**Supplementary Table 1.** Plant material used in this study. The spikes from plants carrying Bs were X-ray irradiated with doses at 13, 15 and 18 Gray shortly before anthesis.

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| Genotype | Cross combination | Radiation dose | Obtained seeds/survived plants |
| IR 13A | P33-7 (0B) x P42f1-33spike4 (2 or 3 Bs) | 13 Gray | 3 F1 seeds, 1 plant  |
| IR 13B | P33-5 (0B) x P42f1-33spike5 (2 or 3 Bs) | 13 Gray | 8 F1 seeds, 5 plants  |
| IR 13C | P33-1 (0B) x P42f1-33spike5 (2 or 3 Bs) | 13 Gray | 4 F1 seeds, 2 plants  |
| IR 13D | P33-8 (0B) x P42f1-33spike5 (2 or 3 Bs) | 13 Gray | 4 F1 seeds, 2 plants  |
| IR 15A | P33-5 (0B) x P42f1-1spike1 (2 Bs) | 15 Gray | 6 seeds  |
| IR 15B | P33-8 (0B) x P42f1-10spike2 (3 Bs) | 15 Gray | 6 F1 seeds, 2 plants  |
| IR 15C | P33-7 (0B) x P42f1-1spike3 (2 Bs) | 15 Gray | 7 F1 seeds, 4 plants  |
| IR 15D | P33-4 (0B) x P42f1-10spike1 (3 Bs) | 15 Gray | 2 F1 seeds |
| IR 15E | P33-2 (0B) x P42f1-1spikes1-2 (2 Bs) | 15 Gray | 1 F1 seeds  |
| IR 18A | P33-5 (0B) x P42f1-33spike2 (2 or 3 Bs) | 18 Gray | 3 F1 seeds |