**Supplementary Table S1**. Growth parameters at mid-tillering and panicle initiation stages in irrigated regime in the wet season of 2016.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Planting treatment | Nutrient management | 21 DAT(mid-tillering) |   | 35 DAT(panicle initiation) |
| NDVI  | Leaf colorscore | Tillers (m-2) | Plant height(cm) |   | NDVI  | Leaf colorscore | Tillers (m-2) | Plant height(cm) |
| HD-MS | FM | 0.68 a | 2.98 b | 624 a | 55 a |  | 0.68 a | 3.77 a | 637 a | 73 a  |
| LD-YS | FM | 0.65 a | 3.21 a | 373 b | 57 a |  | 0.66 a | 3.67 a | 414 b | 72 a |
|  | Mean | 0.66  | 3.10  | 499 | 56  |  | 0.67  | 3.72 | 526 | 73  |
|  |  |  |  |  |  |  |  |  |  |  |
| HD-MS | RM | 0.55 a | 2.71 a | 619 a | 49 a |  | 0.56 a | 3.69 a | 678 a  | 64 a |
| LD-YS | RM | 0.56 a | 2.71 a | 379 b | 49 a |  | 0.56 a | 3.69 a | 491 b | 67 a |
|  | Mean | 0.55  | 2.71  | 499 | 49  |  | 0.56  | 3.69 | 585 | 66  |
| LSD (0.05) |  |  |  |  |  |  |  |  |  |
| Nutrient management (NM) | 0.04 | 0.17 | ns | 1.56 |  | 0.04 | ns | ns | 1.9 |
| Planting treatment (PT) | ns | 0.14 | 56 | ns |  | ns | ns | 61 | ns |
| PT × NM | ns | ns | ns | ns |  | ns | ns | ns | ns |
| FM; farmer management, RM; researcher management, DAT; days after transplanting, HD; high planting density (15 cm × 15 cm), LD; low planting density (20 cm × 20 cm), YS; use of young seedlings (18-day-old), MS; use of mature seedlings (30-day-old), NDVI; normalized difference vegetation index. LSD; least-significant difference. Means followed by different letters are significantly different at *P* < 0.05. |

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| **Supplementary Table S2.**  Yield components in different nutrient management regimes and planting treatments in the wet season of 2014. |
| Planting treatment | Nutrient Management | Panicles (m-2) | Spikelets (panicle-1)  | Filled grains(%) |  Grain weight (mg) |
| *Irrigated lowland* |
| HD-YS | FM | 438 a | 60 a | 81 a | 23.4 a |
| HD-MS | FM | 404 ab | 79 a | 81 a | 24.7 a |
| LD-YS | FM | 330 c | 75 a | 75 a | 24.2 a |
| LD-MS | FM | 345 bc | 85 a | 78 a | 24.1 a |
|  | Mean | 379 | 75 | 79 | 24.1 |
|  |  |  |  |  |  |
| HD-YS | RM | 437 a | 61 b | 81 a | 24.7 a |
| HD-MS | RM | 398 ab | 71 b | 83 a | 24.9 a |
| LD-YS | RM | 384 ab | 68 b | 84 a | 24.5 a |
| LD-MS | RM | 338 b | 88 a | 82 a | 24.3 a |
|  | Mean | 389 | 72 | 82 | 24.6 |
| LSD (0.05) |  |  |  |  |
| Nutrient management (NM) | ns | ns | 4 | 0.4 |
| Planting treatment (PT) | 40 | 9 | ns | ns |
| NM × PT | ns | ns | ns | ns |
| *Rainfed lowland* |
| HD-YS | FM | 667 a | 56 b | 78 a | 23.8 a |
| HD-MS | FM | 580 a | 60 b | 82 a | 23.6 a |
| LD-YS | FM | 422 b | 73 a | 77 a | 23.2 a |
| LD-MS | FM | 328 b | 85 a | 77 a | 23.8 a |
|  | Mean | 499 | 68 | 78 | 23.6 |
|  |  |  |  |  |  |
| HD-YS | RM | 455 a | 54 b | 89 a | 24.2 a |
| HD-MS | RM | 480 a | 69 a | 85 a | 24.0 a |
| LD-YS | RM | 340 b | 60 ab | 85 a | 25.0 a |
| LD-MS | RM | 312 b | 65 a | 87 a | 23.6 a |
|  | Mean | 397 | 62 | 87 | 24.2 |
| LSD (0.05) |  |  |  |  |
| Nutrient management (NM) | 98 | ns | 3 | ns |
| Planting treatment (PT) | 91 | 11 | ns | ns |
| NM × PT | 64 | 11 | ns | ns |
| FM; farmer management, RM; researcher management, HD; high planting density (15 cm × 15 cm), LD; low planting density (20 cm × 20 cm), YS; use of young seedlings (18-day-old), MS; use of mature seedlings (30-day-old). LSD; least-significant difference. Means followed by different letters are significantly different at *P* < 0.05. |

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| **Supplementary Table S3.**  Yield components in different nutrient management regimes and planting treatments in the wet season of 2016. |
| Planting treatment | Nutrient Management | Panicles (m-2) | Spikelets (panicle-1)  | Filled grains(%) |  Grain weight (mg) |
| *Irrigated lowland* |
| HD-MS | FM | 483 a | 71 a | 80 a | 26.4 a |
| LD-YS | FM | 304 b | 88 b | 81 a | 25.8 b |
|  | Mean | 394 | 80 | 81 | 26.1 |
|  |  |  |  |  |  |
| HD-MS | RM | 450 a | 79 a | 81 a | 26.2 a |
| LD-YS | RM | 306 b | 88 a | 74 b | 26.0 a |
|  | Mean | 378 | 83 | 78 | 26.1 |
| LSD (0.05) |  |  |  |  |
| Nutrient management (NM) | ns | ns | 4 | ns |
| Planting treatment (PT) | 41 | 9 | ns | 0.4 |
| NM × PT | ns | ns | ns | ns |
| FM; farmer management, RM; researcher management, HD; high planting density (15 cm × 15 cm), LD; low planting density (20 cm × 20 cm), YS; use of young seedlings (18-day-old), MS; use of mature seedlings (30-day-old). LSD; least-significant difference. Means followed by different letters are significantly different at *P* < 0.05. |