Supplementary Materials: Pressmud Compost for Improved Nitrogen and Phosphorus Content Employing Bacillus strains

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**Table S1.** Moisture content of different pressmud compost groups enriched with/without phosphorus-solubilizing and N-fixing bacteria (E2:B. amyloliquefaciens-ASK 11; E3: B.megaterium-ANF3) after varying time intervals (Days).

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| --- | --- | --- | --- | --- |
| **Experimental setup** | Composting days | | | |
| 15 | 30 | 45 | 60 |
| E2 | 77.7±0.33 | 71.1±0.40 | 61.6±0.63 | 49.8±0.37 |
| E3 | 77.7±0.33 | 71.9±0.44 | 59.7±0.32 | 58.1±0.09 |
| Control | 77.7±0.33 | 76.1±0.09 | 75.4±0.36 | 73.2±0.12 |

(Values all mean ± SEM of three replicates at significance levels of p<0.1, 0.01, 0.001.)

**Table S2.** Temperature (ºC) of different pressmud compost groups enriched with/without phosphorus-solubilizing and N-fixing bacteria (E2:B. amyloliquefaciens-ASK 11; E3: B.megaterium-ANF3) after varying time intervals (Days).

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| --- | --- | --- | --- | --- |
| **Experimental setup** | Composting days | | | |
| 15 | 30 | 45 | 60 |
| E2 | 30±0.17 | 32±0.13 | 44±0.12 | 54±0.02 |
| E3 | 30±0.02 | 33±0.32 | 46±0.26 | 49±0.09 |
| Control | 30±0.51 | 33±0.19 | 35±0.56 | 40±0.09 |

(The values all mean ± SEM of three replicates at significance levels of p<0.1, 0.01, 0.001.)

**Table S3.** pH of different pressmud compost groups enriched with/without phosphorus-solubilizing and N-fixing bacteria (E2: B. amyloliquefaciens-ASK 11; E3: B.megaterium-ANF3) after varying time intervals (Days).

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| --- | --- | --- | --- | --- |
| **Experimental setup** | Composting days | | | |
| 15 | 30 | 45 | 60 |
| E2 | 7.1±0.05 | 7.4±0.06 | 7.7±0.09 | 8.2±0.12 |
| E3 | 7.1±0.05 | 7.6±0.24 | 7.8±0.09 | 8.6±0.03 |
| Control | 7.1±0.06 | 7.1±0.03 | 7.2±0.09 | 7.3±0.06 |

(Values all mean ± SEM of three replicates at significance levels of p<0.1, 0.01, 0.001.)

**Table S4.** Electrical conductivity (mS/cm) of different compost groups enriched with/without phosphorus-solubilizing and N-fixing bacteria (E2: B. amyloliquefaciens-ASK 11; E3: B.megaterium-ANF3) after varying time intervals (Days).

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| --- | --- | --- | --- | --- |
| **Experimental setup** | **Composting days** | | | |
| 15 | 30 | 45 | 60 |
| E2 | 0.57±0.01 | 0.55±0.04 | 0.43±0.02 | 0.31±0.05 |
| E3 | 0.63±0.01 | 0.53±0.03 | 0.45±0.02 | 0.35±0.04 |
| Control | 0.93±0.03 | 0.82±0.06 | 0.76±0.02 | 0.68±0.01 |

(Values all mean ± SEM of three replicates at significance levels of p<0.1, 0.01, 0.001.)

**Table S5.** Organic matter (ash %) of different pressmud compost groups enriched with/without phosphorus-solubilizing and N-fixing bacteria (E2: B.amyloliwuficens-ASK 11; E3: B.megaterium-ANF3) after varying time intervals (Days).

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| --- | --- | --- | --- | --- |
| **Experimental setup** | **Composting days** | | | |
| 15 | 30 | 45 | 60 |
| E2 | 30.36±0.33 | 31.63±0.24 | 42.07±0.54 | 49.41±0.35 |
| E3 | 29.57±0.26 | 30.33±0.07 | 43.40±0.31 | 50.55±0.28 |
| Control | 8.34±0.28 | 9.13±0.09 | 11.78±0.17 | 12.63±0.19 |

(Values all mean ± SEM of three replicates at significance levels of p<0.1, 0.01, 0.001.)

|  |  |  |
| --- | --- | --- |
| **Weight(kg)** | | |
| **Experimental setup** | **Initial weight** | **final weight** |
| E2 | 7 | 2.9 |
| E3 | 7 | 3.5 |
| Control | 7 | 6 |

(Values all mean ± SEM of three replicates at significance levels of p<0.1, 0.01, 0.001.)

**Table S6.** Total nitrogen concentration (mg/g) of different pressmud compost groups enriched with/without phosphorus-solubilizing and N-fixing bacteria (E2: B. amyloliquefaciens-ASK 11; E3: B.megaterium-ANF3) after varying time intervals (Days).

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| --- | --- | --- | --- | --- |
| **Experimental setup** | Composting days | | | |
| 15 | 30 | 45 | 60 |
| E2 | 34.3±0.9 | 36.9±3.0 | 47±1.4 | 51.2±2.8 |
| E3 | 36.5±2.8 | 47.6±1.9 | 55±2.6 | 69.8±1.4 |
| Control | 32.3±1.3 | 38.5±0.9 | 38.8±0.7 | 36.7± 2.3 |

(Values all mean ± SEM of three replicates at significance levels of p<0.1, 0.01, 0.001.)

**Table S7.** Total phosphorus concentration (mg/g) of different pressmud compost groups enriched with/without phosphorus-solubilizing and N-fixing bacteria (E2: B. amyloliquefaciens-ASK 11; E3: B.megaterium-ANF3) after varying time intervals (Days).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Experimental setup** | Composting days | | | |
| 15 | 30 | 45 | 60 |
| E2 | 2.36±0.02 | 3.51±0.24 | 4.34±0.24 | 5.41±0.05 |
| E3 | 2.23±0.09 | 3.17±0.07 | 3.87±0.13 | 4.1±0.03 |
| Control | 1.20±0.06 | 1.57±0.03 | 1.87±0.06 | 1.98±0.03 |

(Values all mean ± SEM of three replicates at significance levels of p<0.1, 0.01, 0.001.)