

REPORT NUMBER

22-143-0096

COMPLETED DATE
May 26, 2022
 RECEIVED DATE
May 23, 2022

ACCOUNT
2595



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TODAY'S DATE
May 26, 2022

**NORTHEAST COMM COLLEGE
 801 E BENJAMIN AVE
 PO BOX 469
 NORFOLK NE 68701-**

IDENTIFICATION
**TRENTREE BUSH
 URBAN FARM
 URBAN FARM GRID SAMPLES**

SOIL ANALYSIS REPORT

| LAB NUMBER | SAMPLE IDENTIFICATION | ORGANIC MATTER L.O.I. percent RATE | PHOSPHORUS | | | | | POTASSIUM | | MAGNESIUM | | CALCIUM | | SODIUM | | pH | | CATION EXCHANGE CAPACITY C.E.C. meq/100g | PERCENT BASE SATURATION (COMPUTED) | | | | |
|------------|-----------------------|------------------------------------|--------------------------------|--------|----------------------------------|--------|---------------------|-----------|----|-----------|-----|-------------|--------------|--------|------|------|-----|--|------------------------------------|-----|------|-----|------|
| | | | P ₁ (WEAK BRAY) 1:7 | | P ₂ (STRONG BRAY) 1:7 | | OLSEN BICARBONATE P | K | Mg | Ca | Na | SOIL pH 1:1 | BUFFER INDEX | % K | % Mg | % Ca | % H | | % Na | | | | |
| | | | ppm | RATE | ppm | RATE | | | | | | | | | | | | | | ppm | RATE | ppm | RATE |
| *397* | | | | | | | | | | | | | | | | | | | | | | | |
| 34353 | NECC 1 | 2.2 L | 44 VH | 102 VH | | 150 H | 110 M | 1762 VH | | | 7.2 | | 10.1 | 3.8 | 9.1 | 87.1 | 0.0 | | | | | | |
| 34354 | NECC 2 | 2.7 M | 25 H | 95 VH | 20 H | 216 VH | 154 M | 2636 VH | | | 7.6 | | 15.0 | 3.7 | 8.6 | 87.7 | 0.0 | | | | | | |
| 34355 | NECC 3 | 2.1 L | 18 M | 56 H | 16 H | 218 VH | 212 H | 3089 VH | | | 7.6 | | 17.8 | 3.1 | 9.9 | 87.0 | 0.0 | | | | | | |
| 34356 | NECC 4 | 1.6 L | 8 L | 46 H | 10 L | 159 M | 222 H | 3061 VH | | | 7.8 | | 17.6 | 2.3 | 10.5 | 87.2 | 0.0 | | | | | | |
| 34357 | NECC 5 | 3.0 M | 25 H | 67 VH | | 150 H | 107 M | 1684 VH | | | 7.0 | | 9.7 | 4.0 | 9.2 | 86.8 | 0.0 | | | | | | |
| 34358 | NECC 6 | 3.0 M | 55 VH | 118 VH | | 176 VH | 137 M | 2020 VH | | | 7.7 | | 11.7 | 3.9 | 9.8 | 86.3 | 0.0 | | | | | | |
| 34360 | NECC 7 | 1.4 VL | 34 VH | 66 VH | | 120 M | 107 M | 1512 VH | | | 7.8 | | 8.8 | 3.5 | 10.1 | 86.4 | 0.0 | | | | | | |
| 34361 | NECC 8 | 2.3 L | 25 H | 96 VH | 43 VH | 365 VH | 249 H | 3186 VH | | | 7.7 | | 18.9 | 5.0 | 11.0 | 84.0 | 0.0 | | | | | | |
| 34362 | NECC 9 | 1.2 VL | 21 M | 87 VH | 19 H | 146 M | 198 M | 2761 VH | | | 8.0 | | 15.8 | 2.4 | 10.4 | 87.2 | 0.0 | | | | | | |
| 34363 | NECC 10 | 1.5 VL | 19 M | 58 H | 19 H | 145 H | 112 L | 2590 VH | | | 7.9 | | 14.3 | 2.6 | 6.5 | 90.9 | 0.0 | | | | | | |

| LAB NUMBER | NITRATE-N (FIA) | | | | | | | | | | SULFUR S ICAP | ZINC Zn DTPA | MANGANESE Mn DTPA | IRON Fe DTPA | COPPER Cu DTPA | BORON B SORB. DTPA | EXCESS LIME RATE | SOLUBLE SALTS 1:1 mmhos/cm RATE |
|------------|-----------------|-------|------------|-----------|-------|------------|-----------|-------|------------|-------------|---------------|--------------|-------------------|--------------|----------------|--------------------|------------------|---------------------------------|
| | SURFACE | | | SUBSOIL 1 | | | SUBSOIL 2 | | | Total lbs/A | | | | | | | | |
| | ppm | lbs/A | depth (in) | ppm | lbs/A | depth (in) | ppm | lbs/A | depth (in) | | | | | | | | | |
| *397* | | | | | | | | | | | | | | | | | | |
| 34353 | 2 | 5 | 0-8 | | | | | | | 5 | | | | | | | | |
| 34354 | 2 | 5 | 0-8 | | | | | | | 5 | | | | | | | | |
| 34355 | 2 | 5 | 0-8 | | | | | | | 5 | | | | | | | | |
| 34356 | 1 | 2 | 0-8 | | | | | | | 2 | | | | | | | | |
| 34357 | 3 | 7 | 0-8 | | | | | | | 7 | | | | | | | | |
| 34358 | 2 | 5 | 0-8 | | | | | | | 5 | | | | | | | | |
| 34360 | 2 | 5 | 0-8 | | | | | | | 5 | | | | | | | | |
| 34361 | 4 | 10 | 0-8 | | | | | | | 10 | | | | | | | | |
| 34362 | 1 | 2 | 0-8 | | | | | | | 2 | | | | | | | | |
| 34363 | 1 | 2 | 0-8 | | | | | | | 2 | | | | | | | | |

