Table 1. Evaluation of banding acidic phosphorous (P) and manganese (Mn) fertilizer, and foliar applications of Mn and P for improving productivity of onions on high pH muck soils - small-plot field trials, 2010: General trial information.

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| --- | --- | --- | --- |
| **Trial Site** | **CY** | **Star** | **Mortellaro** |
| **Location** | **Batavia** muck  Field #3 North, S end | **Webster** muck  Field #2 (SW corner) | **Elba** muck  Marky field #7 N end |
| **Soil Type** | Bergen muck (Br) | Edwards muck (Ed) | Carlisle muck (CcA) |
| **Description** | High pH, low OM  Low P, low Mn | High pH, high OM  High P, med Mn | Low pH, high OM  Low P, high Mn |
| ***Spring soil test results (pre-trial setup)*** | | | |
| Date soil sampled | March 19, 2010 | April 30, 2010 | April 10, 2010 |
| **pH** | **7.0 (v. high)** | **7.0 (v.high)** | **4.7 (low)** |
| **Organic Matter (%)** | **30.1%** | **52.1%** | **55.9%** |
| **Phosphorous (lb/A)** | **35 (low)** | **362 (v.high)** | **49 (low)** |
| **Manganese (lb/A)** | **9 (low)** | **27 (med)** | **98 (high)** |
| Potassium (lb/A) | 760 (v. high) | **940 (v.high)** | **655 (high)** |
| Magnesium (lb/A) | 2,445 (v. high) | 2,980 (v.high) | 1,450 (v.high) |
| Calcium (lb/A) | 19,070 (v.high) | 60,560 (v. high) | 25,150 (v. high) |
| Iron (lb/A) | 20 (low)\* | 7 (low)\* | 2 (low)\* |
| Aluminum (lb/A) | 46 (low)\* | 51 (med)\* | 45 (low)\* |
| Zinc (lb/A) | 9 (v.high)\* | 25.6 (v.high)\* | 16.7 (v.high)\* |
| Nitrate-N (lb/A) | 48 | 154 | 48 |
| ***Trial Info:*** | | | |
| Planting date | April 21, 2010 | April 30, 2010 | April 22, 2010 |
| Variety | Mercury (red) | Nebula (yellow) | Mercury (red) |
| No. rows per bed\*\* | 4 | 6 | 5 (planted 4) |
| Row spacing | 11.75 inch | 12 inch | 10-20-10 inch\*\*\* |
| Broadcast fertilizer applications | **N:** 100 lbs/A  **P:** 150 lbs/A  **K:** 0 | **N:** 100 lbs/A  **P:** 0 lbs/A  **K:** 0 | **N:** 100 lbs/A  **P:** 150 lbs/A  **K:** 50 lbs/A |
| Banded fertilizer applications | *Band*  **P**: 100 lbs + **Mn:** 4 lbs  *Broadcast*  **N:** 68 lbs + **P:** 50 lbs | *Band*  **P:** 50 lbs + **Mn:** 4 lbs  *Broadcast*  **N:** 90 lbs | *Band*  **P:** 100 lbs + **Mn:** 4 lbs  *Broadcast*  **N:** 68 lbs + **P:** 50 lbs  + **K:** 50 lbs |
| Starter fertilizer in-furrow at planting | 10 gal 10-34-0  = 11 lb N, 37 lb P | 1.5 gal 11-37-0  = 2 lb N, 6 lb P | 3.5 gal 6-24-6  = 2 lb N, 9 lb P, 2 lb K |
| 1st foliar spray (Mn, P) | June 15 (2-3 leaf) | June 15 (2-4 leaf) | June 11 (3-4 leaf) |
| 2nd foliar spray (Mn, P) | June 30 (5 leaf) | June 30 (4-5 leaf) | June 25 (5 leaf) |
| 3rd foliar spray (P) | July 14 (6-7 leaf) | July 14 (7 leaf) | July 8 (7-8 leaf) |

\*potential for phytotoxicity, other nutrients are described in terms of sufficiency. \*\*all beds 5 feet wide, except Star which was 6 feet wide. \*\*\*10 inches between rows 1 & 2 and between rows 3 & 4, 20 inches between rows 3 & 4.