



Litterfall Sorting Lab Directions



Litterfall Lab Materials

- litterfall data sheet
- dried leaf samples
- top load balances
- weighing dishes (aluminum pie pans/plastic bowls and plates)
- forceps
- pencil
- vegetation vouchers
- drying ovens

Litterfall Lab Directions

1. Dry bags with samples in an oven at 60°C for at least 48 hours. Remove from oven and seal in plastic bags until ready to process.
2. On the data sheet, write the site name, collection date on the bags, the date of lab work, and your name in the space “lab work done by.” Processing bags in order from A to J is the best procedure to follow to reduce the chance of writing data in the wrong location.
3. Place a large weighing dish or pie plate onto the scale and zero out the balance. Empty contents of bag A onto that plate and record total weight in grams. **Be sure to empty the entire contents of the bag – look in the bag to make sure it’s empty!**
Note: If the bag contains items other than plant material—e.g. scat, insects, or sand—remove those items before weighing the whole bag.
4. Using forceps, sort the sample into the categories listed on the data sheet. Not all species will be present at each site. Little bits and pieces of leaves must be accounted for. When all that is left in the tray is tiny, crumbled up bits of leaves, approximate the proportion of each species and divvy them out among the trays accordingly. *Note: starting in November 2016 we began to measure the amount of elm reproductive parts.*
5. Place an empty pie plate or plastic plate onto the scale and zero it out again. Empty the individual species onto that plate and write that weight in the correct location on your data sheet. Make sure the scale reads 0.0 g each time before dumping leaves, reproductive parts or wood onto the plate.
6. BEMP staffers can decide when not to include a cottonwood leaf from the tub, such as one that is obviously not from the current year and has blown in – is decomposed or very lacy from being eaten. If any leaves are determined to be too old to be included in the data, set them aside and subtract their weight from the total weight.
7. Record samples that have a scale weight of 0.0 g as <0.1 g. Write a dash in the areas where no plants were present. Check your math! Is the sum of the parts within 0.3 g of the total weight? If not, reweigh everything. If this is still the case, make a note of it on the datasheet.

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Example of a complete datasheet

THE UNIVERSITY of NEW MEXICO

Site Name: _____ Date of Labwork: _____

		Species										Total Weight	
		I	J	K	L	M	N	O	P	Q	R	S	T
Native Leaves	Cottonwood	1.0											
	Willow spp.												
	Seepwillow												
	NM olive												
	Thicket Creeper												
Exotic Leaves	Indigo bush									0.3			
	Saltcedar												
	Russian olive												
	Elm										20.1		
	Mulberry												
Reproductive	Other Plant Leaves												
	Cottonwood	2.0	4.8	3.3	4.3	9.5	6.2	1.1	1.3	0.9	6.0		
	Willow		20.1	20.1				20.1		0.3			
	Russian olive									20.1			
	Elm												
WOOD	Saltcedar												
	Other Repro. Parts		0.2										
	WOOD		0.3	0.9				20.1		20.1	20.1	20.1	
Total Weight		3.2	7.1	4.9	4.8	11.6	8.6	1.8	1.5	2.3	7.5		

Bosque Ecosystem Monitoring Program: Leaf Litter Lab

Lab Directions: Throw out all non-vegetation materials (i.e. hair, scat, dirt, insects) BEFORE beginning.
Record measurements in grams (g). Species that have a scale reading of 0.0g should be recorded as <0.1g.
TARE your scale EVERY time!
The difference between the sum of weights and total weight should be 0.3g or less. If it is more, reweigh everything.

Data entry: File: _____ Entry by: _____ Date: _____

Repeat steps above for each of the ten samples. If any bags are missing, note this on the datasheet.

Resources

There are several resources available for identifying unknown plant species. At the UNM litterfall lab station, we have bags of leaves, wood, and reproductive parts separated out based on the datasheet categories. Hanging on the wall is a list of plant species present at each site. Use this to help you determine the possible types of plants your unidentified specimen could be based on which site you are sorting. Additionally, laminated sheets of native and exotic leaves and reproductive parts are good examples to help identify plant parts.

Finally, BEMP staff members—with years of experience in sorting leaves—are here to help identify unknown species. If an identification cannot be made with the resources available and no BEMP staff member is around to ask, save the specimen and bring it to our attention as soon as possible.

Double Check Datasheet



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- Is the datasheet complete?
- Are all sums of individual weights within 0.3g of the total weight?
- Is the date correct on the datasheet?
- Is the site name correct on the datasheet?
- Is your name and the processing date correct on the datasheet?
- Are the species listed on the datasheet logical based on the plant species present at the site?

Clean Up

Once you are confident that your data are complete and correct, you can throw away all the plant parts. Cross out the dates on each paper bag, and place the bag back into the correct bin for that site. Bring the datasheet to the BEMP UNM office, and place it on the Science Coordinator's desk.

This procedure document has been approved by _____

Date _____