

Supplementary Information:

Table 1b: Applied nutrient solutions (NS) for the control treatment and the Mg, P, N-free nutrient solution for treatments inoculated treatments additionally fertilized with struvite.

| <i>Nutrients applied</i> | <i>Control NS</i> | <i>Mg, P, N-free NS</i> |
|---------------------------------------|-------------------|-------------------------|
| <i>KPO₄H₂</i> | 136 mg/L | --- |
| <i>KNO₃</i> | 101 mg/L | --- |
| <i>K₂SO₄</i> | 217 mg/L | 435 mg/L |
| <i>Ca(NO₃)₂</i> | 164 mg/ | --- |
| <i>CaCl₂</i> | 111 mg/L | 111 mg/L |
| <i>Mg(NO₃)₂</i> | 148.3 mg/L | --- |
| <i>Hortilon</i> | 0.1 mg/L | 0.1 mg/L |
| <i>Sequestrene</i> | 0.1 mg/L | 0.1 mg/L |

Table 2b: Climatic conditions inside the RTG Lab.

| TEMPERATURE | |
|---------------------------|-------|
| <i>AVERAGE T °C</i> | 18.94 |
| <i>MINIMUM T °C</i> | 4.48 |
| <i>MAXIMUM T °C</i> | 29.89 |
| <i>STANDARD DEVIATION</i> | 2.09 |
| REALATIVE HUMIDITY | |
| <i>AVERAGE (RH)</i> | 38.11 |
| <i>MINIMUM (RH)</i> | 5.65 |
| <i>MAXIMUM (RH)</i> | 77.37 |
| <i>STANDARD DEVIATION</i> | 5.83 |

Table 3b: Leachate NO₃- content (mg/L) from results given for three treatments A) 2g of struvite + Rhizobium inoculation + P, Mg, N-free nutrient solution B) 5g of struvite + Rhizobium inoculation + P, Mg, N-free nutrient solution and C) standard nutrient solution - Rhizobium inoculation at five time periods from the 14 DAT until 77 DAT.

| DATE | A | B | C |
|--------|------|-------|-------|
| 14 DAT | 7,71 | 10,57 | 8,54 |
| 35 DAT | 3,41 | 4,89 | 32,89 |
| 49 DAT | 0,92 | 0,91 | 47,87 |
| 63 DAT | 0,03 | 0,36 | 51,97 |
| 77 DAT | 0,32 | N.A. | 55,93 |

Supplementary figure Legends:

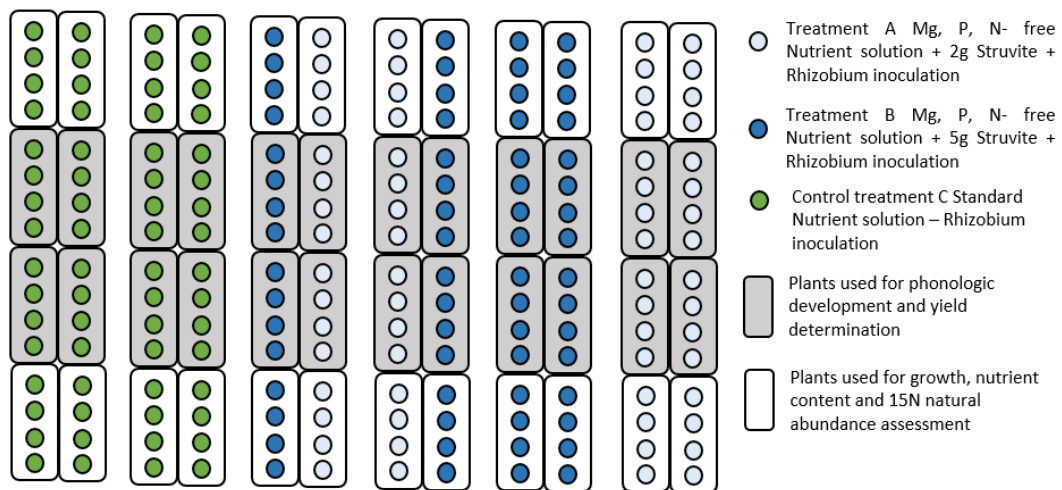


Figure 1b: Image of the Experimental layout in the RTG Lab.

