Table S1 The primer sequences of related genes using for qPCR

|  |  |  |
| --- | --- | --- |
| **Primer name** | **RGAP\_ID** |  **Forward Primers (5'-3') Reverse Primers (5'-3')**  |
| ***q05940*** | LOC\_Os08g05940 | CATACTCACCTACCTCACCATC | AGATGTTGGGCTATAATCTGGG |
| ***q05950*** | LOC\_Os08g05950 | CACGCCACCAGCCGCAACCA | TTCCTCCGTCGTCCTCGCCTCC |
| ***q05960*** | LOC\_Os08g05960 | TGTGCGATCAAGATCAGATCAT | CCCTCTTGCTCTCCTTGTATC |
| ***q05970*** | LOC\_Os08g05970 | AGCAGGAAGAAGATGAACAAGA | TATCATACACACTAGCTGCTCG |
| ***q05980*** | LOC\_Os08g05980 | CGACGACGATGAAGAGTAACTA | CCTATAAGTGGGTTCGGTTCAT |
| ***q05990*** | LOC\_Os08g05990 | TATGCCGTCGCTGTTGGG | GCAAGCCAGTCGGTGATGTTC |
| ***OsMADS15*** | LOC\_Os07g01820 | CTGAAGCGGATAGAGAACAAGA | CGGATTCAGCTGAAATAAGAGC |
| ***OsMADS1*** | LOC\_Os03g11614 | TATTTTGCTAAGTACGTGCGTG | ACTTGTTACCACATCCAAAACG |
| ***G1*** | LOC\_Os07g04670 | CGTCTACTTGCCATTTCTGTAC | GAGAAGCACAGACAAATACACG |
| ***Actin*** | LOC\_Os11g06390 | GAGTATGATGAGTCGGGTCCAG | ACACCAACAATCCCAAACAGAG |

Table S2 The descriptive statistical analysis of the length of sterile lemma and rudimentary glume

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Sterile lemma length** |  | **Rudimentary glume length** |
| **S142** | **430** | ***pds*** |  | ***pds*** |
| **Mean** | 2.79±0.29 | 2.69±0.19 | 5.80±1.95 |  | 5.07±4.39 |
| **Range** | 2.46-3.35 | 2.42-3.06 | 2.60-11.23 |  | 0.69-14.87 |
| **Kurtosis** | 0.03 | -0.34 | -0.18 |  | 0.13 |
| **Skewness** | 0.61 | 0.61 | 0.86 |  | 1.08 |

Notes: All data are given as mean±sd; S142 and 430 n=10, *pds* n=100; unit: mm.

Table S3 Grain yield related traits of S142, 430, and *pds* rice plants

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Trait** | **S142** | **430** | ***pds*** | **S142/*pds* *p*-value** | **430/ *pds* *p*-value** |
| **PL** | 27.2±3.06 | 23.55±1.67 | 19.3±3.55 | <0.01 | <0.01 |
| **NPB** | 9.50±1.58 | 16.50±1.36 | 9.00±2.44 | >0.05 | <0.001 |
| **NSB** | 34.00±10.25 | 43.50±11.55 | 23.00±5.41 | <0.0001 | <0.0001 |
| **SSR (%)** | 86.67±8.03 | 69.97±11.56 | 16.17±13.77 | <0.0001 | <0.0001 |
| **NGP** | 195.05±29.00 | 193.13±58.83 | 8.03±4.95 | <0.0001 | 0.0001 |
| **GYP** | 54.49±12.09 | 27.67±12.45 | 2.06±1.17 | <0.0001 | 0.0016 |
| **GL** | 10.62±0.53 | 10.23±0.65 | 9.56±0.90 | ns | ns |

Notes: SSR, seed setting rate; GYP, grain yield per plant; NPB, number of primary branches; NSB, number of secondary branches; NGP, number of grain per plant; GL, grain length; PL, panicle length. All data are given as mean±sd, a student’s *t*-test was performed to generate *p*-values; S142 and 430 n=20, *pds* n=60.