Root samples were taken at Sweet Tree in Essex County on December 13, 2016 and processed on December 15<sup>th</sup>. Samples were taken from 35 trees, 20 from an area generally mapped as defoliated and 15 from an undefoliated area. All but one of the trees in the area mapped as undefoliated had high starch content.

| Depleted |    | 4 | 4  |
|----------|----|---|----|
| High     | 14 | 6 | 20 |
| Low      |    | 5 | 5  |
| Medium   | 1  | 5 | 6  |
|          |    |   |    |

Samples included 21 cores and 14 roots.

Trees that were sampled ranked mostly in category 1 for tree vigor.

| Depleted | 4  |   | 4  |
|----------|----|---|----|
| High     | 20 |   | 20 |
| Low      | 5  |   | 5  |
| Medium   | 4  | 2 | 6  |
|          |    |   |    |

All trees that ranked as depleted, low or medium for starch had defoliation ratings of 3. Those that ranked high for starch included 14 trees with defoliation readings 0-2, but 6 trees with high starch readings had a defoliation rating of 3.

Foliage transparency varied widely for trees with high starch reserves, but ranged from 40-95 for trees with depleted, low, or medium readings. Trees ranked as depleted or low had 70-95 percent transparency.