**Table S1. Descriptive statistics analysis of indices under different N application levels**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Indices | N104 | | |  | N207 | | |  | N311 | | |
| Range | Mean | CV |  | Range | Mean | CV |  | Range | Mean | CV |
|
| X1 | 87.93～139.73 | 103.57±7.68 aA | 7.42 |  | 86.63～132.88 | 103.91±7.31 aA | 7.03 |  | 87.36～127.40 | 103.23±7.22 aA | 7.00 |
| X2 | 97.60～103.68 | 100.22±1.19 aA | 1.18 |  | 97.63～103.68 | 100.16±1.07 aA | 1.07 |  | 97.01～103.73 | 100.14±1.23 aA | 1.23 |
| X3 | 67.57～204.55 | 123.03±24.52 bB | 19.93 |  | 64.86～180.00 | 121.06±22.40 cB | 18.42 |  | 77.42～201.59 | 127.85±29.39 aA | 22.99 |
| X4 | 92.41～182.24 | 130.26±21.53 cC | 16.53 |  | 94.86～185.59 | 137.99±23.69 bB | 17.17 |  | 98.43～209.44 | 152.28±27.45 aA | 18.02 |
| X5 | 88.85～114.92 | 100.60±5.29 aA | 5.26 |  | 84.79～121.41 | 100.03±5.84 aA | 5.84 |  | 87.92～112.18 | 100.45±4.85 aA | 4.83 |
| X6 | 61.54～250.00 | 125.62±34.11 bA | 27.15 |  | 62.50～266.67 | 125.24±32.84 bA | 26.22 |  | 57.89～260.00 | 128.32±34.59 aA | 26.96 |
| X7 | 88.17～130.59 | 104.20±8.99 bA | 8.63 |  | 84.89～123.86 | 104.19±7.96 bA | 7.64 |  | 90.89～138.94 | 107.14±9.54 aA | 8.90 |
| X8 | 86.38～131.58 | 100.27±5.04 aA | 5.03 |  | 88.77～136.33 | 99.79±4.77 aA | 4.78 |  | 71.88～111.93 | 98.46±4.88 aA | 4.96 |
| X9 | 74.46～118.82 | 100.34±6.57 aA | 6.55 |  | 87.05～117.2 | 101.81±5.85 aA | 5.75 |  | 87.76～121.34 | 100.66±6.60 aA | 6.56 |
| X10 | 81.02～115.84 | 98.54±6.89 aA | 6.99 |  | 82.58～119.84 | 100.02±7.57 aA | 7.57 |  | 80.58～124.06 | 101.31±7.73 aA | 7.63 |
| X11 | 90.83～120.99 | 105.47±5.31 bA | 5.03 |  | 97.5～125.00 | 108.3±5.05 aA | 4.67 |  | 84.17～138.04 | 109.01±6.19 aA | 5.68 |
| X12 | 86.67～112.05 | 98.44±4.02 aA | 4.08 |  | 87.22～115.18 | 100.34±4.27 aA | 4.25 |  | 77.02～142.59 | 100.02±6.24 aA | 6.24 |
| X13 | 89.74～111.76 | 98.47±3.01 aA | 3.05 |  | 83.54～108.33 | 98.22±3.48 aA | 3.54 |  | 87.8～119.61 | 98.54±3.75 aA | 3.81 |
| X14 | 68.38～410.19 | 119.66±47.85 cC | 39.99 |  | 74.94～320.37 | 128.17±40.48 bB | 31.58 |  | 66.15～328.39 | 137.53±47.4 aA | 34.47 |

X1= relative plant height; X2= relative growth period; X3= relative effective tiller number; X4= relative LAI; X5= relative spike length; X6= relative panicle number per plant; X7= relative total grains per panicle; X8= relative seed setting rate; X9= relative 1000-grain weight; X10= relative head rice rate; X11= relative protein content; X12= relative amylose content; X13= relative taste value; X14= relative SPAD value. Different capital and small letters indicate significant differences among varieties at *P* <0.01 and 0.05 levels, respectively. The same below.