REV.10/17

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IDENTIFICATION
**TRENTREE BUSH
 URBAN FARM
 URBAN FARM GRID SAMPLES**

SOIL ANALYSIS REPORT

| LAB NUMBER | SAMPLE IDENTIFICATION | ORGANIC MATTER L.O.I. | PHOSPHORUS | | | | | NEUTRAL AMMONIUM ACETATE (EXCHANGEABLE) | | | | pH | | CATION EXCHANGE CAPACITY C.E.C. meq/100g | PERCENT BASE SATURATION (COMPUTED) | | | | | | |
|------------|-----------------------|-----------------------|--------------------------------|--------|----------------------------------|--------|---------------------|---|-----|------|-----|------|----|--|------------------------------------|--------------|------|------|------|-----|------|
| | | | P ₁ (WEAK BRAY) 1:7 | | P ₂ (STRONG BRAY) 1:7 | | OLSEN BICARBONATE P | K | Mg | | Ca | | Na | | SOIL pH 1:1 | BUFFER INDEX | % K | % Mg | % Ca | % H | % Na |
| | | | percent | RATE | ppm | RATE | | | ppm | RATE | ppm | RATE | | | | | | | | | |
| *397* | | | | | | | | | | | | | | | | | | | | | |
| 34364 | NECC 11 | 2.4 L | 25 H | 55 H | 29 VH | 199 VH | 281 VH | 2264 H | | | | 7.5 | | 14.2 | 3.6 | 16.5 | 79.9 | 0.0 | | | |
| 34365 | NECC 12 | 2.1 L | 41 VH | 104 VH | | 321 VH | 446 VH | 3080 H | | | | 7.8 | | 19.9 | 4.1 | 18.7 | 77.2 | 0.0 | | | |

| LAB NUMBER | NITRATE-N (FIA) | | | | | | | | | | SULFUR S ICAP | ZINC Zn DTPA | MANGANESE Mn DTPA | IRON Fe DTPA | COPPER Cu DTPA | BORON B SORB. DTPA | EXCESS LIME RATE | SOLUBLE SALTS 1:1 mmhos/cm RATE |
|------------|-----------------|-------|------------|-----------|-------|------------|-----------|-------|------------|-------------|---------------|--------------|-------------------|--------------|----------------|--------------------|------------------|---------------------------------|
| | SURFACE | | | SUBSOIL 1 | | | SUBSOIL 2 | | | Total lbs/A | | | | | | | | |
| | ppm | lbs/A | depth (in) | ppm | lbs/A | depth (in) | ppm | lbs/A | depth (in) | | | | | | | | | |
| *397* | | | | | | | | | | | | | | | | | | |
| 34364 | 4 | 10 | 0-8 | | | | | | | 10 | | | | | | | | |
| 34365 | 2 | 5 | 0-8 | | | | | | | 5 | | | | | | | | |

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IDENTIFICATION

**TRENTREE BUSH
URBAN FARM
URBAN FARM GRID SAMPLES**

SOIL FERTILITY RECOMMENDATIONS (POUNDS PER ACRE)

