

### Additional file 3

Generation of female-informative backcross families for QTL analysis.

| Backcross Family | Female Strain <sup>*</sup> | Male Strain <sup>*</sup> | Generated Offspring        |
|------------------|----------------------------|--------------------------|----------------------------|
| A                | Rice (33)                  | Corn (22)                | F <sub>1</sub> hybrid (RC) |
|                  | RC hybrid (1)              | Rice (34)                | Backcross ( <b>RC-R</b> )  |
| B                | Corn (22)                  | Rice (33)                | F <sub>1</sub> hybrid (CR) |
|                  | CR hybrid (1)              | Rice (34)                | Backcross ( <b>CR-R</b> )  |

\*Number in brackets show the generation time of the laboratory populations (Table S1) used for the crosses.