

| Send To: | Grower: | Report No.: | 18-093-0027 |
|----------|---------|---------------|-------------|
| | | Cust No.: | |
| | | Lab No: | 276616 |
| | | Report Date : | 4/4/2018 |
| | | Page : | 1 of 9 |
| | | | |

Sample Id : AT34588 Farm:

Growth Stage : Plants 30 cm tall

Crop: Potato*

Field id: Frank Big

Plant Part: Most recently matured leaves (35+)

| Test | | Analysis | | Pla | ant Test Ratings | 6 | | Normal Actual | Expected | | |
|-------------|------|----------|-----------|-----|------------------|------|-----------|---------------|----------|-------|-------|
| 1030 | | Analysis | Deficient | Low | Sufficient | High | Very High | Range | | Ratio | Ratio |
| Nitrogen | 0/. | 5.09 | | | | | | 4.00 | NI/S | 12.7 | 11.2 |
| Nillogen | /0 | 5.00 | | | | | | 5.50 | 10/5 | 12.7 | 11.2 |
| Cultur | 0/ | 0.40 | | | | | | 0.35 | NI/IZ | 4.0 | 4.0 |
| Sullui | % | 0.40 | | | | | | 0.50 | IN/IX | 1.3 | 1.3 |
| Phoenhorus | 0/ | 0.25 | | | | | | 0.35 | D/C | 0.0 | 1.2 |
| Fliosphorus | 70 | 0.35 | | | | | | 0.75 | P/3 | 0.9 | 1.3 |
| Defension | | | | | | | | 3.00 | | | |
| Potassium | % | 3.97 | | | | | | 4.50 | P/Zn | 116.7 | 50.5 |
| Magnasium | 0/ | 0.40 | | | | | | 0.25 | | 0.4 | |
| waynesium | % | 0.49 | | İ | | | | 1.00 | K/IVIg | 8.1 | 6.0 |
| Coloium | 0/ | 1.10 | | | | | | 1.00 | K/Ma | 450.0 | 400.4 |
| Calcium | % | 1.10 | | | | | | 3.00 | K/IVIN | 158.2 | 130.4 |
| Sodium | 0/ | 0.07 | | | | | | 0.00 | Co/P | 929.6 | 400.0 |
| Codiditi | 70 | 0.07 | | | | | | 0.20 | Ca/D | | 100.0 |
| Boron | maa | 14 | | | | | | 25 | Fe/Mn | 0.5 | 0.6 |
| | | | | | | | | 75 | | | |
| Zinc | maa | 30 | | | | | | 18 | Ca/K | 0.3 | 0.5 |
| - | PP | | ~ | İ | | | | 200 | oun | 0.0 | 0.0 |
| Manganese | որա | 251 | | | | | | 50 | Ca/Mo | 24 | 32 |
| | ppin | 201 | | | | | | 500 | Curing | 2.7 | 0.2 |
| Iron | maa | 133 | | | | | | 50 | | | |
| | | | | | | | | 300 | | | |
| Copper | ppm | 3 | | | | | | 6 | - | | |
| | | | | | | | | 100 | | | |
| Aluminum | nom | | | | | | | | | | |
| | PP | | | | | | | | | | |
| | | | | | | | | | | | |
| l | | | | | | | | | | | l J |

Comments:

- 02024) These plants are low or deficient in boron. This may be the result of low soil boron or droughty conditions. Boron may be applied foliarly at 0.2 to 0.5 lbs per acre.
- 02028) These plants are low or deficient in copper. Low copper availability may be caused by high soil organic matter, high soil pH, or sandy soils with low organic matter. Copper may be foliar applied at .5 to 1 lb per acre. If a chelated material is used, apply according to manufacturer specifications. Repeated application may be necessary.
- 02017) These plants are low or deficient in phosphorus. Possible causes inclued low soil phosphorus level, high soil pH, low soil pH, poor drainage, root damage or cool soil temperature. In season surface application of phosphorus on row crops is, generally, not recommended because phosphorus moves very little in the soil. However, for severe deficiencies, sidedress and incorporate 30 to 40 lbs of P2O5 per acre as early in the season as possible.