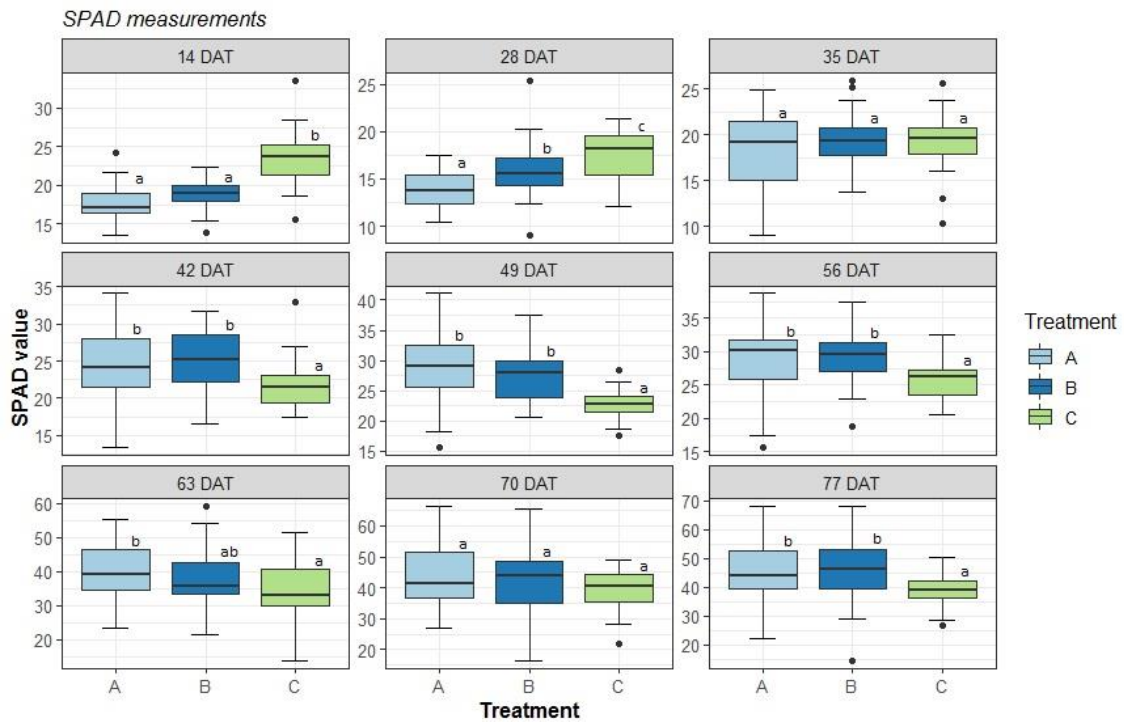


Figure 2b: Chlorophyll content measurements (SPAD) in *Phaseolus vulgaris* leaves. Results given for three treatments A) 2g of struvite + Rhizobium inoculation + P, Mg, N-free nutrient solution B) 5g of struvite + Rhizobium inoculation + P, Mg, N-free nutrient solution and C) standard nutrient solution - Rhizobium inoculation measured at 9 time periods throughout the crop cycle.

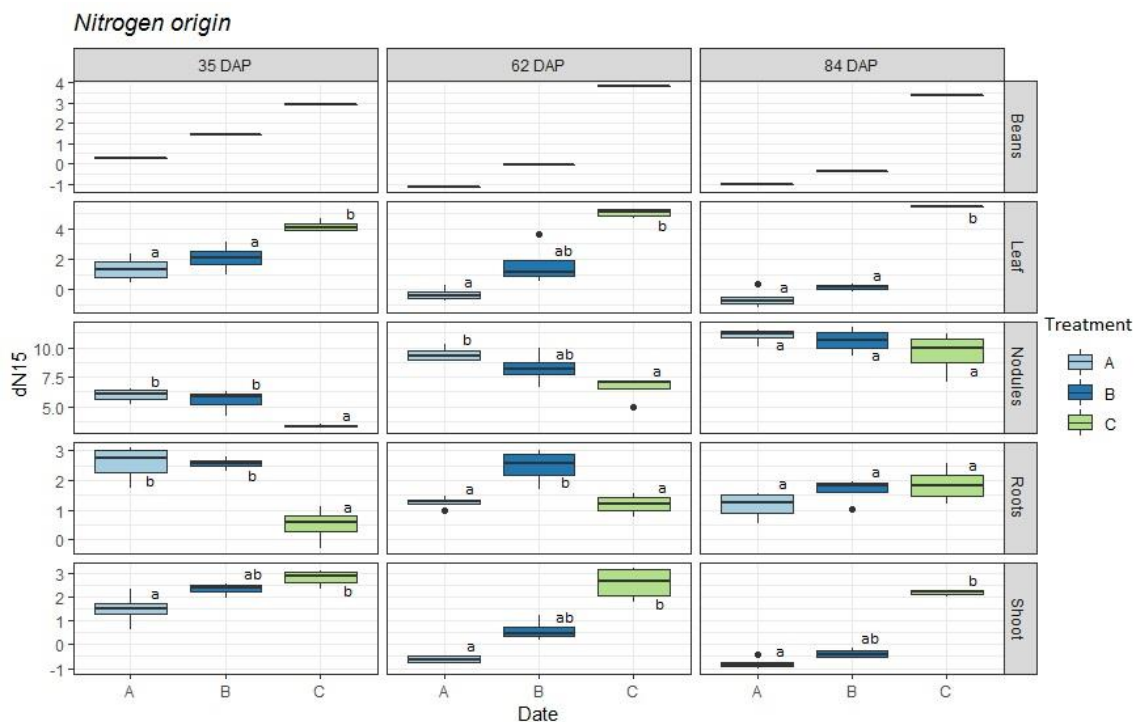


Figure 3b: Nutrient concentration in *Phaseolus vulgaris* leaves and shoots, expressed in mg/g. Results given for three treatments A) 2g of struvite + Rhizobium inoculation + P, Mg, N-free nutrient solution B) 5g of struvite + Rhizobium inoculation + P, Mg, N-free nutrient solution and C) standard nutrient solution - Rhizobium inoculation at three different time periods. 35 days after transplanting, 62 days after transplanting and 84 days after transplanting.

