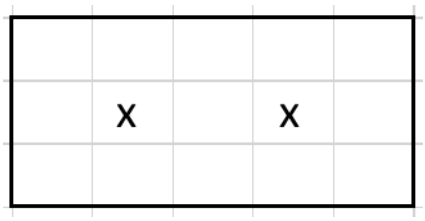
Pitfall trap protocol:

We will be targeting ground-dwelling invertebrates in same plots as the nematode study (27 x 2 management treatments = 54 plots, see soil diversity protocol).

Pitfall traps can be made using transparent drinking cups (0.2 litre, ~7cm diameter). Pitfall trap holes can be cored using a small soil corer or an auger, or dug out using a soil knife along with a small spade. There should be 2 traps in each plot. Traps should be ~2m meters apart on a straight line in the centre of the plots (1.5m away from the edge of the plots).



Traps should be installed at the same time in the two management treatments i.e. in the week after grazing and before cutting (peak biomass/spring), and again in autumn. Traps will be left in place 24 hrs to minimize risks of invertebrates coming from outside the plots. Do not set traps when it is raining or when significant rain is expected; good weather is more important than exact timing.

Trapping liquid:

The trapping liquid can be prepared in advance and consists of 10 drops of odourless washing up liquid (no perfumed washing up liquid!) and 10 g of salt per L of water. Each trap will be filled half-full of liquid in the field (~100 ml of liquid).

1.Installation of traps:

Prepare the hole in the soil. Insert 2 plastic cups into each other and put them into the hole. (The second cup will make the it easier to empty the trap, and helps maintain rigidity). Align the upper rim of the cup with the level of the soil – the upper rim must not be above the soil surface on any side. Fill with 100 ml of the ready-prepared trapping liquid. *If during setup any soil or other material has fallen into the plastic cup, please empty it before filling in the liquid.*

2. Removing the traps:

The traps should be emptied after 24h. Labels will be needed when collecting the samples. Every label has to be unique for each plot and management treatment (same code as WP2). Any problems with the traps should be recorded (breakages, no organisms in one trap etc).

-Locate the trap and pull out the upper plastic cup. Remove any trapped vertebrates, taking care that all arthropods stay in the cup. *Also remove any earthworms, slugs or snails* (we are not targeting molluscs).

-Empty the contents of the two traps from the same plot into a single plastic sampling jar. Rinse out any small invertebrates stuck to the side of the cups if necessary.

-Bring the jars back to the laboratory, discard the trapping liquid in each sampling jar and replace with preserving liquid (96% ethanol). You will need a kitchen sieve (fine mesh), a washing bottle with ethanol and a funnel to do this easily. First empty the contents of each sampling jar into the sieve over a sink to remove the trapping liquid. Rinse the contents of the sieve back into the sample jar using the washing bottle/ethanol and funnel.

-Top up the sample jar with extra ethanol so that there is 5mm of ethanol over the organisms in the jar. The samples can be stored at room temperature in a dark place. Lids should be securely closed (loose lids can cause a fire hazard e.g. during transport).