| Send To: | Grower: | Report No .: | 18-093-0027 |
|----------|---------|---------------|-------------|
| | | Cust No.: | |
| | | Lab No: | 276617 |
| | | Report Date : | 4/4/2018 |
| | | Page : | 2 of 9 |
| | | | |

Sample Id : AT34545 Farm:

Growth Stage : Plants 30 cm tall

Crop: Potato*

Field id: Frank house

Plant Part: Most recently matured leaves (35+)

| Tast | | Analysis | | Pla | ant Test Ratings | 6 | | Normal Actual | | Expected | |
|------------|-----|----------|-----------|-----|------------------|------|-----------|---------------|---------|----------|-------|
| 1631 | | Analysis | Deficient | Low | Sufficient | High | Very High | Range | | Ratio | Ratio |
| Nitrogon | 0/ | E 40 | | | | | | 4.00 | N/C | 12.0 | 11.0 |
| Nillogen | 70 | 5.40 | | | | | | 5.50 | 11/3 | 13.0 | 11.2 |
| 0.11 | | | | | | | | 0.35 | | | |
| Sultur | % | 0.39 | | 1 | | | | 0.50 | IN/K | 1.4 | 1.3 |
| Dhaamhamua | | 0.40 | | | | | | 0.35 | D/0 | 4.0 | 4.0 |
| Phosphorus | % | 0.40 | | | | | | 0.75 | P/S | 1.0 | 1.3 |
| Defension | | | | | | | | 3.00 | | 100.0 | |
| Potassium | % | 3.89 | | 1 | | | | 4.50 | P/Zn | 100.0 | 50.5 |
| Magnasium | 0/ | 0.50 | | | | | | 0.25 | | 7.0 | 0.0 |
| wagnesium | % | 0.50 | | | İ | | | 1.00 | K/IVIg | 7.8 | 6.0 |
| Coloium | 0/ | 1.01 | | | | | | 1.00 | K/Ma | 404.4 | 400.4 |
| Calcium | % | 1.01 | / | | | | | 3.00 | r/IVII1 | 131.4 | 130.4 |
| Sodium | % | 0.05 | | | | | | 0.00 | Ca/B | /81.0 | 400.0 |
| Couldin | 70 | 0.00 | | 1 | | | | 0.20 | Ua/D | | 100.0 |
| Boron | ppm | 21 | | | | | | 25 | Fe/Mn | 0.4 | 0.6 |
| | | | | | | | | 75 | | | |
| Zinc | ppm | 40 | | | | | | 18 | Ca/K | 0.3 | 0.5 |
| | | | | | | | | 200 | | | |
| Manganese | maa | 296 | | | | | | 50 | Ca/Mo | 2.0 | 3.2 |
| | | | | | | | | 500 | | | |
| Iron | ppm | 126 | | 1 | | | | 50 | - | | |
| | | | 2 | | | | | 300 | | | |
| Copper | ppm | 7 | | | | | | 6 | - | | |
| | | | · | | | | | 100 | | | |
| Aluminum | ppm | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | J |

Comments:

02024) These plants are low or deficient in boron. This may be the result of low soil boron or droughty conditions. Boron may be applied foliarly at 0.2 to 0.5 lbs per acre.



| Send To: | Grower: | Report No.: | 18-093-0027 |
|----------|---------|---------------|-------------|
| | | Cust No.: | |
| | | Lab No: | 276618 |
| | | Report Date : | 4/4/2018 |
| | | Page : | 3 of 9 |
| | | | |

Sample Id : AT34546 Farm:

