Table S1. Effect of pre-emergence herbicides on the density, fresh weight and dry weight of different weed species in *M. sinensis*.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weeds | Control | | | Napropamide | | | Alachlor | | |
| Density (plants/m2) | FW (g) | DW(g) | Density (plants/m2) | FW (g) | DW(g) | Density (plants/m2) | FW (g) | DW(g) |
| *Setaria viridis* L. | 13.0b | 29.17 ± 5.14b | 12.58 ± 1.92b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Oenothera biennis* L. | 12.0 | 54.67 ± 4.11c | 18.27 ± 3.78c | 2.0 | 2.00 ± 0.20a | 1.00 ± 0.10a | 6.0 | 19.00 ± 1.50b | 7.50 ± 1.00b |
| *Ixeris dentate* Thunb. Ex Thunb | 5.0b | 45.00 ± 7.26b | 10.75 ± 1.68b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Erigeron Canadensis* L. | 7.0 | 30.00 ± 7.48b | 8.01 ± 2.60b | 2.0 | 24.5 ± 1.50a | 7.50 ± 1.00a | 0a | 0a | 0a |
| *Chenopodium album* L. | 9.0c | 70.33 ± 8.63c | 18.16 ± 3.79c | 1.0a | 1.20 ± 0.20a | 0.35 ± 0.10a | 2.0b | 3.20 ± 1.25b | 1.25 ± 0.15b |
| *Digitaria ciliaris* (Retz.) Koeler | 16.0c | 52.67 ± 3.47c | 26.09 ± 8.07c | 3.0a | 8.00 ± 1.50a | 2.53 ± 0.70a | 4.0b | 14.00 ± 1.50b | 7.50 ± 1.30b |
| *Taraxacum platycarpus* H. | 5.0b | 29.50 ± 2.50b | 6.00 ± 1.00b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Artemisia princeps* Pamp. | 15.0b | 517.90 ± 40.50b | 110.50 ± 5.00b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Rumex crispus* L. | 8.0b | 631.00 ± 50.00b | 156.00 ± 6.70b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Agropyron tsukushiense* Hack. | 16.0b | 44.80 ± 2.50b | 10.50 ± 1.00b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Trifolium repens* L. | 15.0b | 187.00 ± 8.50b | 67.00 ± 2.50b | 0a | 0a | 0a | 0a | 0a | 0a |

Data are means ± standard deviation (n=3). Data having the same letter in a row did not differ significantly according to Duncan’s multiple comparison test (*P*< 0.05).

Table S2. Effect of post-emergence herbicides on the density, fresh weight and dry weight of different weed species in *M. sinensis*.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weeds | Control | | | Bentazon | | | Nicosulfuron | | | Decamba | | | Glufosinate ammonium | | |
| Density (plants/m2) | FW (g) | DW(g) | Density (plants/m2) | FW (g) | DW(g) | Density (plants/m2) | FW (g) | DW(g) | Density (plants/m2) | FW (g) | DW(g) | Density (plants/m2) | FW (g) | DW(g) |
| *Commelina communis* L. | 13.0b | 100.50 ± 5.00b | 10.50 ± 1.00b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Bidens frondosa* L. | 11.0b | 51.05 ± 2.00 | 8.00 ± 1.00b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Erigeron Canadensis* L. | 12.0c | 151.50 ± 5.00d | 23.90 ± 2.11d | 2.0b | 20.00 ± 2.10c | 12.00 ± 1.00c | 0a | 0a | 0a | 2.0b | 5.00 ± 0.80b | 1.90 ± 0.50b | 2.0b | 5.50 ± 1.50b | 2.00 ± 0.50b |
| *Oenothera biennis* L. | 14.0b | 119.67 ± 14.09b | 15.17 ± 5.91b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Chenopodium album* L. | 16.0b | 169.63 ± 9.53b | 25.83 ± 7.19b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Ipomoea purpurea* (L.) Roth. | 4.0b | 101.90 ± 5.00b | 17.80 ± 1.50b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Artemisia princeps* Pamp. | 12.0d | 74.80 ± 10.70c | 21.50 ± 4.00c | 2.0b | 29.50 ± 3.00c | 7.50 ± 1.10c | 4.0c | 20.00 ± 1.80b | 4.00 ± 0.70b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Setaria viridis* L. | 14.0b | 55.90 ± 7.00b | 23.00 ± 3.50b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Plantago asiatica* L. | 12.0d | 37.50 ± 6.70 | 13.50 ± 3.90 | 2.0b | 10.50 ± 1.50b | 2.00 ± 0.10b | 0a | 0a | 0a | 0a | 0a | 0a | 3.0c | 11.50 ± 1.90b | 7.00 ± 1.00c |
| *Ixeris dentata* (Thunb.) Nakai. | 2.0b | 9.50 ± 2.80b | 2.50 ± 0.80b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Digitaria ciliaris* (Retz.) Koeler | 11.0c | 52.67 ± 3.47c | 26.09 ± 8.07c | 0a | 0a | 0a | 5.0b | 17.50 ± 1.44b | 2.50 ± 0.11b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Agropyron tsukushiense* Hack. | 12.0b | 187.00 ± 9.11c | 20.80 ± 2.01c | 0a | 0a | 0a | 6.0 | 60.90 ± 5.10b | 5.60 ± 2.15b | 0a | 0a | 0a | 0a | 0a | 0a |

Data are means ± standard deviation (n=3). Data having the same letter in a row did not differ significantly according to Duncan’s multiple comparison test (*P*< 0.05).

