

INFORMATION SHEET

1. Main substrate

The possible values that can be assigned to the substrate at each plot are as follows (code to be used in parentheses):

- a. Bare soil (S)
- b. Rock (R)
- c. Rock or gravel (G)
- d. Leaf litter or woody debris. Note the substrate present under the litter (LS, LR or LG)

Bare soil is loose soil in which vegetation could take root (sand, silt, clay or organic soil) covered by no vegetation. It does not include rocky outcrops.

In the table in section 3, it is possible to put the dominant substrate (e.g. S) or more than one result, in which case it is recommended to put a percentage (e.g. 40% S, 60% LS).

2. Necrosis

Necrosis: Death of a portion of a living organism. In plants, necrosis usually results in the darkening of the affected tissue. For the purpose of this methodology, a plant, or part of a plant, will be considered necrotic when the tissues (stems or leaves) are dead (completely desiccated, rotting, etc.) (photos 3 and 4). Note that dead branches of woody species (complete absence of leaves) will be noted separately and will not be counted in the percentage of necrosis.



Photo 3. Necrotic leaf and one in chlorosis1



Photo 4. Necrotic leaf1

3. Plants with flowers or fruits

Plant reproduction can be a sign of good health as well as an indication of the ecological value of the area since fruits and seeds are food sources for wildlife. **Indices of plant reproduction** (flowers, fruits, cones, etc.) will therefore be described for each plot in terms of % of plants with flowers or fruits. It is possible to add additional observations concerning flowers and fruits, such as the quantity of fruits or flowers, well formed or badly formed fruits, etc.

4. Plant cover

Plant cover (or ground cover): a general term for all vegetation (trees, shrubs, bushes, grasses, etc.) existing on a given area (GDT, 2013). In this study, it will be expressed as a percentage of a given area (1 x 1 m plot) and will include any portion of the area covered by plant parts, not including dead plant parts that are no longer attached to it (leaf litter, woody debris, etc.). Thus, if dead vegetation from the previous year (e.g., herbaceous plants) is still in the seedling stage, it will be included in the vegetation cover. However, if the vegetation is not standing as a plant, then it will be considered as litter.

5. Additional comment

This section allows for the addition of relevant information in the interpretation of the data, particularly information that can explain the data related to necrosis, the presence or absence of flowers or fruits, or the plant cover. For example, it would be relevant to mention that forest cover limits plant growth and thus canopy density. Other indices of vegetation stress may also be additional observations of interest (see section 6 below).

6. Other vegetation stress index

Chlorosis: Abnormal yellowing of foliage. For the purposes of this methodology, a plant, or part of a plant, will be considered to be in chlorosis when it is visibly yellowed compared to the norm for its species (as compared to neighboring plants or other healthier parts of the plant), but its tissues are still alive (photos 1 and 2).



Photo 1. chlorosis of a leaf¹



Photo 2. Chlorosis caused by a mineral deficiency¹

Insect damage: Insect damage is variable and may include complete or partial grazing of plants (photos 5 and 6), wilted or damaged leaves, eggs or aphids on stems (photos 7 and 8).

¹ Photo by J. M. Olson



Photo 5. Stem stripped of leaves by a caterpillar²



Photo 6. Holes in a leaf made by insects²



Photo 7: Leaf curl caused by aphids



Photo 8. Aphids on a leaf²

Other signs of disease/stress: Include any other signs of stress or disease. This may include damage associated with disease or physical damage (frost, lack of light or water) (photos 9 and 12).

Stunting: A state of weakening of plants deprived of light and manifested by the absence of chlorophyll, poor leaf development and elongation of stems. It differs from chlorosis by the effects on the shape of the plant and by the presence of white parts (see photo 5).

Wilt: The alteration or state of deterioration of a plant or part of a plant that is deprived of water and whose natural forms and colors are lost or lost. In this methodological approach, this term will be used to describe plants that lose their shape and dry out, but where the tissues are not dead (necrosis) (see photos 6 and 7).

² Photo by J. M. Olson



Photo 9. ³Photo 10. Frost damaged bark³ Photo 11. Sign of disease (black)



Photo 12. Black nodule on the branches of a cherry tree³



Photo 13. Leaves affected by a fungus ³



Photo 14. Discontinuation of a plant ³



Photo 15. Wilt of a plant³

³ Photo by J. M. Olson