| YOUR SAMPLE NUMBER <small>(LAB NUMBER)</small> | INTENDED CROP | YIELD GOAL | PREVIOUS CROP | SOIL AMENDMENTS | | | | N NITROGEN | P ₂ O ₅ PHOSPHATE | K ₂ O POTASH | Mg MAGNESIUM | S SULFUR | Zn ZINC | Mn MANGANESE | Fe IRON | Cu COPPER | B BORON |
|---|------------------|------------|------------------|------------------|----------|------------------|------------------------------|---------------|--|----------------------------|-----------------|-------------|------------|-----------------|------------|--------------|------------|
| | | | | LIME LBS/A OF | LIME TON | GYPSUM TONS/A | ELEMENTAL SULFUR LBS/A | | | | | | | | | | |
| NECC 1 <small>(39734353)</small> | PEARS | BEST | BROME PASTURE CD | | | | | 70 | -- | 105 | 15 | | | | | | |
| | APPLES | BEST | BROME PASTURE CD | | | | | 70 | -- | 105 | 15 | | | | | | |
| | SQUASH | BEST | BROME PASTURE CD | | | | | 95 | -- | 70 | 15 | | | | | | |
| NECC 2 <small>(39734354)</small> | GRAPES | BEST | BROME PASTURE CD | | | | | 65 | 45 | 60 | -- | | | | | | |
| | APRICOTS | BEST | BROME PASTURE CD | | | | | 65 | 45 | 60 | -- | | | | | | |
| | PUMPKIN | BEST | BROME PASTURE CD | | | | | 130 | 55 | 40 | -- | | | | | | |
| NECC 3 <small>(39734355)</small> | RASPBERRIES | BEST | BROME PASTURE CD | | | | | 70 | 50 | 45 | -- | | | | | | |
| | RADISHES | BEST | BROME PASTURE CD | | | | | 80 | 55 | 30 | -- | | | | | | |
| | PLUMS | BEST | BROME PASTURE CD | | | | | 70 | 65 | 55 | -- | | | | | | |
| NECC 4 <small>(39734356)</small> | ARONIA BERRIES | BEST | BROME PASTURE CD | | | | | 70 | 125 | 90 | 15 | | | | | | |
| | LETTUCE | BEST | BROME PASTURE CD | | | | | 145 | 155 | 65 | -- | | | | | | |
| | TOMATOES- ton | 19.0 | BROME PASTURE CD | | | | | 120 | 185 | 170 | -- | | | | | | |
| NECC 5 <small>(39734357)</small> | ONIONS- lbs | 500.0 | BROME PASTURE CD | | | | | 115 | 60 | 100 | 15 | | | | | | |
| | PECANS | BEST | BROME PASTURE CD | | | | | 215 | 30 | 120 | 15 | | | | | | |
| | BROCCOLI | BEST | BROME PASTURE CD | | | | | 185 | 60 | 80 | 15 | | | | | | |
| NECC 6 <small>(39734358)</small> | ARONIA BERRIES | BEST | BROME PASTURE CD | | | | | 45 | -- | 45 | 15 | | | | | | |
| | GRAPES | BEST | BROME PASTURE CD | | | | | 65 | -- | 90 | -- | | | | | | |
| | CHERRIES | BEST | BROME PASTURE CD | | | | | 65 | -- | 90 | -- | | | | | | |
| NECC 7 <small>(39734360)</small> | BRUSSEL SPROUTS | BEST | BROME PASTURE CD | | | | | 195 | 40 | 95 | 15 | | | | | | |
| | BLUEBERRIES | BEST | BROME PASTURE CD | | | | | 65 | 25 | 95 | 15 | | | | | | |
| | BLACKBERRIES | BEST | BROME PASTURE CD | | | | | 75 | 25 | 95 | 15 | | | | | | |
| NECC 8 <small>(39734361)</small> | CAULIFLOWER | BEST | BROME PASTURE CD | | | | | 185 | -- | -- | -- | | | | | | |
| | SPINACH | BEST | BROME PASTURE CD | | | | | 130 | -- | -- | -- | | | | | | |
| | CUCUMBER/MELON | BEST | BROME PASTURE CD | | | | | 115 | -- | -- | -- | | | | | | |
| NECC 9 <small>(39734362)</small> | GARDEN | BEST | BROME PASTURE CD | | | | | 155 | 70 | 70 | -- | | | | | | |
| | FRUIT TREES | BEST | BROME PASTURE CD | | | | | 80 | 45 | 110 | -- | | | | | | |
| | HEMP- INDUSTRIAL | BEST | BROME PASTURE CD | | | | | 145 | 45 | 85 | -- | | | | | | |
| NECC 10 <small>(39734363)</small> | PUMPKIN | BEST | BROME PASTURE CD | | | | | 145 | 55 | 70 | 15 | | | | | | |
| | MUSTARD - lbs | 1500.0 | BROME PASTURE CD | | | | | 70 | 10 | 45 | 15 | | | | | | |
| | HOPS - bales | 10.0 | BROME PASTURE CD | | | | | 160 | 25 | 90 | 15 | | | | | | |

REV. 12/03

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**TRENTÉE BUSH
URBAN FARM
URBAN FARM GRID SAMPLES**

SOIL FERTILITY RECOMMENDATIONS (POUNDS PER ACRE)

| YOUR SAMPLE NUMBER <small>(LAB NUMBER)</small> | INTENDED CROP | YIELD GOAL | PREVIOUS CROP | SOIL AMENDMENTS | | | | N NITROGEN | P ₂ O ₅ PHOSPHATE | K ₂ O POTASH | Mg MAGNESIUM | S SULFUR | Zn ZINC | Mn MANGANESE | Fe IRON | Cu COPPER | B BORON |
|---|---------------|------------|------------------|------------------|----------|------------------|------------------------------|---------------|--|----------------------------|-----------------|-------------|------------|-----------------|------------|--------------|------------|
| | | | | LIME LBS/A OF | LIME TON | GYPSON TONS/A | ELEMENTAL SULFUR LBS/A | | | | | | | | | | |
| NECC 11 <small>(39734364)</small> | WATERMELON | BEST | BROME PASTURE CD | | | | | 130 | -- | 45 | -- | | | | | | |
| | TABLE BEETS | BEST | BROME PASTURE CD | | | | | 110 | -- | 45 | -- | | | | | | |
| | ROSES | BEST | BROME PASTURE CD | | | | | 125 | -- | 50 | -- | | | | | | |
| NECC 12 <small>(39734365)</small> | GRAPES | BEST | BROME PASTURE CD | | | | | 70 | -- | -- | -- | | | | | | |
| | PUMPKIN | BEST | BROME PASTURE CD | | | | | 135 | -- | -- | -- | | | | | | |
| | FRUIT TREES | BEST | BROME PASTURE CD | | | | | 70 | -- | -- | -- | | | | | | |
| | | | | | | | | | | | | | | | | | |
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URBAN FARM GRID SAMPLES**