Growth Stage : Plants 30 cm tall

Crop: Potato*

Field id: Frank house

Plant Part: Most recently matured leaves (35+)

| Test | Plant Test Ratings | | | Normal | | Actual | Expected | | | | |
|------------|--------------------|----------|-----------|--------|------------|--------|-----------|-------|-------|-------|-------|
| 1031 | | Analysis | Deficient | Low | Sufficient | High | Very High | Range | | Ratio | Ratio |
| Nitrogen | % | 5 22 | | | | | | 4.00 | N/S | | |
| luiogon | 70 | 0.22 | · | | | | | 5.50 | 10/0 | | |
| Sulfur | % | | | | | | | | N/K | | |
| | 70 | | | | | | | | | | |
| Phosphorus | % | | | | | | | | P/S | | |
| | | | | | | | | | | | |
| Potassium | % | | | | | | | | P/Zn | | |
| | | | | | | | | | | | |
| Magnesium | % | | | | | | | | K/Mg | | |
| | | | | | | | | | | | |
| Calcium | % | | | | | | | | K/Mn | | |
| Sodium | 0/ | | | | | | | | | | |
| Socium | 70 | | | | | | | | Ca/D | | |
| Boron | ppm | | | | | | | - | Fe/Mn | | |
| | | | | | | | | | | | |
| Zinc | ppm | | | | | | | | Ca/K | | |
| - | | | | | | | | - | | | |
| Manganese | ppm | | | | | | | | Ca/Mg | | |
| | | | | | | | | | | | |
| Iron | ppm | | | | | | | | | | |
| Copper | nnm | | | | | | | • | | | |
| | PPIII | | | | | | | | | | |
| Aluminum | որա | | | | | | | | | | |
| | PPII | | | | | | | | | | |
| NO3-N | ppm | 14300 | | | | | | | | | |

Comments:

02002) Nutrient levels are adequate at this time.



| Send To: | Grower: | Report No .: | 18-093-0027 |
|----------|---------|---------------|-------------|
| | | Cust No.: | |
| | | Lab No: | 276619 |
| | | Report Date : | 4/4/2018 |
| | | Page : | 4 of 9 |
| | | | |

Sample Id : AT34548 Farm:

Growth Stage : Plants 30 cm tall

Crop: Potato*

Field id: 181

Plant Part: Most recently matured leaves (35+)

| Tost | | Analysis | | Pla | ant Test Ratings | 6 | | Normal | | Actual | Expected |
|-------------|-----|----------|-----------|--------|------------------|------|-----------|--------|-------|--------|----------|
| 1631 | | Analysis | Deficient | Low | Sufficient | High | Very High | Range | | Ratio | Ratio |
| Nitrogen | 0/. | 1 2 2 | | | | | | 4.00 | NI/S | 14.0 | 11.2 |
| Nillogen | /0 | 4.52 | | | | | | 5.50 | 11/5 | 14.9 | 11.2 |
| Culfur | 0/ | 0.00 | | | | | | 0.35 | NI/K | 1.0 | 10 |
| Sullui | % | 0.29 | | | | | | 0.50 | | 1.2 | 1.3 |
| Phosphorus | 0/. | 0.28 | | | | | | 0.35 | D/S | 1.0 | 12 |
| 1 nosphorus | 70 | 0.20 | | | | | | 0.75 | F/3 | 1.0 | 1.5 |
| Potossium | 0 | 0.40 | | | | | | 3.00 | D/7n | 00.4 | 50 F |
| FUIdSSIUIII | % | 3.49 | | | | | | 4.50 | P/Zn | 02.4 | 50.5 |
| Magnesium | 9/ | 0.47 | | | | | | 0.25 | K/Ma | 74 | 60 |
| Magneolam | 70 | 0.47 | | Ì | | | | 1.00 | TVING | 7.4 | 0.0 |
| Calcium | % | 0.98 | | | | | | 1.00 | K/Mn | 130.0 | 136.4 |
| Calolani | 70 | 0.30 | | | | | | 3.00 | | 100.0 | 130.4 |
| Sodium | % | 0.04 | | | | | | 0.00 | Ca/B | 653.3 | 400.0 |
| | | | | | | | | 0.20 | | | |
| Boron | ppm | 15 | | | | | | 25 | Fe/Mn | 0.4 | 0.6 |
| | | | | | | | | 75 | | | |
| Zinc | ppm | 34 | | I | | | | 18 | Ca/K | 0.3 | 0.5 |
| | | | | | Γ | | | 200 | | | |
| Manganese | ppm | 251 | | | 1 | | | 50 | Ca/Mg | 2.1 | 3.2 |
| | | | 2 | | | | | 500 | | | |
| Iron | ppm | 100 | | , , | | | | 50 | | | |
| | | | | | | | | 300 | | | |
| Copper | ppm | 6 | | i | | | | 100 | | | |
| | | | | | | | | 100 | | | |
| Aluminum | ppm | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | .) |

