

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.

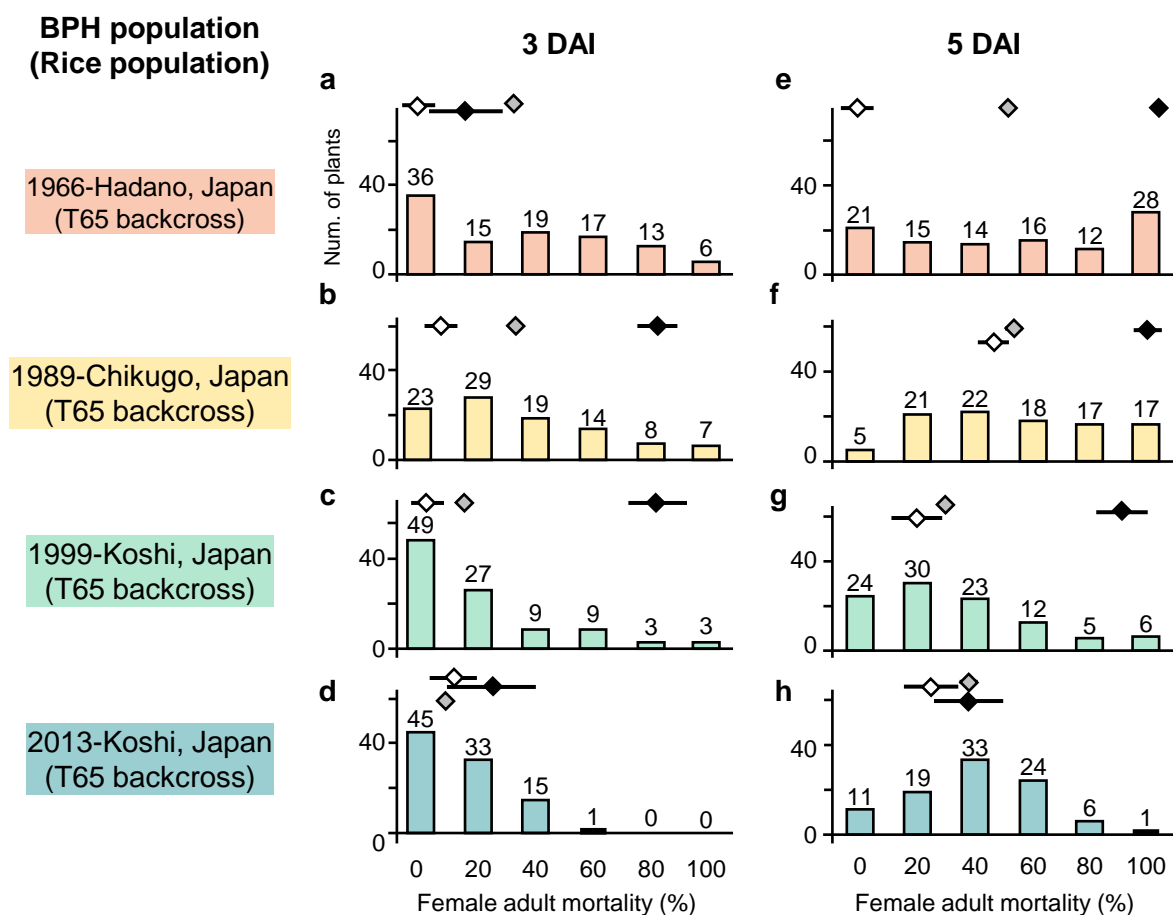


Fig. S2. Frequency distribution of female adult mortality (%) in the four populations derived from backcrossing with T65 at 3 days after infestation (**a-d**) and 5 days after infestation (**e-h**). Each of four populations were infested by 1966-Hadano BPH (**a, e**), 1989-Chikugo BPH (**b, f**), 1999-Koshi 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)

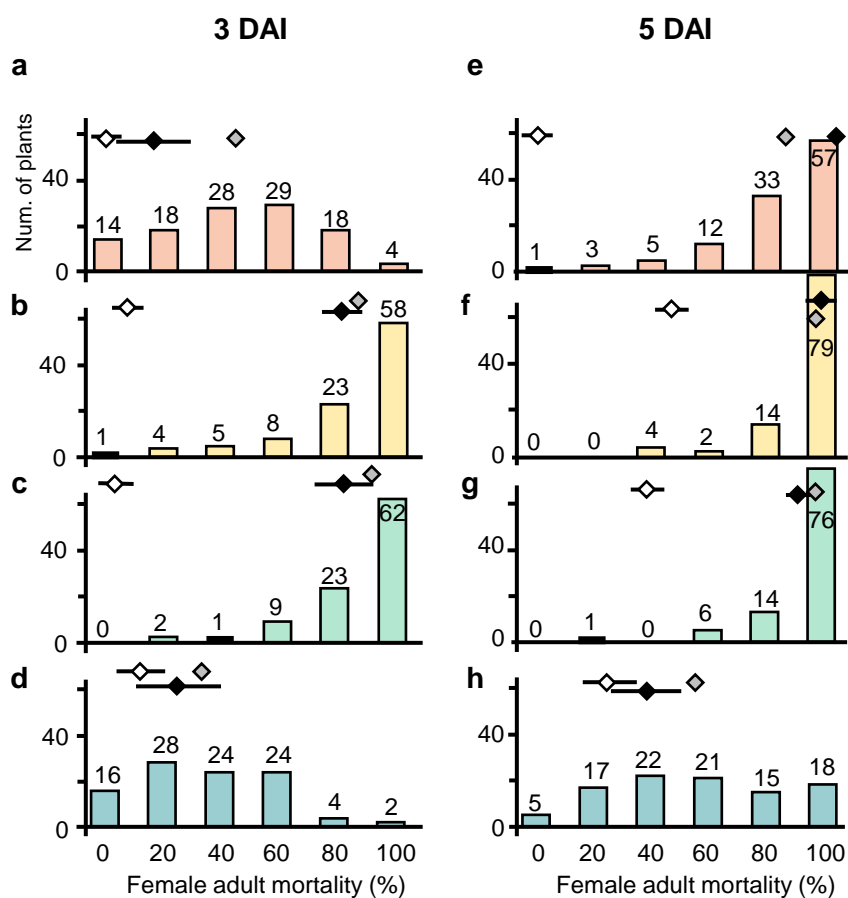


Fig. S3. Frequency distribution of female adult mortality (%) in the four populations derived from backcrossing with PTB33 at 3 days after infestation (**a-d**) and 5 days after infestation (**e-h**). Each of four populations were infested by 1966-Hadano BPH (**a, e**), 1989-Chikugo BPH (**b, f**), 1999-Koshi 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.