2012 Fertility Treatments

**Conventional Trial:**

Total N Fertilizer: 50, 100, 150 lbs

Fall application: either 0 or 25% total N at planting, with P and K. Remaining N applied as split application at emergence and 2-3 weeks later (@ 6”)

|  |  |  |
| --- | --- | --- |
| **50 lbs total** | **100 lbs total** | **150 lbs total** |
| Zero fall, 25 twice spring | Zero fall, 50 twice spring | Zero fall, 75 twice spring |
| 12.5 fall, 18.75 twice spring | 25 fall, 37.5 twice spring | 37.5 fall, 56.25 twice spring |

**Organic Trial:**

|  |  |  |
| --- | --- | --- |
| 50 lbs total | 100 lbs total | 150 lbs total |
| All fall | All fall | All fall |
| 75% fall, 25% quick split spring\* | 75% fall, 25% quick split spring | 75% fall, 25% quick split spring |

\* Split spring application of quick release N at emergence and 2-3 weeks later

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Garlic | Nitrogen (N) Lbs/A | Phosphorus (P2O5) Lbs/A | | | | | Potassium (K2O) Lbs/A | | | | |
| **Soil Test Results** |  | **Very low <3lbs/A** | **Low 3-6** | **Medium 7-13** | **High 14-40** | **Very High >40** | **Very low <50** | **Low 51-100** | **Medium 101-200** | **High 201-300** | **Very High >300** |
| Incorporate at planting | 0 | 200 | 150 | 100 | 50 | 0 | 200 | 150 | 100 | 50 | 0 |
| Sidedress before emergence | 25-50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sidedress 2-3 times, 3-4 weeks apart | 25-50 divided among sidedressings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 50-100 | 150 | 100 | 75 | 50 | 0 | 150 | 100 | 75 | 50 | 0 |
| Source: Cornell Recommendations for garlic, used by Agro-One Soil Lab. Based on use of a Morgan extract. | | | | | | | | | | | |

**Rich Girardi:**

Soil test taken in 2010, P level Medium-low (5.5 lb/A), K level 120 lb/A (medium). OM: 5.7%

Each plot will be 30’ long. Replicate each treatment once. Treatment area = 30\*1.5, or 45 square feet, or .001 acres.

Available fertilizers: Krehers 4-3-10, 0-16-0 bone char and Muriate of Potash: 0-0-60

Treatments: Fall Applied 10/12/12

A: 50 lbs N in fall—all available from OM. Need to add .15 lbs P and .1 lbs K

101/201: 0.94 lbs Bone Char (BC), 0.2 lbs Muriate of Potash (MP)

B: 100 lbs N in fall—Add .05 lbs N, .15 lbs P and .1 lbs K

102/202: 1lb Krehers, .75 lbs BC

C: 150 lbs N in fall- Add .1 lbs N, .15 lbs P and .1 lbs K

103/203: 1 lb Krehers, .75 lbs BC, 2.4 lbs alfalfa meal (AM)

D: 37.5 Fall- all available from OM. Add .15 lbs P and .1 lbs K

104/204: .94 lbs BC, 0.2 lbs MP

E: 75 lbs N in fall: add .025 lbs N, .15 lbs P and .1 lbs K

105/205: 0.5 lbs Krehers, 0.85 lbs BC, 0.08 lbs MP

F: 112.5 lbs N in fall: add 0.063lbs N, .15 lbs P and .1 lbs K

106/206: 1 lb Krehers, 0.92 lbs AM, 0.75 lbs BC

Available on farm: Kreher’s pelletized manure plus K: 4-3-10

4 bags alfalfa meal, 1 bag phosphorus and 1 bag potassium purchased

Spring treatments (Date). Not splitting. All applied at once.

\*still deducting the 57 lbs/A N available from OM.

A: 0

B: 0

C: 0

D: 0

E: 10.75 lbs/A N, or .01lb N in each treatment

F: 23.25 lbs N, or .023 lb N in each treatment.

House

|  |
| --- |
| 101 |
| 102 |
| 103 |
| 104 |
| 105 |
| 106 |
| 202 |
| 206 |
| 203 |
| 205 |
| 201 |
| 204 |

Garlic is

Top row

**Taliaferros:**

Soil tests taken in 2012. Phosphorus extremely high (76 lb/A), Potassium extremely high (309 lbs/A). OM 3.1%. Each plot will be 30’ long. Replicate each treatment once. Treatment area = 30\*1.5, or 45 square feet, or .001 acres. Fertilizer banded over the planting (water-wheel planted). 3 rows of garlic.

Planted and fertilized on 10/18/12

Using alfalfa meal (AM) for fall fertility—2.5-1-1.

A: 50 lbs N in fall—30 lbs/A available from OM. Need 20 lbs/A

* (20 \*.001)/0.025=0.8 lbs AM.

B: 100 lbs N in fall—30 lbs/A available from OM. Need 70 lbs/A

* (70\*.001)/0.025= 2.8 lbs AM

C: 150 lbs N in fall- 30 lbs/A available from OM. Need 120 lbs/A

* (120\*.001)/0.025= 4.8 lbs AM

D: 37.5 Fall- 30 lbs/A available from OM. Need 7.5 lbs/A – Should have done 50 lbs total, minus 30 to account for N equals 20 \*.75=15 lbs in the fall.

* (7.5\*.001)/0.025= 0.3 lbs AM
* ~~Two~~ one spring applications of N: 20 lbs total needed, 25% in spring = 5 lbs needed. Times .001 for plot size = .005 lbs N per treatment

E: 75 lbs N in fall: 30 lbs/A available from OM. Need 45 lbs/A – Should have done 52.5 lbs/A.

* (45\*.001)/0.025= 1.8 lbs AM
* ~~Two~~ one spring applications of N: 17.5 lb/A \* .001= 0.02 lbs N per treatment

F: 112.5 lbs N in fall: 30 lbs/A available from OM. Need 82.5 lbs/A- Should have done 90 lbs/A

* (82.5\*.001)/ 0.025=3.3 lbs AM
* ~~Two~~ one spring applications of N: 30 lb/A \* 0.001= 0.03 lbs N per treatment

Map of Taliaferros:

road

|  |
| --- |
| 101 |
| 102 |
| 103 |
| 104 |
| 105 |
| 106 |
| 205 |
| 204 |
| 203 |
| 201 |
| 206 |
| 202 |

Greenhouse 7 rows of garlic prior to ours