LAWN AND GARDEN

| ANALYTICAL LABORATORY FINDINGS | | | | | | |
|--------------------------------|----------|----------|-----|--------|---------|---------|
| SAMPLE IDENTIFICATION | | NECC 9 | | | | |
| LABORATORY NUMBER | | 39734362 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | V. HIGH |
| NITROGEN | | | | | | |
| ORGANIC MATTER | % | 1.2 | | | | |
| NITRATE-N | ppm | 1 | | | | |
| PHOSPHORUS | ppm | 27 | | | | |
| POTASSIUM | ppm | 146 | | | | |
| MAGNESIUM | ppm | 198 | | | | |
| MICRO-NUTRIENTS | | | | | | |
| SULFUR | ppm | | | | | |
| ZINC | ppm | | | | | |
| MANGANESE | ppm | | | | | |
| IRON | ppm | | | | | |
| COPPER | ppm | | | | | |
| BORON | ppm | | | | | |
| CALCIUM | ppm | 2761 | | | | |
| SODIUM SOLUBLE SALTS | ppm | | | | | |
| EXCESS LIME RATE | mmhos/cm | 8.0 | | | | |
| pH | | | | | | |
| BUFFER INDEX | | | | | | |
| C.E.C. | meq/100g | 15.8 | | | | |

| MIDWEST SUGGESTIONS FOR GARDEN | | | | |
|--|-------------|--------------|------|--|
| POUNDS PER | 100 sq. ft. | 1000 sq. ft. | Acre | |
| SUGGESTED FERTILITY GUIDELINES | | | | |
| NITROGEN (N) | 0.36 | 3.56 | 155 | |
| PHOSPHATE (P ₂ O ₅) | 0.16 | 1.61 | 70 | |
| POTASH (K ₂ O) | 0.16 | 1.61 | 70 | |
| MAGNESIUM (Mg) | -- | -- | -- | |
| <i>Surface Nitrate Depth: 0-8</i> | | | | |
| SUGGESTED AMENDMENT GUIDELINES | | | | |
| LIME | | | | |
| ELEMENTAL SULFUR | | | | |
| GYP SUM | | | | |

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LAWN AND GARDEN

| ANALYTICAL LABORATORY FINDINGS | | | | | | |
|--------------------------------|----------|----------|-----|--------|---------|---------|
| SAMPLE IDENTIFICATION | | NECC 11 | | | | |
| LABORATORY NUMBER | | 39734364 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | V. HIGH |
| NITROGEN | | | | | | |
| ORGANIC MATTER | % | 2.4 | | | | |
| NITRATE-N | ppm | 4 | | | | |
| PHOSPHORUS | ppm | 41 | | | | |
| POTASSIUM | ppm | 199 | | | | |
| MAGNESIUM | ppm | 281 | | | | |
| MICRO-NUTRIENTS | | | | | | |
| SULFUR | ppm | | | | | |
| ZINC | ppm | | | | | |
| MANGANESE | ppm | | | | | |
| IRON | ppm | | | | | |
| COPPER | ppm | | | | | |
| BORON | ppm | | | | | |
| CALCIUM | ppm | 2264 | | | | |
| SODIUM | ppm | | | | | |
| SOLUBLE SALTS | mmhos/cm | | | | | |
| EXCESS LIME RATE | | | | | | |
| pH | | 7.5 | | | | |
| BUFFER INDEX | | | | | | |
| C.E.C. | meq/100g | 14.2 | | | | |

| MIDWEST SUGGESTIONS FOR ROSES | | | | |
|--|-------------|--------------|------|----------------------------|
| POUNDS PER | 100 sq. ft. | 1000 sq. ft. | Acre | |
| SUGGESTED FERTILITY GUIDELINES | | | | |
| NITROGEN (N) | 0.29 | 2.87 | 125 | |
| PHOSPHATE (P ₂ O ₅) | -- | -- | -- | |
| POTASH (K ₂ O) | 0.11 | 1.15 | 50 | |
| MAGNESIUM (Mg) | -- | -- | -- | |
| SULFUR (S) | | | | |
| ZINC (Zn) | | | | |
| MANGANESE (Mn) | | | | |
| IRON (Fe) | | | | |
| COPPER (Cu) | | | | Surface Nitrate Depth: 0-8 |
| BORON (B) | | | | |
| SUGGESTED AMENDMENT GUIDELINES | | | | |
| LIME | | | | |
| ELEMENTAL SULFUR | | | | |
| GYPSUM | | | | |

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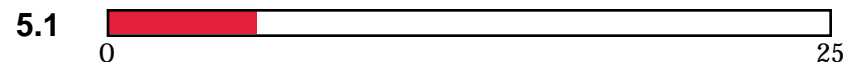
**IDENTIFICATION
TRENTEE BUSH
URBAN FARM
URBAN FARM GRID SAMPLES**

SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 1 | | | | |
|------------------------------------|-------|-----------------|-----|--------|---------|-----------|
| LABORATORY NUMBER | | 39734353 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH |
| H3A EXTRACTION | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 49.2 | | | | |
| PHOSPHORUS | ppm | 54 | | | | |
| POTASSIUM | ppm | 88 | | | | |
| MAGNESIUM | ppm | 73 | | | | |
| CALCIUM | ppm | 662 | | | | |
| SODIUM | ppm | 15 | | | | |
| IRON | ppm | 46 | | | | |
| ALUMINUM | ppm | 120 | | | | |
| WATER SOLUBLE | | | | | | |
| NITRATE-N | ppm | 2 | | | | |
| AMMONIACAL-N | ppm | 1.0 | | | | |
| ORTHOPHOSPHATE-P | ppm | 4.63 | | | | |
| CARBON | ppm | 121.5 | | | | |
| TOTAL NITROGEN | ppm | 6.4 | | | | |
| 1 DAY CO₂C BURST | | | | | | |
| | | 35.00 | | | | |
| ORGANIC CARBON | ppm | 121.5 | | | | |
| ORGANIC NITROGEN | ppm | 3.4 | | | | |
| ORGANIC C/N RATIO | | 35.7 | | | | |

SOIL HEALTH CALCULATION



The **H3A Soil Extractant** was developed by Haney*. This extract is designed to mimic organic acids produced by living plant root systems. These organic acids increase nutrient availability in the root zone.

