

# SAMPLING LITTER FOR NUTRIENT CONTENT IN POULTRY HOUSES

## 1. MATERIALS

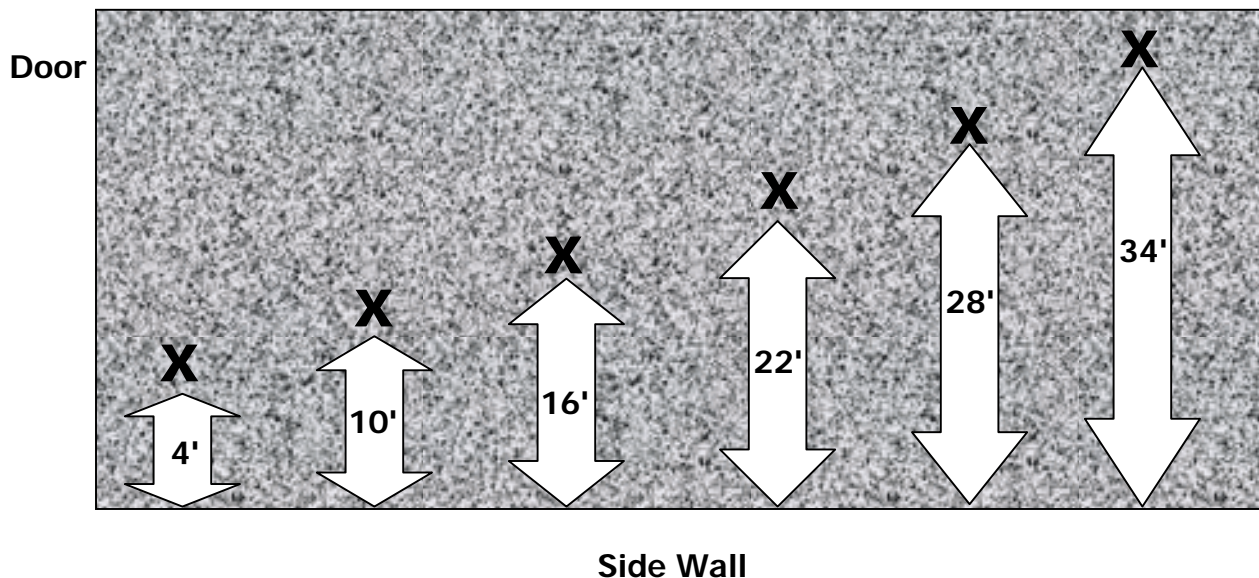
- A trowel or narrow-bladed tool such as a tiling spade or small post hole digger for sampling
- One or two clean plastic buckets for collecting samples
- A plastic sheet about 6' X 6' for mixing
- A plastic zip-lock bag about 8" X 10" for shipping the litter sample to the lab (bags of 4 ml thickness are preferred)

## 2. SAMPLING

### SAMPLING PATTERN

1. Mentally divide the poultry house into 3 chambers of equal size. Within *each chamber* take 6 cores (see Figure 1). Take one core from within 1 foot of the feed line and one core from within 1 foot of the water line.
2. Repeat the sampling procedure in the remaining 2 chambers. Take a total of 18 cores for all 3 chambers.

**Figure 1.** An example of a poultry house. Each **X** represents the area to be sampled.



## SAMPLING PROCEDURE

1. Using the sampling tool, take a representative cross section of litter from the litter surface down to where it contacts the soil.
2. Empty the sample into the bucket. If the bucket(s) becomes full before all 18 samples are taken, pour the contents onto the plastic sheet and continue sampling.

## MIXING THE SAMPLE

1. After you take 18 samples, 6 from each chamber, pour the litter from all 3 chambers onto the plastic sheet.
2. Thorough mixing is critical to ensure that the sample you send for analysis is representative of the entire house. Break up any clumps of litter. If clumps are sticky, you may need to break them up by grating them against a coarse screen.
3. To obtain a good mix, gradually lift one corner of the plastic sheet, rolling the litter over itself toward the middle of the sheet. Do the same from the diagonally opposite corner. See Figure 2.
4. Once the litter is piled in the center of the sheet, spread it out again and roll it into a pile using the other 2 corners. See Figure 3.
5. Repeat steps 3 and 4 at least 5 more times.
6. After the litter is well mixed, spread the litter over the entire sheet again and take at least 9 small sub-samples (about 1 quart total for all 9 sub-samples in a grid pattern). Sample all the way to the plastic in case finer material has settled out during mixing. See Figure 4.

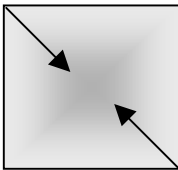


Figure 2

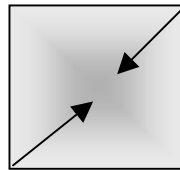


Figure 3

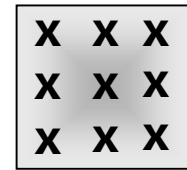


Figure 4

## 3. PACKAGING THE SAMPLE FOR SHIPMENT

1. Fill the plastic bag about 2/3 full with the sample and squeeze the air out before sealing.
2. Keep the sample cool until it is shipped to an analytical laboratory for analysis.