**Laboratory Unit 4.1 – Ecological Methods: Field Sampling Techniques**

**Leaf Herbivory and Fungal Occurrence on Tree Species**

**Fall/Summer Data Collection Handout – Sampling 2 Trees**

**Methods:**

***Step 1:* Record your observations below:**

* Description of sampling location(s). If using different locations, indicate and describe for each location (add GPS location/geotag, if possible):
  + Insert pictures:
* Description of observations around each of the **2 trees sampled**:
  + Insert pictures:
* Tree(s) Identification (as specific as possible – genus and species):
* Other observations:
  + Insert pictures:

***Steps 2 & 3*: Record leaf surface area in the tables at the end of this document** (Tables 4.1-1 & 4.1-2)

* Insert pictures of types of leaf herbivory you observe on each of your trees
* Insert pictures of types of fungal infection you observe on each of your trees – keeping track of what you see on each tree:

Table 4.1-1. Calculations of approximate leaf surface area (SA)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Tree #1 species: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Country or Region of Origin: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Native/Non-native \_\_\_\_\_\_\_\_\_\_ Location & Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| Leaf # | Overall Leaf  SA | Herbivory Damage Leaf SA | Fungal Damage Leaf SA | Total Leaf Damage | Percent  Leaf Damage | Type(s) of Herbivory Present |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| Total SA of leaves/ category |  |  |  |  |  |  |
| Ave. Surf. Area/10 leaves |  |  |  |  |  |  |

Additional Notes:

Table 4.1-2. Calculations of approximate leaf surface area (SA)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Tree #2 species: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Country or Region of Origin: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Native/Non-native \_\_\_\_\_\_\_\_\_\_ Location & Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| Leaf # | Overall Leaf  SA | Herbivory Damage Leaf SA | Fungal Damage Leaf SA | Total Leaf Damage | Percent  Leaf Damage | Type(s) of Herbivory Present |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| Total SA of leaves/ category |  |  |  |  |  |  |
| Ave. Surf. Area/10 leaves |  |  |  |  |  |  |

Additional Notes: