LEAF SAMPLING. PROCESSING PROTOCOL 2012 CRC- 207 FIELD CAMPAIGNS

Objectives for the leaf samples:

- Measure specific leaf area= weight/area
- Water and dry matter content.
- Measure representative leaf hemispherical reflectance and transmittance spectra

Equipment needed:

- Integrating sphere (+spectrometer)
- Scale with a precision of at least 0.01
- Scanner
- Paper bags + marker
- Oven (65°C)
- Field data sheet

Procedure:

The samples that are used in this postprocessing are the ones kept fresh and humid. The fresh weigh, the scan and the integrating sphere measurements MUST be done the same day the leaves are collected.

- Select 3 representative leaves from the plastic bag and measure them with the integrating sphere (see leaf spectroscopy protocol).
- From the remaining leaves, take the leaves that can fit (cut off petiole) an A4 surface (scanner surface) without overlapping.
- Weight the selected leaves, in case there is water on the surface, remove it using a dry cloth.
- Scan the selected leaves. Use the sample id as scanner output file name.
- Put the leaves in a paper bag labelled with the sample name
- Dry the leaf samples in the paper bags in an oven at 65ºC for 24 hours.
- Weight the dry samples. In case they are powdered, weight the leaves inside the paper bag, empty the bag properly and weight the empty bag.
- Gather field data and processing data in a new data sheet (Annex).

ANNEX. PROCESSING DATA SHEET

Tree ID	Spp	DBH (cm)	Tree Height (m)	Approx crown Ø	E=emergent C= canopy I= isolated	% cover	Comments	Date	Wet weight	Dry weight	Leaf area	SLA

Where:

- Tree ID: It's the tree ID specified in the tree label, bags and files obtained through the processing procedure
- Spp: tree species
- DBH: Tree trunk diameter at chest height (cm)
- Tree height: Height of the tree in metres (m)
- Approx crown Ø: Approximation of tree crown diameter (m)
- E/C/I: crown position in the field with respect to the surrounding tree crowns

- % cover: estimated percentage of the leaf fractional cover in the crown.
- Comments: every comment added in the field or during the laboratory processing.
- Date: day the leaves were collected (format yymmdd).
- Wet weight: weight measure the same day the leaves are collected from the tree (g).
- Dry weight: weight of the same leaves measured after drying them in the oven (g).
- Leaf area: Area corresponding to the same leaves computed from the scanned image (cm^2)
- SLA: Specific leaf area, calculated as (Wet weight/Leaf area) in g/cm^2.