Comments:

- 02023) These plants are low or deficient in sulfur. This could be a result of low soil sulfur content, poor root development or inadequate drainage. Sulfur may be applied to the crop in the sulfate form with sidedress or topdress applications or in irrigation water. Apply at a rate of 10 to 20 lbs of sulfur per acre. For foliar application, apply 1 to 2 lbs of sulfur per acre.
- 02017) These plants are low or deficient in phosphorus. Possible causes inclued low soil phosphorus level, high soil pH, low soil pH, poor drainage, root damage or cool soil temperature. In season surface application of phosphorus on row crops is, generally, not recommended because phosphorus moves very little in the soil. However, for severe deficiencies, sidedress and incorporate 30 to 40 lbs of P2O5 per acre as early in the season as possible.
- 02022) These plants are low or deficient in calcium. Possible causes include low soil pH or excess soil potassium. Calcium may be applied foliarly at 1 to 2 lbs per acre. If a chelated material is used, apply according to manufacturer specifications. Repeated applications may be necessary.



2790 Whitten Road, Memphis, TN 38133 Main 901.213.2400 ° Fax 901.213.2440 www.waypointanalytical.com

PLANT ANALYSIS

| Send To: | Grower: | Report No.: 18-093-0027 |
|----------|---------|-------------------------|
| | | Cust No.: |
| | | Lab No: 276619 |
| | | Report Date : 4/4/2018 |
| | | Page: 5 of 9 |
| | | |

Sample Id : AT34548

Farm:

Growth Stage : Plants 30 cm tall

Crop: Potato*

Field id: 181

Plant Part: Most recently matured leaves (35+)

Comments:

02024) These plants are low or deficient in boron. This may be the result of low soil boron or droughty conditions. Boron may be applied foliarly at 0.2 to 0.5 lbs per acre.



| Send To: | Grower: | Report No.: | 18-093-0027 |
|----------|---------|---------------|-------------|
| | | Cust No.: | |
| | | Lab No: | 276620 |
| | | Report Date : | 4/4/2018 |
| | | Page : | 6 of 9 |
| | | | |

Sample Id : AT34587 Farm:

Growth Stage : Plants 30 cm tall

Crop: Potato*

Field id: Frank Middle

Plant Part: Most recently matured leaves (35+)

| Tost | | Analysis | | Pla | ant Test Ratings | 6 | | Normal Actual | | Expected | |
|------------|-----|----------|-----------|-----|------------------|------|-----------|---------------|-------|----------|-------|
| 1631 | | Analysis | Deficient | Low | Sufficient | High | Very High | Range | | Ratio | Ratio |
| Nitrogen | 0/_ | 5.61 | | | | | | 4.00 | N/S | 1/1 8 | 11.2 |
| Milogen | 70 | 5.01 | | | | | | 5.50 | 10/5 | 14.0 | 11.2 |
| Sulfur | 0/ | 0.20 | | | | | | 0.35 | N/K | 15 | 1.2 |
| Sullu | 70 | 0.30 | | | | | | 0.50 | | 1.5 | 1.5 |
| Phosphorus | % | 0.40 | | | | | | 0.35 | P/S | 1 1 | 13 |
| | 70 | 0.40 | | | | | | 0.75 | 170 | 1.1 | 1.0 |
| Potassium | 0/ | 2.60 | | l | 1 | | | 3.00 | D/7n | 100.0 | 50.5 |
| | 70 | 3.09 | , | | | | | 4.50 | 1/211 | 100.0 | 50.5 |
| Magnesium | % | 0.51 | | | | | | 0.25 | K/Ma | 72 | 60 |
| | ,,, | 0.01 | | | | | | 1.00 | g | | 0.0 |
| Calcium | % | 1.07 | | | | | | 1.00 | K/Mn | 88.3 | 136.4 |
| | | | , | | | | | 3.00 | | | |
| Sodium | % | 0.04 | | 1 | | | | 0.00 | Ca/B | 509.5 | 400.0 |
| - | | | 2 | | | | | 0.20 | | | |
| Boron | ppm | 21 | | | | | | 20 | Fe/Mn | 0.4 | 0.6 |
| | | | | | | | | 10 | | | |
| Zinc | ppm | 40 | | | | | | 200 | Ca/K | 0.3 | 0.5 |
| | | | | | | | | 50 | | | |
| Manganese | ppm | 418 | | 1 | | | | 500 | Ca/Mg | 2.1 | 3.2 |
| | | | | | | | | 50 | | | |
| Iron | ppm | 147 | | | | | | 300 | - | | |
| Connor | | 0 | | | | | | 6 | | | |
| Copper | ppm | 3 | | | | | | 100 | | | |
| | | | | | | | | | | | |
| Aluminum | ppm | | | | | | | | | | |
| | | | | | | | | | | | |
| l | | | | | | | | | | | ļ |

