

Table S13. The plant size ( $\text{mm}^2$ ) of G protein mutants in response to C/N ratio.

| Glucose(w/v) | Nitrogen      | 0mM                                | 0.1mM      | 0.2mM      | 0.3mM     | 0.5mM     | 1mM        | 2mM        |
|--------------|---------------|------------------------------------|------------|------------|-----------|-----------|------------|------------|
| 0%           | <i>Col</i>    | 1.38 A <sup>1</sup> e <sup>2</sup> | 2.33 A de  | 3.33 AB cd | 3.83 B bc | 5.46 A a  | 4.75 AB ab | 5.12 B a   |
|              | <i>agb1-2</i> | 1.45 A d                           | 2.48 A cd  | 2.39 C cd  | 3.57 B bc | 4.60 A ab | 4.67 B ab  | 5.67 B a   |
|              | <i>gpa1-3</i> | 1.37 A e                           | 2.47 A de  | 2.86 BC d  | 3.65 B cd | 5.20 A b  | 4.24 AB bc | 9.52 A a   |
|              | <i>rgs1-2</i> | 1.17 B e                           | 2.59 A de  | 3.48 A cd  | 6.03 A b  | 6.06 A b  | 5.82 A b   | 9.37 A a   |
| 1%           | <i>Col</i>    | 1.15 B e                           | 1.45 C de  | 3.37 B d   | 3.81 B d  | 6.66 A c  | 10.91 B b  | 24.76 B a  |
|              | <i>agb1-2</i> | 1.13 B f                           | 2.12 A de  | 3.66 AB e  | 4.92 B d  | 6.66 A c  | 11.52 A b  | 23.67 A a  |
|              | <i>gpa1-3</i> | 2.21 A e                           | 1.67 BC de | 4.81 AB d  | 5.87 B d  | 8.30 A c  | 14.19 B b  | 21.78 B a  |
|              | <i>rgs1-2</i> | 1.85 AB f                          | 1.86 B de  | 4.08 A e   | 5.19 A cd | 7.39 A c  | 12.27 AB b | 21.38 B a  |
| 2%           | <i>Col</i>    | 0.96 B g                           | 1.97 A e   | 3.53 A e   | 4.62 B d  | 6.79 AB c | 10.03 B b  | 18.58 AB a |
|              | <i>agb1-2</i> | 0.88 B f                           | 2.11 A f   | 2.77 A e   | 4.31 B d  | 6.40 B c  | 9.08 B b   | 18.01 B a  |
|              | <i>gpa1-3</i> | 0.92 B f                           | 2.05 A e   | 3.08 A e   | 4.34 B d  | 7.50 A c  | 12.25 A b  | 20.21 A a  |
|              | <i>rgs1-2</i> | 1.61 A f                           | 2.24 A ef  | 3.32 A de  | 4.45 A cd | 4.67 C c  | 9.19 B b   | 17.63 B a  |
| 4%           | <i>Col</i>    | 0.47 B f                           | 1.58 B e   | 2.87 BC d  | 3.07 B d  | 4.86 C c  | 8.80 B b   | 13.13 B a  |
|              | <i>agb1-2</i> | 0.51 B f                           | 1.92 A e   | 2.88 C d   | 2.97 B d  | 6.23 A c  | 8.50 B b   | 16.62 A a  |
|              | <i>gpa1-3</i> | 0.62 A g                           | 1.61 B f   | 3.00 B e   | 3.98 A d  | 5.36 BC c | 10.34 A b  | 17.64 A a  |
|              | <i>rgs1-2</i> | 0.51 B f                           | 1.54 B e   | 3.15 A d   | 3.22 B d  | 5.86 AB c | 8.25 B b   | 14.27 B a  |
| 5%           | <i>Col</i>    | 0.59 AB e                          | 1.01 AB e  | 1.47 B cd  | 2.50 A cd | 2.88 B c  | 5.65 B b   | 8.25 C a   |
|              | <i>agb1-2</i> | 0.49 B c                           | 0.80 B c   | 1.07 C c   | 1.84 B c  | 1.92 C c  | 4.14 C b   | 7.60 C a   |
|              | <i>gpa1-3</i> | 0.67 A d                           | 1.24 A d   | 1.71 B cd  | 2.93 A cd | 4.10 A bc | 6.32 AB b  | 12.10 B a  |
|              | <i>rgs1-2</i> | 0.63 AB f                          | 1.10 A ef  | 2.15 A de  | 2.70 A d  | 4.44 A c  | 6.97 A b   | 10.42 A a  |
| 6%           | <i>Col</i>    | 0.74 AB f                          | 0.92 A ef  | 1.37 B de  | 1.81 A cd | 2.15 B c  | 3.46 B b   | 6.32 A a   |
|              | <i>agb1-2</i> | 0.77 A c                           | 0.87 A c   | 1.02 C c   | 1.26 B c  | 1.32 C c  | 2.30 C b   | 2.93 B a   |
|              | <i>gpa1-3</i> | 0.76 A d                           | 0.98 A de  | 1.29 B cde | 1.67 A cd | 1.80 B c  | 3.33 B b   | 6.26 A a   |
|              | <i>rgs1-2</i> | 0.66 B e                           | 0.97 A e   | 1.61 A d   | 1.84 A d  | 2.79 A c  | 4.36 A b   | 6.31 A a   |

Note: Different lowercase letters<sup>1</sup> indicated significant differences among nitrogen treatment and different capital letters<sup>2</sup> indicated significant difference among glucose treatment, n=12