The **Water Soluble Extract** provides a snapshot of nutrients that are immediately available to the plants.

The **CO₂ Burst** test is very good indicator of soil health. This test measures the amount of CO₂ naturally released from the soil due to the activity of the soil microbes through microbial respiration. This test is very dependent on the amount of carbon that is available to the soil microbes and the form that the carbon is in. As the available carbon increases in your soil the Microbial respiration will increase.

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The **Organic C/N ratio** is a critical component of the nutrient cycle. A soil C/N ratio above 20 generally indicates that Nitrogen will be tied up and not available to plants. The ideal range for the Organic C/N ratio will be from 8:1 to 15:1.

The **Soil Health Calculation** uses the CO₂ Burst, Organic Carbon, Organic Nitrogen, and the C/N ratio to generate the soil health number. This calculation looks at the balance of soil carbon and nitrogen and their relationship to microbial activity. This number represents the overall health of your system. Soil values will range from 0 to 25. A soil with a value below 7 would be considered low. You want to see this number increase as you make changes and adjustments. Keeping track of this number will allow you to gauge the effects of your management practices over time.

*Modifications to the New Soil Extractant H3A-1: A Multinutrient Extractant
R.L. Haney (a); E.B. Haney (b); L.R. Hossner (c); J.G. Arnold (a)

ADDITIONAL NITROGEN CREDIT IDENTIFIED VIA HANEY TEST: **N/A. Sample depth not 0-6"**

NITROGEN RECOMMENDATIONS MAY INCLUDE ADDITIONAL NITROGEN CREDITS BASED ON PREVIOUS CROPS AND NITROGEN MINERALIZATION RATES.

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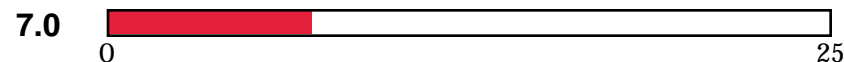
**IDENTIFICATION
TRENTEE BUSH
URBAN FARM
URBAN FARM GRID SAMPLES**

SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 2 | | | | |
|------------------------------------|-------|-----------------|-----|--------|---------|-----------|
| LABORATORY NUMBER | | 39734354 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH |
| H3A EXTRACTION | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 38.1 | | | | |
| PHOSPHORUS | ppm | 43 | | | | |
| POTASSIUM | ppm | 133 | | | | |
| MAGNESIUM | ppm | 111 | | | | |
| CALCIUM | ppm | 1249 | | | | |
| SODIUM | ppm | 17 | | | | |
| IRON | ppm | 44 | | | | |
| ALUMINUM | ppm | 117 | | | | |
| WATER SOLUBLE | | | | | | |
| NITRATE-N | ppm | 2 | | | | |
| AMMONIACAL-N | ppm | 1.4 | | | | |
| ORTHOPHOSPHATE-P | ppm | 2.88 | | | | |
| CARBON | ppm | 187.1 | | | | |
| TOTAL NITROGEN | ppm | 8.3 | | | | |
| 1 DAY CO₂C BURST | | | | | | |
| | | 46.00 | | | | |
| ORGANIC CARBON | ppm | 187.1 | | | | |
| ORGANIC NITROGEN | ppm | 4.9 | | | | |
| ORGANIC C/N RATIO | | 38.2 | | | | |

SOIL HEALTH CALCULATION



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R.L. Haney (a); E.B. Haney (b); L.R. Hossner (c); J.G. Arnold (a)

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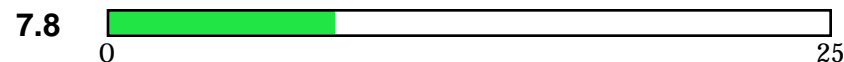
**IDENTIFICATION
TRENTEE BUSH
URBAN FARM
URBAN FARM GRID SAMPLES**

SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 3 | | | | | |
|------------------------------------|-------|----------|-------------------------------|--------|---------|-----------|--|
| LABORATORY NUMBER | | 39734355 | | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH | |
| H3A EXTRACTION | | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 15.6 | [Bar chart showing 15.6 ppm] | | | | |
| PHOSPHORUS | ppm | 18 | [Bar chart showing 18 ppm] | | | | |
| POTASSIUM | ppm | 116 | [Bar chart showing 116 ppm] | | | | |
| MAGNESIUM | ppm | 114 | [Bar chart showing 114 ppm] | | | | |
| CALCIUM | ppm | 1223 | [Bar chart showing 1223 ppm] | | | | |
| SODIUM | ppm | 20 | [Bar chart showing 20 ppm] | | | | |
| IRON | ppm | 45 | [Bar chart showing 45 ppm] | | | | |
| ALUMINUM | ppm | 186 | [Bar chart showing 186 ppm] | | | | |
| WATER SOLUBLE | | | | | | | |
| NITRATE-N | ppm | 2 | [Bar chart showing 2 ppm] | | | | |
| AMMONIACAL-N | ppm | 1.3 | [Bar chart showing 1.3 ppm] | | | | |
| ORTHOPHOSPHATE-P | ppm | 0.45 | [Bar chart showing 0.45 ppm] | | | | |
| CARBON | ppm | 205.7 | [Bar chart showing 205.7 ppm] | | | | |
| TOTAL NITROGEN | ppm | 7.7 | [Bar chart showing 7.7 ppm] | | | | |
| 1 DAY CO₂C BURST | | | | | | | |
| | | 53.00 | [Bar chart showing 53.00] | | | | |
| ORGANIC CARBON | ppm | 205.7 | [Bar chart showing 205.7 ppm] | | | | |
| ORGANIC NITROGEN | ppm | 4.4 | [Bar chart showing 4.4 ppm] | | | | |
| ORGANIC C/N RATIO | | 46.8 | [Bar chart showing 46.8] | | | | |

