Table 7. Evaluation of banding phosphorous (P) and manganese (Mn), and foliar Mn and P applications for improving productivity of onions on muck soils - small-plot field trials, 2010: Stand and plant size.

|  |  |  |  |
| --- | --- | --- | --- |
| **CY Batavia** | **% stand** | **Number leaves per plant** | **Plant Height (cm)** |
| **Treatment** | **Jun-16** | **Jun-12** | **Jun-30** | **Jul-14** | **Jun-12** | **Jun-30** | **Jul-14** |
| Broadcast NP | 50.3 | 2.9 ab | 3.1 bc | 4.9 b | 15.7 | 26.4 | 36.7 bc |
| Broadcast NP + foliar Mn | 44.0 | 3.1 a | 3.7 a | 5.5 a | 16.2 | 29.5 | 40.8 a |
| Broadcast NP + foliar P | 40.1 | 2.9 ab | 3.4 ab | 5.0 b | 15.5 | 28.5 | 37.2 bc |
| Band P+Mn\* | 48.0 | 2.7 bc | 3.0 c | 4.8 b | 16.1 | 28.8 | 35.0 c |
| Band P+Mn\* + foliar Mn | 55.8 | 2.8 c | 3.4 ab | 5.3 ab | 15.4 | 28.9 | 38.1 abc |
| Band P+Mn\* + foliar Mn+P | 53.1 | 2.8 ab | 3.4 ab | 5.0 b | 15.1 | 28.5 | 39.0 ab |
| ***p-value*** | ***NS*** | ***0.0039*** | ***0.0123*** | ***0.0390*** | ***NS*** | ***NS*** | ***0.0564*** |
| Broadcast NP | 44.7 | 3.0 a | 3.4 | 5.2 | 15.8 | 28.1 | 38.2 |
| Band P+Mn\* | 52.8 | 2.7 bc | 3.3 | 5.1 | 15.5 | 28.7 | 37.6 |
| ***p-value*** | ***NS*** | ***0.0009*** | ***NS*** | ***NS*** | ***NS*** | ***NS*** | ***NS*** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Star Webster** | **% std\*** | **Number leaves per plant** | **Plant Height (cm)** |
| **Treatment** |  **Jun-16** | **Jun-17** | **Jun-30** | **Jul-14** | **Jun-17** | **Jun-30** | **Jul-14** |
| Broadcast N | 85.0 b | 3.4 | 4.2 | 6.7 | 24.0 b | 46.4 | 68.2 a |
| Broadcast N + foliar Mn | 93.8 a | 3.5 | 4.4 | 6.9 | 26.9 a | 47.4 | 68.9 a |
| Broadcast N + foliar P | 89.5 ab | 3.4 | 4.6 | 6.9 | 24.7 b | 48.0 | 71.0 a |
| Band P+Mn\* | 87.2 b | 3.4 | 4.5 | 6.8 | 24.1 b | 49.5 | 71.3 b |
| Band P+Mn\* + foliar Mn | 84.3 b | 3.2 | 4.7 | 6.8 | 25.0 ab | 47.6 | 68.4 a |
| Band P+Mn\* + foliar Mn+P | 84.3 b | 3.3 | 4.3 | 6.9 | 25.3 ab | 47.9 | 63.2 b |
| ***p-value*** | ***0.0266*** | ***NS*** | ***NS*** | ***NS*** | ***0.0058*** | ***NS*** | ***0.0019*** |
| Broadcast N | 89.4 a | 3.4 | 4.5 | 6.9 | 24.7 | 47.3 | 68.5 |
| Band P+Mn\* | 85.3 b | 3.3 | 4.5 | 6.8 | 24.4 | 47.9 | 68.1 |
| ***p-value*** | ***0.0282*** | ***NS*** | ***NS*** | ***NS*** | ***NS*** | ***NS*** | ***NS*** |

\*data transformed: y = arcsin(x/100)^0.5; non-transformed data presented.

|  |  |  |  |
| --- | --- | --- | --- |
| **Mortellaro Elba** | **% stand** | **Number leaves per plant** | **Plant Height (cm)** |
| **Treatment** | **13-Jun** | **13-Jun** | **25-Jun** | **14-Jul** | **13-Jun** | **25-Jun** | **14-Jul** |
| Broadcast NPK | 74.1 | 3.8 a | 5.2 | 7.8 | 28.6 | 40.7 b | 65.0 |
| Broadcast NPK + foliar Mn | 83.9 | 3.7 ab | 5.3 | 7.7 | 28.4 | 46.0 a | 64.2 |
| Broadcast NPK + foliar P | 75.1 | 3.8 ab | 5.6 | 7.8 | 26.3 | 43.6 ab | 66.3 |
| Band P+Mn\* | 79.3 | 3.3 c | 5.2 | 7.9 | 26.1 | 43.8 ab | 63.1 |
| Band P+Mn\* + foliar Mn | 76.1 | 3.3 c | 5.3 | 7.8 | 26.0 | 42.0 b | 65.0 |
| Band P+Mn\* + foliar Mn+P | 80.4 | 3.5 bc | 5.1 | 7.9 | 26.1 | 42.3 b | 66.2 |
| ***p-value*** | ***NS*** | ***0.0000*** | ***NS*** | ***NS*** | ***NS*** | ***0.0213*** | ***NS*** |
| Broadcast NPK | 77.7 | 3.7 a  | 5.3 | 7.9 | 27.2 a | 43.6 | 64.7 |
| Band P+Mn\* | 78.6 | 3.4 b | 5.3 | 7.7 | 25.7 b | 43.3 | 64.4 |
| ***p-value*** | ***NS*** | ***0.0000*** | ***NS*** | ***NS*** | ***0.0061*** | ***NS*** | ***NS*** |

\*N and K (Mortellaro only) applied broadcast incorporated pre-plant.