Comments:

02028) These plants are low or deficient in copper. Low copper availability may be caused by high soil organic matter, high soil pH, or sandy soils with low organic matter. Copper may be foliar applied at .5 to 1 lb per acre. If a chelated material is used, apply according to manufacturer specifications. Repeated application may be necessary.

02024) These plants are low or deficient in boron. This may be the result of low soil boron or droughty conditions. Boron may be applied foliarly at 0.2 to 0.5 lbs per acre.



| Send To: | Grower: | Report No.: | 18-093-0027 |
|----------|---------|---------------|-------------|
| | | Cust No.: | |
| | | Lab No: | 276621 |
| | | Report Date : | 4/4/2018 |
| | | Page : | 7 of 9 |
| | | | |

Sample Id : AT34589 Farm:

Growth Stage : Plants 30 cm tall

Crop: Potato*

Field id: Frank Big

Plant Part: Most recently matured leaves (35+)

| Test | | Apolysis | Plant Test Ratings | | | | Normal | Actual | | Expected | |
|------------|------|----------|--------------------|-----|------------|------|-----------|--------|---------|----------|-------|
| 1631 | | Analysis | Deficient | Low | Sufficient | High | Very High | Range | | Ratio | Ratio |
| Nitrogen | % | 5 55 | | | | | | 4.00 | N/S | | |
| | ,,, | 0.00 | <i>.</i> | | | | | 5.50 | | | |
| Sulfur | % | | | | | | | | N/K | | |
| | ,0 | | | | | | | | | | |
| Phosphorus | % | | | | | | | | P/S | | |
| | | | | | | | | | | | |
| Potassium | % | | | | | | | | P/Zn | | |
| Magnesium | % | | | | | | | | K/Ma | | |
| | 70 | | | | | | | | Totting | | |
| Calcium | % | | | | | | | | K/Mn | | |
| Sodium | 0/ | | | | | | | | 0 /D | | |
| Soulum | % | | | | | | | | Ca/B | | |
| Boron | ppm | | | | | | | | Fe/Mn | | |
| Zinc | | | | | | | | - | Coll | | |
| 200 | ppm | | | | | | | | Cd/N | | |
| Manganese | maa | | | | | | | | Ca/Mɑ | | |
| | | | | | | | | | J | | |
| Iron | ppm | | | | | | | | | | |
| Copper | | | | | | | | | | | |
| Сорреі | ррп | | | | | | | | | | |
| Aluminum | nnm | | | | | | | | | | |
| | ppin | | | | | | | | | | |
| NO3-N | ppm | 12800 | | | | | | | | | |

Comments:

02002) Nutrient levels are adequate at this time.



| Send To: | Grower: | Report No.: | 18-093-0027 |
|----------|---------|---------------|-------------|
| | | Cust No.: | |
| | | Lab No: | 276622 |
| | | Report Date : | 4/4/2018 |
| | | Page : | 8 of 9 |
| | | | |

Sample Id : AT34547 Farm:

Growth Stage : Plants 30 cm tall

Crop: Potato*

Field id: 181

Plant Part: Most recently matured leaves (35+)

| Test | | Apolycic | Plant Test Ratings | | | | Normal | Actual | | Expected | |
|------------|-----|----------|--------------------|-----|------------|------|-----------|--------|-------|----------|-------|
| 1631 | | Analysis | Deficient | Low | Sufficient | High | Very High | Range | | Ratio | Ratio |
| Nitrogen | % | 3.64 | | | | | | 4.00 | N/S | | |
| _ | | | | | | | | 5.50 | | | |
| Sulfur | % | | | | | | | | N/K | | |
| | | | | | | | | | | | |
| Phosphorus | % | | | | | | | | P/S | | |
| | | | | | | | | | | | |
| Potassium | % | | | | | | | | P/Zn | | |
| Magnasium | 0/ | | | | | | | - | | | |
| Magnesium | % | | | | | | | | K/Mg | | |
| Calcium | % | | | | | | | | K/Mn | | |
| | | | | | | | | | | | |
| Sodium | % | | | | | | | | Ca/B | | |
| | | | | | | | | | | | |
| Boron | ppm | | | | | | | | Fe/Mn | | |
| Zinc | maa | | | | | | | | Ca/K | | |
| - | | | | | | | | - | | | |
| Manganese | nom | | | | | | | | Ca/Mg | | |
| | PP | | | | | | | | eag | | |
| Iron | ppm | | | | | | | | | | |
| | | | | | | | | | | | |
| Copper | ppm | | | | | | | | | | |
| | | | | | | | | | | | |
| Aluminum | ppm | | | | | | | | | | |
| NO3 N | nnm | 7280 | | | | | | | | | |
| NU-S-N | ppm | 1200 | | | | | | | | | J |

Comments:

02015) These plants are low or deficient in nitrogen. This condition could be due to inadequate nitrogen fertilization, poor drainage, excessive rainfall or leaching.

02084) Additional nitrogen may be supplied to the crop with sidedress or topdress applications or in irrigation water. Apply at the rate of 20 to 50 lbs per acre. Repeated applications may be necessary.



| Send To: | Grower: | Report No.: | 18-093-0027 |
|----------|---------|---------------|-------------|
| | | Cust No.: | |
| | | Lab No: | 276623 |
| | | Report Date : | 4/4/2018 |
| | | Page : | 9 of 9 |
| | | | |

Sample Id : AT34586 Farm:

Growth Stage : Plants 30 cm tall

Crop: Potato*

Field id: Frank Middle

Plant Part: Most recently matured leaves (35+)

| Test | | Analysis | Plant Test Ratings | | | | Normal | Actual | | Expected | |
|------------|-----|----------|--------------------|-----|------------|------|-----------|--------|-------|----------|-------|
| 1631 | | Analysis | Deficient | Low | Sufficient | High | Very High | Range | | Ratio | Ratio |
| Nitrogen | 0/_ | 5 37 | | | | | | 4.00 | N/S | | |
| Milogen | 70 | 5.57 | | | | | | 5.50 | 10/5 | | |
| Sulfur | 0/ | | | | | | | | N/K | | |
| Guildi | 70 | | | | | | | | | | |
| Phosphorus | % | | | | | | | | P/S | | |
| | | | | | | | | | | | |
| Potassium | % | | | | | | | | P/Zn | | |
| | | | | | | | | - | | | |
| Magnesium | % | | | | | | | | K/Mg | | |
| | | | | | | | | | | | |
| Calcium | % | | | | | | | | K/Mn | | |
| | | | | | | | | | | | |
| Sodium | % | | | | | | | | Ca/B | | |
| Boron | nnm | | | | | | | | Eo/Mp | | |
| Doron | ppm | | | | | | | | | | |
| Zinc | nnm | | | | | | | | Ca/K | | |
| | ppm | | | | | | | | oun | | |
| Manganese | maa | | | | | | | | Ca/Mg | | |
| | | | | | | | | | | | |
| Iron | ppm | | | | | | | | | | |
| | | | | | | | | | | | |
| Copper | ppm | | | | | | | | | | |
| | | | | | | | | | | | |
| Aluminum | ppm | | | | | | | | | | |
| | | | | | | | | | | | |
| NO3-N | ppm | 15300 | | | | | | | | | |

Comments:

02002) Nutrient levels are adequate at this time.