

Floodplain Meadows Partnership Protocol for taking a hay sample for nutrient analysis

To find out how much nutrients are taken off the meadow with the hay crop, hay samples can be taken and analysed in a laboratory. This is useful if a nutrient budget is required or if the farmer has concerns about declining hay yield. Hay quality in terms of nutritious value can be also tested if required. It can be important for farmers.

Equipment:

- Top pan balance (and spare batteries) or any scales/balance with up to 1 gram resolution
- Large bag for weighing total hay sample, garden compost bag may be ideal as it is easy to fill the sample in.
- Large brown paper bags for the grab samples
- Permanent marker
- Data sheets
- 1 m x 1 m quadrat such as 4 x 1 m long canes which can be laid down on the ground, positioned carefully to make a square.
- Cutting devices (single or double handed shears or battery powered clipper)

Method

- Try to only cut the plants whose stems and leaves are coming out the ground within the quadrat, so go round the edges of the quadrat and separate the vegetation around the margins.
- If you are interested in finding out hay yield, cut all the vegetation in the quadrat down to the height that the machinery would cut (approximately 5 cm). if the objective is total biomass (to look at the plant community productivity) then the hay should be cut as close to ground as possible. Avoid getting soil in the sample.
- Get a weight for the total hay cut from the quadrat – using a large bag, note the weight of the empty bag in the data sheet, as well as additional notes about a weather condition on a day: wet, in particular, as the samples will contain extra water in it. **NOTE THE TOTAL WEIGHT OF HAY CUT FROM THE 1 m x 1 m QUADRAT ON THE DATA SHEET.**
- Weigh the brown paper bag. Ideally, you pre-weight the bag before going in to the fields and write it down on the bag. Note the weight of the empty paper bag in the data sheet. Take a sub- sample from your clippings, this should be made up of a series of small handfuls rather than just one large handful; weigh this in the brown paper bag.
- The sub-sample should be between 300 and 400 g
- **WRITE THE SUB-SAMPLE WEIGHT ON THE BAG AS WELL AS ON THE DATA SHEET.**
- **LABEL THE PAPER BAG WITH**
 - SITE NAME
 - QUADRAT NUMBER
 - DATE
 - YOUR NAME
- Finally - Put the residual cut material from the big bag back into the cut area and spread it around.