**Supplemental Table S1. The total application rates of N, P2O5, and K2O in each nutrient management treatment in the trials of rainfed lowland rice in Cambodia.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | N(kg ha−1) | P2O5 (kg ha−1) | K2O (kg ha−1) |
|
| *2016 wet season* |  |  |  |
| Zero input (ZI) | 0.0 | 0.0 | 0.0 |
| N input (NI) | 35.0 | 0.0 | 0.0 |
| Farmer management (FM) | 35.0 | 25.0 | 5.0 |
| Farmer management + N (FMN) | 65.0 | 25.0 | 5.0 |
| Farmer management + K (FMK) | 35.0 | 25.0 | 25.0 |
| Farmer management + NP (FMNP) | 65.0 | 40.0 | 5.0 |
| Farmer management + NK (FMNK) | 65.0 | 25.0 | 25.0 |
| Soil-specific management (SM) |  |  |  |
| Toul Samroung soila | 43.5 | 23.0 | 0.0 |
| Prateah Lang soilb | 36.6 | 23.0 | 15.0 |
| Prey Khmer soilc | 22.0 | 9.2 | 24.0 |
| Soil-specific management + N (SMN) |  |  |  |
| Toul Samroung soila | 63.5 | 23.0 | 0.0 |
| Prateah Lang soilb | 56.6 | 23.0 | 15.0 |
| Prey Khmer soilc | 42.0 | 9.2 | 24.0 |
| *2017 wet season* |  |  |  |
| Zero input (ZI) | 0.0 | 0.0 | 0.0 |
| Soil-specific management (SM) |  |  |  |
| Toul Samroung soila | 43.5 | 23.0 | 0.0 |
| Prateah Lang soilb | 36.6 | 23.0 | 15.0 |
| Prey Khmer soilc | 22.0 | 9.2 | 24.0 |
| Soil-specific management + N (SMN) |  |  |  |
| Toul Samroung soila | 63.5 | 23.0 | 0.0 |
| Prateah Lang soilb | 56.6 | 23.0 | 15.0 |
| Prey Khmer soilc | 42.0 | 9.2 | 24.0 |
| Soil-specific management + P (SMP) |  |  |  |
| Toul Samroung soila | 43.5 | 38.0 | 0.0 |
| Prateah Lang soilb | 36.6 | 38.0 | 15.0 |
| Prey Khmer soilc | 22.0 | 24.2 | 24.0 |
| Soil-specific management + K (SMK) |  |  |  |
| Toul Samroung soila | 43.5 | 23.0 | 20.0 |
| Prateah Lang soilb | 36.6 | 23.0 | 35.0 |
| Prey Khmer soilc | 22.0 | 9.2 | 44.0 |
| Soil-specific management +NK (SMNK) |  |  |  |
| Toul Samroung soila | 63.5 | 23.0 | 20.0 |
| Prateah Lang soilb | 56.6 | 23.0 | 35.0 |
| Prey Khmer soilc | 42.0 | 9.2 | 44.0 |
| Soil-specific management + NP (SMNP) |  |  |  |
| Toul Samroung soila | 63.5 | 38.0 | 0.0 |
| Prateah Lang soilb | 56.6 | 38.0 | 15.0 |
| Prey Khmer soilc | 42.0 | 24.2 | 24.0 |

a The dominant soil in Battambang and Kampong Thom provinces; b the dominant soil in Pursat Province; c the dominant soil in Siem Reap Province