SOIL HEALTH CALCULATION



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*Modifications to the New Soil Extractant H3A-1: A Multinutrient Extractant
R.L. Haney (a); E.B. Haney (b); L.R. Hossner (c); J.G. Arnold (a)

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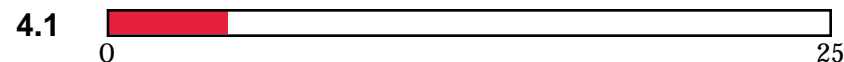
**IDENTIFICATION
TRENTEE BUSH
URBAN FARM
URBAN FARM GRID SAMPLES**

SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 4 | | | | |
|------------------------------------|-------|----------|-----|--------|---------|-----------|
| LABORATORY NUMBER | | 39734356 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH |
| H3A EXTRACTION | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 4.3 | | | | |
| PHOSPHORUS | ppm | 6 | | | | |
| POTASSIUM | ppm | 84 | | | | |
| MAGNESIUM | ppm | 189 | | | | |
| CALCIUM | ppm | 4047 | | | | |
| SODIUM | ppm | 15 | | | | |
| IRON | ppm | 27 | | | | |
| ALUMINUM | ppm | 67 | | | | |
| WATER SOLUBLE | | | | | | |
| NITRATE-N | ppm | 2 | | | | |
| AMMONIACAL-N | ppm | 1.0 | | | | |
| ORTHOPHOSPHATE-P | ppm | 0.49 | | | | |
| CARBON | ppm | 172.4 | | | | |
| TOTAL NITROGEN | ppm | 4.5 | | | | |
| 1 DAY CO₂C BURST | | | | | | |
| | | 22.00 | | | | |
| ORGANIC CARBON | ppm | 172.4 | | | | |
| ORGANIC NITROGEN | ppm | 1.5 | | | | |
| ORGANIC C/N RATIO | | 114.9 | | | | |

SOIL HEALTH CALCULATION



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R.L. Haney (a); E.B. Haney (b); L.R. Hossner (c); J.G. Arnold (a)

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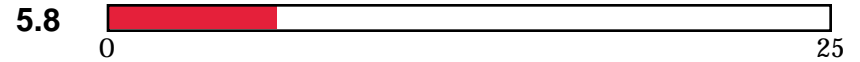
**IDENTIFICATION
TRENTEE BUSH
URBAN FARM
URBAN FARM GRID SAMPLES**

SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 6 | | | | |
|------------------------------------|-------|-----------------|-----|--------|---------|-----------|
| LABORATORY NUMBER | | 39734358 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH |
| H3A EXTRACTION | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 47.1 | | | | |
| PHOSPHORUS | ppm | 52 | | | | |
| POTASSIUM | ppm | 124 | | | | |
| MAGNESIUM | ppm | 101 | | | | |
| CALCIUM | ppm | 936 | | | | |
| SODIUM | ppm | 8 | | | | |
| IRON | ppm | 47 | | | | |
| ALUMINUM | ppm | 114 | | | | |
| WATER SOLUBLE | | | | | | |
| NITRATE-N | ppm | 2 | | | | |
| AMMONIACAL-N | ppm | 2.5 | | | | |
| ORTHOPHOSPHATE-P | ppm | 4.52 | | | | |
| CARBON | ppm | 133.7 | | | | |
| TOTAL NITROGEN | ppm | 6.3 | | | | |
| 1 DAY CO₂C BURST | | | | | | |
| | | 43.00 | | | | |
| ORGANIC CARBON | ppm | 133.7 | | | | |
| ORGANIC NITROGEN | ppm | 1.8 | | | | |
| ORGANIC C/N RATIO | | 74.3 | | | | |

SOIL HEALTH CALCULATION



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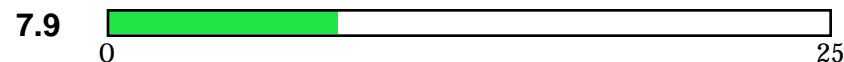
IDENTIFICATION
 TRENTEE BUSH
 URBAN FARM
 URBAN FARM GRID SAMPLES

SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 7 | | | | | |
|------------------------------------|-------|----------|--------------|--------|---------|-----------|--|
| LABORATORY NUMBER | | 39734360 | | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH | |
| H3A EXTRACTION | | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 25.0 | [Green bar] | | | | |
| PHOSPHORUS | ppm | 28 | [Green bar] | | | | |
| POTASSIUM | ppm | 73 | [Green bar] | | | | |
| MAGNESIUM | ppm | 69 | [Green bar] | | | | |
| CALCIUM | ppm | 514 | [Green bar] | | | | |
| SODIUM | ppm | 7 | [Green bar] | | | | |
| IRON | ppm | 31 | [Green bar] | | | | |
| ALUMINUM | ppm | 93 | [Green bar] | | | | |
| WATER SOLUBLE | | | | | | | |
| NITRATE-N | ppm | 2 | [Green bar] | | | | |
| AMMONIACAL-N | ppm | 1.8 | [Green bar] | | | | |
| ORTHOPHOSPHATE-P | ppm | 3.68 | [Yellow bar] | | | | |
| CARBON | ppm | 142.1 | [Green bar] | | | | |
| TOTAL NITROGEN | ppm | 6.7 | [Green bar] | | | | |
| 1 DAY CO₂C BURST | | | | | | | |
| | | 62.00 | [Green bar] | | | | |
| ORGANIC CARBON | ppm | 142.1 | [Green bar] | | | | |
| ORGANIC NITROGEN | ppm | 2.9 | [Green bar] | | | | |
| ORGANIC C/N RATIO | | 49.0 | [Green bar] | | | | |

