Table S1: Effect of establishment methods on total weed density (plants m-2) at 30 and 60 days after sowing (DAS) in weedy plots

|  |
| --- |
| **30 DAS** |
| **2013** | E. colona | L. chinensis | D. sanguinalis | C. difformis | Fimbristylis miliacea | S. zeylanica | Ludwigia octovalvis | **Total** |  |  |  |  |  |  |  |
| **Row seeding** | 15 | 10 | 8 | 6 | 4 | 3 | 3 | **49** |  |  |  |  |  |  |  |
| **Broadcasting** | 21 | 13 | 7 | 8 | 6 | 4 | 3 | **62** |  |  |  |  |  |  |  |
| **Spot seeding** | 14 | 8 | 7 | 5 | 4 | 5 | 4 | **47** |  |  |  |  |  |  |  |
| **Total** | **50** | **31** | **22** | **19** | **14** | **12** | **10** | **158** |  |  |  |  |  |  |  |
| **2014** | E. colona | L. chinensis | D. sanguinalis | C. difformis | Fimbristylis miliacea | S. zeylanica | Ludwigia octovalvis | **Total** |  |  |  |  |  |  |  |
| **Row seeding** | 13 | 7 | 9 | 8 | 5 | 3 | 2 | **47** |  |  |  |  |  |  |  |
| **Broadcasting** | 20 | 9 | 8 | 6 | 5 | 3 | 3 | **54** |  |  |  |  |  |  |  |
| **Spot seeding** | 11 | 7 | 7 | 6 | 6 | 3 | 3 | **43** |  |  |  |  |  |  |  |
| **Total** | **44** | **23** | **24** | **20** | **16** | **9** | **8** | **144** |  |  |  |  |  |  |  |
| **60 DAS** |
| **2013** | E. colona | L. chinensis | D. sanguinalis | C. iria | C. difformis | Fimbristylis miliacea | S. zeylanica | L. octovalvis | Cleome viscosa | Euphorbia hirta | Physalis minima | Eclipta prostrata | Phyllanthus niruri | Scoparia dulcis | **Total** |
| **Row seeding** | 17 | 22 | 5 | 2 | 11 | 9 | 7 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | **83** |
| **Broadcasting** | 20 | 28 | 6 | 4 | 12 | 7 | 8 | 5 | 1 | 1 | 1 | 1 | 0 | 0 | **94** |
| **Spot seeding** | 12 | 17 | 2 | 4 | 12 | 10 | 7 | 4 | 2 | 0 | 1 | 1 | 0 | 0 | **72** |
| **Total** | **49** | **67** | **13** | **10** | **35** | **26** | **22** | **13** | **4** | **2** | **3** | **3** | **1** | **1** |  |
| **2014** | E. colona | L. chinensis | D. sanguinalis | C. iria | C. difformis | Fimbristylis miliacea | S. zeylanica | L. octovalvis | Cleome viscosa | Euphorbia hirta | Physalis minima | Eclipta prostrata | Phyllanthus niruri | Scoparia dulcis | **Total** |
| **Row seeding** | 14 | 22 | 8 | 3 | 12 | 9 | 6 | 3 | 1 | 1 | 1 | 1 | 0 | 1 | **82** |
| **Broadcasting** | 18 | 23 | 5 | 5 | 14 | 8 | 8 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | **86** |
| **Spot seeding** | 10 | 13 | 3 | 4 | 9 | 8 | 7 | 3 | 2 | 1 | 1 | 1 | 0 | 0 | **62** |
| **Total** | **42** | **58** | **16** | **12** | **35** | **25** | **21** | **8** | **4** | **3** | **2** | **2** | **1** | **1** |  |

Table S2: Weed distribution of major weeds (*E. colona, L. chinensis and D. Sanguinalis*) as influenced by herbicides

|  |  |  |
| --- | --- | --- |
| 2013 | 30 DAS | 60 DAS |
|  | BPS | AZM | FCS | Weedy | BPS | AZM | FCS | Weedy |
| *E. colona* | 12 | 5 | 19 | 60 | 13 | 12 | 33 | 38 |
| *L. chinensis* | 7 | 3 | 6 | 15 | 37 | 11 | 31 | 58 |
| *D. sanguinalis* | 7 | 2 | 18 | 28 | 14 | 14 | 21 | 33 |
| 2014 | 30 DAS | 60 DAS |
|  | BPS | AZM | FCS | Weedy | BPS | AZM | FCS | Weedy |
| *E. colona* | 12 | 6 | 15 | 54 | 11 | 10 | 28 | 28 |
| *L. chinensis* | 4 | 4 | 7 | 12 | 30 | 10 | 28 | 54 |
| *D. sanguinalis* | 5 | 1 | 14 | 25 | 13 | 11 | 20 | 34 |

Table S3: Direct and indirect contribution of panicle m-2, grains panicle-1, crop biomass, weed dry matter, weed control efficiency and weed index to rice grain yield as partitioned by path analysis during 2013 and 2014

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2013 | Panicle m-2 | Grains panicle-1 | Crop biomass | Weed dry matter  | Weed control efficiency | Weed Index | Grain yield |
| Panicle m-2 | (**0.0386**) | 0.1035 | 0.2541 | 0.0241 | -0.0210 | 0.1215 | 0.5204 |
| Grains panicle-1 | 0.0190 | (**0.2106**) | 0.2715 | 0.0182 | -0.0380 | 0.1602 | 0.6420 |
| Crop biomass | 0.0229 | 0.1335 | (**0.4284**) | 0.0277 | -0.0490 | 0.1608 | 0.7244 |
| Weed dry matter | -0.0230 | -0.0950 | -0.2940 | (**-0.0400**) | 0.0581 | -0.1990 | -0.5930 |
| Weed control efficiency | 0.0109 | 0.1047 | 0.2767 | 0.031 | (**-0.0760**) | 0.2028 | 0.5504 |
| Weed Index | -0.0120 | -0.0870 | -0.1780 | -0.0210 | 0.0397 | (**-0.3860**) | -0.6450 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2014 | Panicle m-2 | Grains panicle-1 | Crop biomass | Weed dry matter  | Weed control efficiency | Weed Index | Grain yield |
| Panicle m-2 | (**0.0745**) | 0.036 | 0.1564 | 0.8726 | -0.6830 | 0.2284 | 0.6854 |
| Grains panicle-1 | 0.0420 | (**0.0639**) | 0.0959 | 0.6322 | -0.4170 | 0.2271 | 0.6436 |
| Crop biomass | 0.0507 | 0.0267 | (**0.2297**) | 0.9549 | -0.8260 | 0.2290 | 0.6651 |
| Weed dry matter | -0.0500 | -0.031 | -0.1670 | (**-1.3100**) | 1.183 | -0.2700 | -0.6440 |
| Weed control efficiency | 0.0407 | 0.0213 | 0.1518 | 1.24 | (**-1.2500**) | 0.2628 | 0.4666 |
| Weed Index | -0.0320 | -0.0270 | -0.0980 | -0.6570 | 0.6114 | (**-0.5370**) | -0.7400 |



**Figure S1.** Path diagram for grain yield; I: panicle m-2, II: grains panicle-1, III: crop biomass, IV: weed dry matter, V: weed control efficiency and VI: weed index during 2013 and 2014