**Supplemental figures and tables**

Table S1. The p-values based on three-way analysis of variance (factors = ± hairy vetch, ± charcoal and two moisture steps) of the inorganic-N data (total inorganic-N, ammonium-N (NH4+-N) and nitrate-N (NO3−-N)) for each sampling day. The significances are shown as \* (p < 0.05), \*\*\* (p < 0.001).

|  |  |  |
| --- | --- | --- |
| Source | Df |   |
|  |  | Total inorganic-N |
|  |  | Day 3 | Day 11 | Day 18 | Day 28 |
| Hairy vetch | 1 | \*\*\* | \*\*\* | \*\*\* | \*\*\* |
| Moisture | 1 |  |  |  | \*\* |
| Charcoal | 1 |  |  |  | \* |
| Hairy vetch \* Moisture | 1 |  |  |  | \*\* |
| Hairy vetch \* Charcoal | 1 |  |  |  | \* |
| Moisture \* Charcoal | 1 |  |  |  |  |
| Hairy vetch \* Moisture \* Charcoal | 1 |  |  |  |  |
| Residuals | 16 |   |   |   |   |
|  |  | NH4+-N |
|  |  | Day 3 | Day 11 | Day 18 | Day 28 |
| Hairy vetch | 1 | \*\*\* | \*\*\* | \*\*\* | \*\*\* |
| Moisture | 1 |  |  |  | \* |
| Charcoal | 1 |  |  | \* | \* |
| Hairy vetch \* Moisture | 1 |  |  |  | \* |
| Hairy vetch \* Charcoal | 1 |  |  | \* | \* |
| Moisture \* Charcoal | 1 |  |  |  |  |
| Hairy vetch \* Moisture \* Charcoal | 1 |  |  |  |  |
| Residuals | 16 |   |   |   |   |
|  |  | NO3−-N |
|  |  | Day 3 | Day 11 | Day 18 | Day 28 |
| Hairy vetch | 1 | \*\*\* | \*\*\* | \*\* | \*\*\* |
| Moisture | 1 |  |  |  | \*\* |
| Charcoal | 1 | \* |  |  |  |
| Hairy vetch \* Moisture | 1 |  |  |  | \*\*\* |
| Hairy vetch \* Charcoal | 1 | \*\* |  |  |  |
| Moisture \* Charcoal | 1 |  |  |  | \* |
| Hairy vetch \* Moisture \* Charcoal | 1 | \* |  |  | \* |
| Residuals | 16 |   |   |   |   |



Figure S1. The Pearson’s correlation coefficients among the measured soil properties. Each value is the difference between with and without hairy vetch treatments (with hairy vetch − without hairy vetch). The letter L, M and S express the fraction of the inorganic-N. The significance (p values) is expressed as “.” , “\*”, “\*\*” and “\*\*\*” for p < 0.1, < 0.05, <0.01 and <0.001, respectively.