SOIL HEALTH CALCULATION



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 R.L. Haney (a); E.B. Haney (b); L.R. Hossner (c); J.G. Arnold (a)

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**IDENTIFICATION
TRENTEE BUSH
URBAN FARM
URBAN FARM GRID SAMPLES**

SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 8 | | | | |
|------------------------------------|-------|----------|-----|--------|---------|-----------|
| LABORATORY NUMBER | | 39734361 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH |
| H3A EXTRACTION | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 34.2 | | | | |
| PHOSPHORUS | ppm | 41 | | | | |
| POTASSIUM | ppm | 224 | | | | |
| MAGNESIUM | ppm | 218 | | | | |
| CALCIUM | ppm | 3422 | | | | |
| SODIUM | ppm | 10 | | | | |
| IRON | ppm | 49 | | | | |
| ALUMINUM | ppm | 68 | | | | |
| WATER SOLUBLE | | | | | | |
| NITRATE-N | ppm | 5 | | | | |
| AMMONIACAL-N | ppm | 1.4 | | | | |
| ORTHOPHOSPHATE-P | ppm | 5.92 | | | | |
| CARBON | ppm | 295.6 | | | | |
| TOTAL NITROGEN | ppm | 16.2 | | | | |
| 1 DAY CO₂C BURST | | | | | | |
| | | 91.00 | | | | |
| ORGANIC CARBON | ppm | 295.6 | | | | |
| ORGANIC NITROGEN | ppm | 9.8 | | | | |
| ORGANIC C/N RATIO | | 30.2 | | | | |

SOIL HEALTH CALCULATION



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R.L. Haney (a); E.B. Haney (b); L.R. Hossner (c); J.G. Arnold (a)

ADDITIONAL NITROGEN CREDIT IDENTIFIED VIA HANEY TEST: **N/A. Sample depth not 0-6"**

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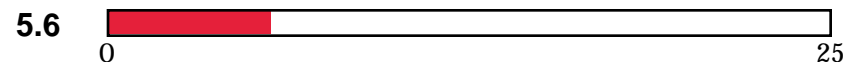
IDENTIFICATION
 TRENTEE BUSH
 URBAN FARM
 URBAN FARM GRID SAMPLES

SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 9 | | | | |
|------------------------------------|-------|----------|-----|--------|---------|-----------|
| LABORATORY NUMBER | | 39734362 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH |
| H3A EXTRACTION | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 14.7 | | | | |
| PHOSPHORUS | ppm | 17 | | | | |
| POTASSIUM | ppm | 80 | | | | |
| MAGNESIUM | ppm | 173 | | | | |
| CALCIUM | ppm | 3388 | | | | |
| SODIUM | ppm | 11 | | | | |
| IRON | ppm | 21 | | | | |
| ALUMINUM | ppm | 60 | | | | |
| WATER SOLUBLE | | | | | | |
| NITRATE-N | ppm | 2 | | | | |
| AMMONIACAL-N | ppm | 0.8 | | | | |
| ORTHOPHOSPHATE-P | ppm | 1.87 | | | | |
| CARBON | ppm | 179.4 | | | | |
| TOTAL NITROGEN | ppm | 5.2 | | | | |
| 1 DAY CO₂C BURST | | | | | | |
| | | 36.00 | | | | |
| ORGANIC CARBON | ppm | 179.4 | | | | |
| ORGANIC NITROGEN | ppm | 2.4 | | | | |
| ORGANIC C/N RATIO | | 74.8 | | | | |

SOIL HEALTH CALCULATION



The **H3A Soil Extractant** was developed by Haney*. This extract is designed to mimic organic acids produced by living plant root systems. These organic acids increase nutrient availability in the root zone.

The **Water Soluble Extract** provides a snapshot of nutrients that are immediately available to the plants.

The **CO₂ Burst** test is very good indicator of soil health. This test measures the amount of CO₂ naturally released from the soil due to the activity of the soil microbes through microbial respiration. This test is very dependent on the amount of carbon that is available to the soil microbes and the form that the carbon is in. As the available carbon increases in your soil the Microbial respiration will increase.

Organic Carbon is the available total water extractable organic carbon from your soil. This pool of carbon is roughly 80 times smaller than the Soil Organic Matter. The organic carbon pool reflects the energy/food source that is driving the soil microbes.

The **Organic Nitrogen** pool is replenished by fresh plant residues, manure, composts, and dying soil microbes.

The **Organic C/N ratio** is a critical component of the nutrient cycle. A soil C/N ratio above 20 generally indicates that Nitrogen will be tied up and not available to plants. The ideal range for the Organic C/N ratio will be from 8:1 to 15:1.