Table S3.Effect of pre-emergence herbicides on the density, fresh weight and dry weight of different weed species in *M. sacchariflorus* field.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weeds | Control | | | Napropamide | | | Alachlor | | |
| Density (plants/m2) | FW (g) | DW(g) | Density (plants/m2) | FW (g) | DW(g) | Density (plants/m2) | FW (g) | DW(g) |
| *Setaria viridis* L. | 9.0b | 41.50 ± 3.50b | 8.86 ± 1.50b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Oenothera biennis* L. | 14.0b | 30.00 ± 5.50b | 10.31 ± 2.00b | 3.0a | 4.50 ± 0.89a | 1.28 ± 0.12a | 3.0a | 5.00 ± 1.00a | 2.50 ± 0.50a |
| *Capsella bursa pastoris* L. | 7.0c | 29.50 ± 4.30c | 13.59 ± 1.32c | 1.0b | 3.50 ± 0.70b | 1.05 ± 0.10b | 0a | 0a | 0a |
| *Digitaria ciliaris* (Retz.) Koeler | 16.0c | 52.67 ± 3.47c | 26.09 ± 8.07c | 2.0a | 3.17 ± 2.39a | 0.89 ± 0.29a | 3.0b | 8.00 ± 1.00b | 1.50 ± 0.50b |
| *Erigeron Canadensis* L. | 13.0c | 68.50 ± 7.80c | 23.29 ± 2.50c | 2.0b | 5.00 ± 0.90b | 0.74 ± 0.11b | 0a | 0a | 0a |
| *Chenopodium album* L. | 3.0b | 17.33 ± 2.60d | 4.53 ± 0.70d | 1.0a | 1.00 ± 0.11a | 0.27 ± 0.15a | 1.0a | 4.00 ± 0.50b | 1.50 ± 0.50b |
| *Alopecurus aequalis* Sobol. | 5.0b | 88.50 ± 28.50b | 32.33 ± 11.29b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Calystegia sepium* L. | 2.0b | 20.00 ± 1.50b | 4.21 ± 1.00b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Ixeris dentate* (Thunb.) Nakai. | 4.0b | 9.00 ± 1.50b | 2.50 ± 0.50b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Trifolium repens* L. | 16.0b | 44.80 ± 2.50b | 10.50 ± 1.00b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Agropyron tsukushiense* (Hack.) | 15.0b | 187.00 ± 8.50b | 67.00 ± 2.50b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Artemisia princeps* Pamp. | 7.0b | 526.60 ± 20.50b | 136.00 ± 10.50b | 0a | 0a | 0a | 0a | 0a | 0a |

Data are means ± standard deviation (n=3). Data having the same letter in a row did not differ significantly according to Duncan’s multiple comparison test (*P*< 0.05).Table S4. Effect of post-emergence herbicides on the density, fresh weight and dry weight of different weed species in *M. sacchariflorus* field.

Table S4. Effect of post-emergence herbicides on the density, fresh weight and dry weight of different weed species in *M. sinensis*.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weeds | Control | | | Bentazon | | | Nicosulfuron | | | Decamba | | | Glufosinate ammonium | | |
| Density (plants/m2) | FW (g) | DW (g) | Density (plants/m2) | FW (g) | DW (g) | Density (plants/m2) | FW (g) | DW (g) | Density (plants/m2) | FW (g) | DW (g) | Density (plants/m2) | FW (g) | DW (g) |
| *Commelina communis* L. | 12.0c | 120.50 ± 3.00c | 13.50 ± 2.00c | 5.0b | 47.50 ± 2.20b | 5.50 ± 1.11b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Setaria viridis* L. | 10.0c | 224.5 ± 14.53c | 23.5 ± 12.85c | 0a | 0a | 0a | 4.0b | 35.50 ± 1.90b | 8.5 ± 0.90b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Bidens frondosa* L. | 10.0b | 50.00 ± 2.00b | 7.00 ± 1.00b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Erigeron Canadensis* L. | 11.0c | 150.00 ± 5.00e | 20.00 ± 2.11e | 2.0b | 10.00 ± 1.00c | 3.50 ± 0.50c | 2.0b | 19.00 ± 2.00d | 6.00 ± 1.00d | 2.0b | 5.00 ± 1.00b | 1.00 ± 0.50a | 1.0a | 2.50 ± 0.50a | 0.90 ± 0.30a |
| *Oenothera biennis* L. | 13.0b | 114.67 ± 11.09b | 12.17 ± 5.01b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Chenopodium album* L. | 5.0b | 160.00 ± 9.51b | 23.83 ± 7.11b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Ipomoea purpurea* L.. | 11.0b | 100.90 ± 5.00b | 15.80 ± 1.50b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Polygonum hydropiper* L. | 12.0b | 45.50 ± 3.80b | 11.70 ± 1.00b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Digitaria ciliaris* Retz. | 11.0c | 54.67 ± 3.47c | 28.09 ± 8.07c | 0a | 0a | 0a | 5.0b | 21.00 ± 1.90b | 6.00 ± 0.50b | 0a | 0a | 0a | 0a | 0a | 0a |
| *Artemisia princeps* Pamp. | 7.0c | 526.80 ± 40.00c | 136.70 ± 9.00c | 2.0b | 13.50 ± 1.00b | 2.50 ± 0.70b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Rumex crispus* L. | 4.0b | 22.40 ± 2.00b | 2.90 ± 0.90b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Trifolium repens* L. | 10.0b | 105.70 ± 5.00b | 12.00 ± 2.00b | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a | 0a |
| *Agropyron tsukushiense* Hack. | 15.0c | 67.80 ± 5.00c | 5.00 ± 1.00c | 0a | 0a | 0a | 5.0b | 50.00 ± 4.10b | 4.00 ± 2.10b | 0a | 0a | 0a | 0a | 0a | 0a |

Data are means ± standard deviation (n=3). Data having the same letter in a row did not differ significantly according to Duncan’s multiple comparison test (*P*< 0.05).