PTB33 backcross)

1999-Koshi, Japan
(PTB33 backcross)

2013-Koshi, Japan
(PTB33 backcross)

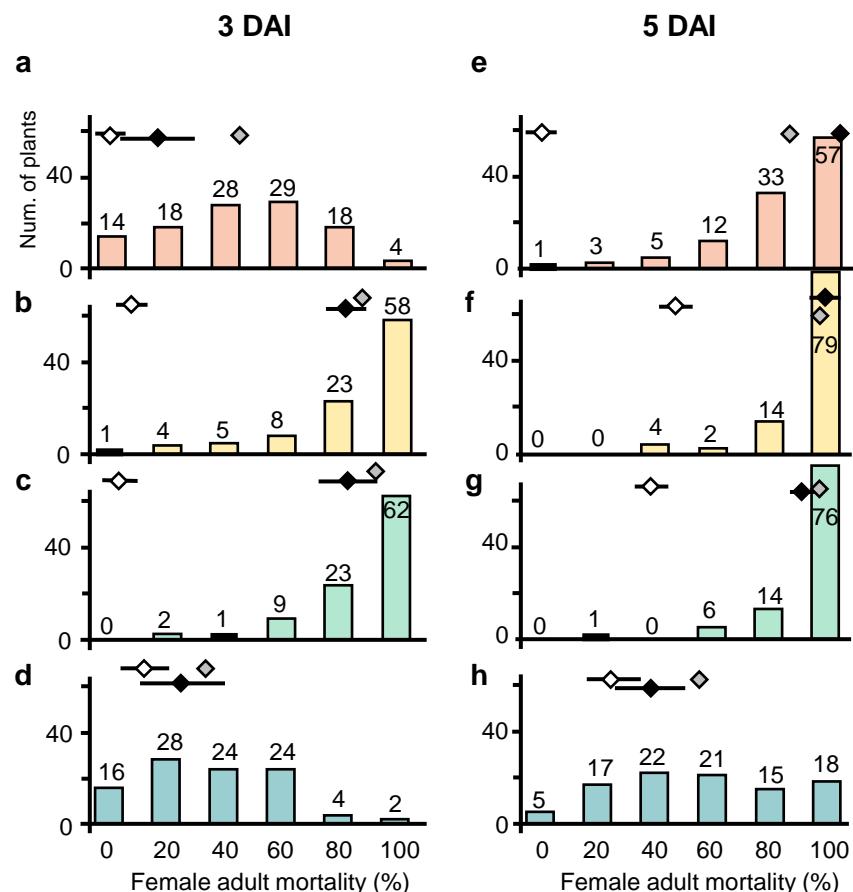


Fig. S3. Frequency distribution of female adult mortality (%) in the four populations derived from backcrossing with PTB33 at 3 days after infestation (a-d) and 5 days after infestation (e-h). Each of four populations were infested by 1966-Hadano BPH (a, e), 1989-Chikugo BPH (b, f), 1999-Koshi BPH (c, g), and 2013-Koshi BPH (d, h), respectively. Black, white and grey diamonds indicate the mean in PTB33, T65 and the populations, respectively. Error bars indicate standard error.