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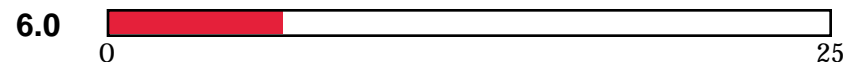
IDENTIFICATION
 TRENTEE BUSH
 URBAN FARM
 URBAN FARM GRID SAMPLES

SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 10 | | | | |
|------------------------------------|-------|----------|-----|--------|---------|-----------|
| LABORATORY NUMBER | | 39734363 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH |
| H3A EXTRACTION | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 20.7 | | | | |
| PHOSPHORUS | ppm | 24 | | | | |
| POTASSIUM | ppm | 91 | | | | |
| MAGNESIUM | ppm | 103 | | | | |
| CALCIUM | ppm | 1414 | | | | |
| SODIUM | ppm | 8 | | | | |
| IRON | ppm | 23 | | | | |
| ALUMINUM | ppm | 82 | | | | |
| WATER SOLUBLE | | | | | | |
| NITRATE-N | ppm | 1 | | | | |
| AMMONIACAL-N | ppm | 1.6 | | | | |
| ORTHOPHOSPHATE-P | ppm | 1.90 | | | | |
| CARBON | ppm | 163.0 | | | | |
| TOTAL NITROGEN | ppm | 5.4 | | | | |
| 1 DAY CO₂C BURST | | | | | | |
| | | 41.00 | | | | |
| ORGANIC CARBON | ppm | 163.0 | | | | |
| ORGANIC NITROGEN | ppm | 2.8 | | | | |
| ORGANIC C/N RATIO | | 58.2 | | | | |

SOIL HEALTH CALCULATION



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The **Organic C/N ratio** is a critical component of the nutrient cycle. A soil C/N ratio above 20 generally indicates that Nitrogen will be tied up and not available to plants. The ideal range for the Organic C/N ratio will be from 8:1 to 15:1.

The **Soil Health Calculation** uses the CO₂ Burst, Organic Carbon, Organic Nitrogen, and the C/N ratio to generate the soil health number. This calculation looks at the balance of soil carbon and nitrogen and their relationship to microbial activity. This number represents the overall health of your system. Soil values will range from 0 to 25. A soil with a value below 7 would be considered low. You want to see this number increase as you make changes and adjustments. Keeping track of this number will allow you to gauge the effects of your management practices over time.

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**IDENTIFICATION
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URBAN FARM
URBAN FARM GRID SAMPLES**

SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 11 | | | | |
|------------------------------------|-------|-----------------|-----|--------|---------|-----------|
| LABORATORY NUMBER | | 39734364 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH |
| H3A EXTRACTION | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 12.1 | | | | |
| PHOSPHORUS | ppm | 15 | | | | |
| POTASSIUM | ppm | 63 | | | | |
| MAGNESIUM | ppm | 81 | | | | |
| CALCIUM | ppm | 437 | | | | |
| SODIUM | ppm | 7 | | | | |
| IRON | ppm | 87 | | | | |
| ALUMINUM | ppm | 123 | | | | |
| WATER SOLUBLE | | | | | | |
| NITRATE-N | ppm | 4 | | | | |
| AMMONIACAL-N | ppm | 1.7 | | | | |
| ORTHOPHOSPHATE-P | ppm | 3.35 | | | | |
| CARBON | ppm | 222.0 | | | | |
| TOTAL NITROGEN | ppm | 13.5 | | | | |
| 1 DAY CO₂C BURST | | | | | | |
| | | 76.00 | | | | |
| ORGANIC CARBON | ppm | 222.0 | | | | |
| ORGANIC NITROGEN | ppm | 7.8 | | | | |
| ORGANIC C/N RATIO | | 28.5 | | | | |

SOIL HEALTH CALCULATION



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SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

| SAMPLE IDENTIFICATION | | NECC 12 | | | | |
|------------------------------------|-------|----------|-------------------------------|--------|---------|-----------|
| LABORATORY NUMBER | | 39734365 | | | | |
| ANALYTE | UNITS | RESULTS | LOW | MEDIUM | OPTIMUM | VERY HIGH |
| H3A EXTRACTION | | | | | | |
| ORTHOPHOSPHATE-P | ppm | 43.6 | [Bar chart showing 43.6 ppm] | | | |
| PHOSPHORUS | ppm | 10 | [Bar chart showing 10 ppm] | | | |
| POTASSIUM | ppm | 34 | [Bar chart showing 34 ppm] | | | |
| MAGNESIUM | ppm | 59 | [Bar chart showing 59 ppm] | | | |
| CALCIUM | ppm | 429 | [Bar chart showing 429 ppm] | | | |
| SODIUM | ppm | 4 | [Bar chart showing 4 ppm] | | | |
| IRON | ppm | 15 | [Bar chart showing 15 ppm] | | | |
| ALUMINUM | ppm | 19 | [Bar chart showing 19 ppm] | | | |
| WATER SOLUBLE | | | | | | |
| NITRATE-N | ppm | 3 | [Bar chart showing 3 ppm] | | | |
| AMMONIACAL-N | ppm | 1.8 | [Bar chart showing 1.8 ppm] | | | |
| ORTHOPHOSPHATE-P | ppm | 4.47 | [Bar chart showing 4.47 ppm] | | | |
| CARBON | ppm | 267.5 | [Bar chart showing 267.5 ppm] | | | |
| TOTAL NITROGEN | ppm | 12.3 | [Bar chart showing 12.3 ppm] | | | |
| 1 DAY CO₂C BURST | | | | | | |
| | | 87.00 | [Bar chart showing 87.00] | | | |
| ORGANIC CARBON | ppm | 267.5 | [Bar chart showing 267.5 ppm] | | | |
| ORGANIC NITROGEN | ppm | 7.5 | [Bar chart showing 7.5 ppm] | | | |
| ORGANIC C/N RATIO | | 35.7 | [Bar chart showing 35.7] | | | |

SOIL HEALTH CALCULATION



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