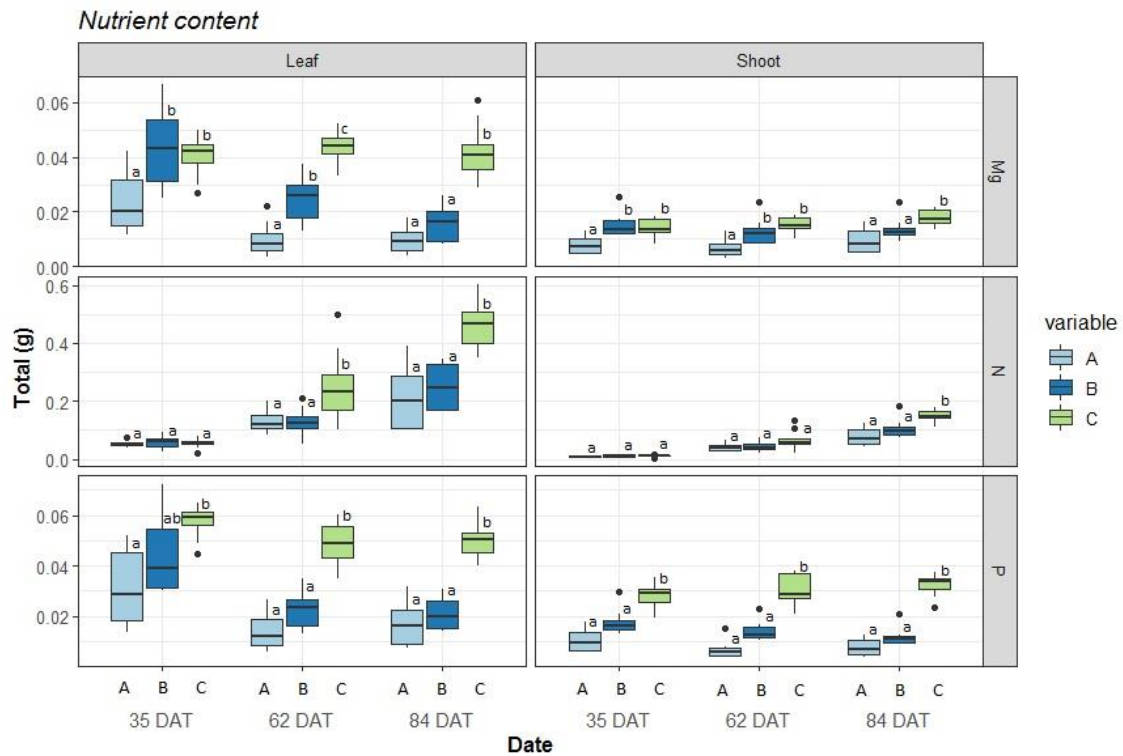


Figure 4b: Nutrient content in *Phaseolus vulgaris* leaves and shoots, expressed in g. Results given for three treatments A) 2g of struvite + Rhizobium inoculation + P, Mg, N-free nutrient solution B) 5g of struvite + Rhizobium inoculation + P, Mg, N-free nutrient solution and C) standard nutrient solution - Rhizobium inoculation at three different time periods. 35 days after transplanting, 62 days after transplanting and 84 days after transplanting

| Date | Treatment | % Ndfa plant ⁻¹ | Total N in plant kg/ha | Kg/ha Biologically fixed N | Kg/ha N from Struvite |
|--------|-----------|----------------------------|--------------------------|----------------------------|-----------------------|
| 35 DAT | A | 68% | 7.54±1.03 ^a | 5.38±1.04 ^b | 2.16 |
| | B | 60% | 8.59±2.19 ^a | 5.33±1.38 ^b | 3.26 |
| | C | | | | |
| 62 DAT | A | 89% | 24.67±4.96 ^a | 22.92±4.07 ^b | 1.75 |
| | B | 73% | 24.62±6.20 ^a | 18.70±5.09 ^b | 5.92 |
| | C | | | | |
| 84 DAT | A | 90% | 27.25±12.79 ^a | 25.40±12.96 ^b | 1.85 |
| | B | 82% | 35.04±9.16 ^a | 29.21±7.79 ^b | 5.83 |
| | C | | | | |