

Why is taking a representative feed sample important?

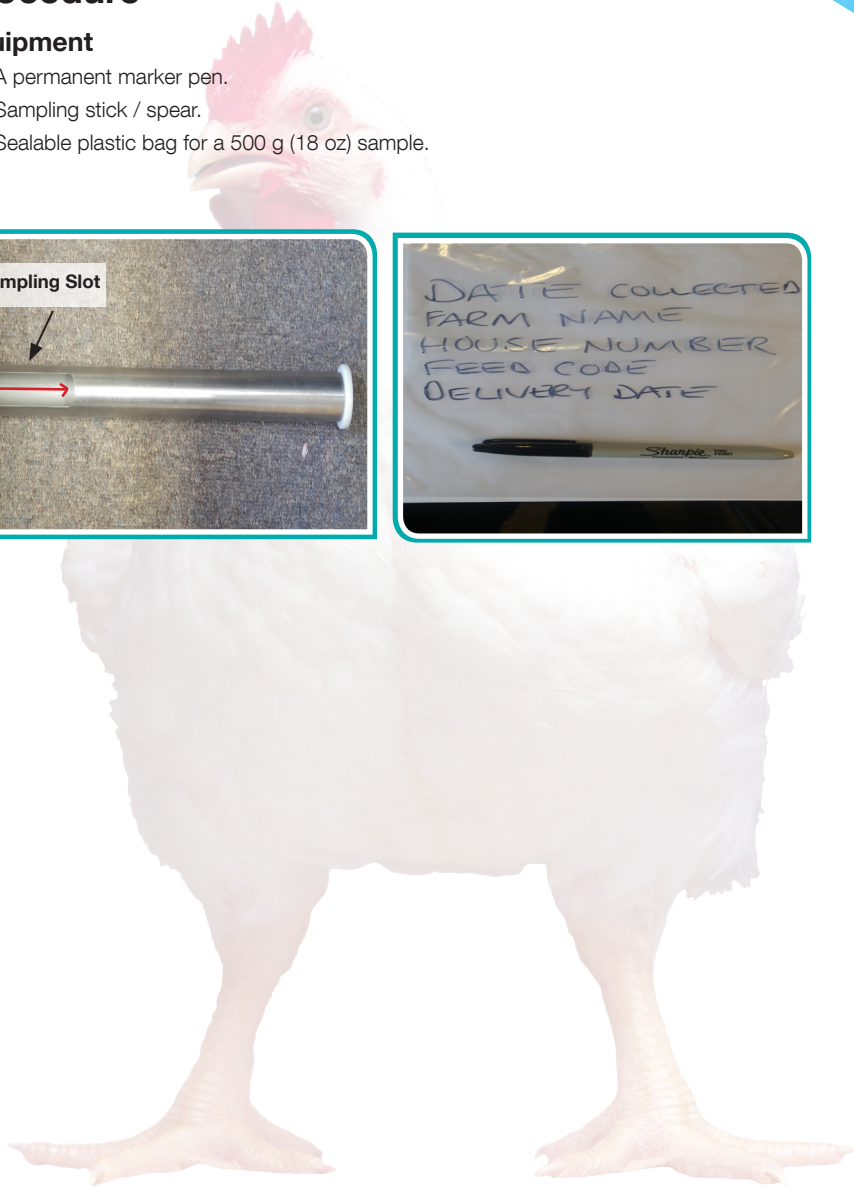
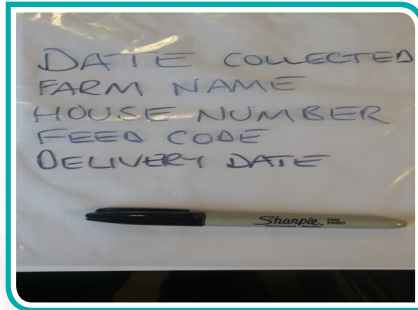
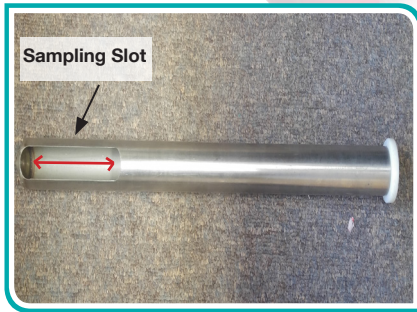
- Nutrition represents the largest cost in poultry production. Delivered feed which is of lower than expected quality will have a negative effect on flock performance.
- The objective of a feed mill is to produce a consistent and predictable high quality feed. This means the feed formulated by the nutritionist must be correctly produced by a mill to exact specifications and delivered to the birds.
- Taking a feed sample will provide the farm with information on the feed being given to the birds (physical quality / nutrient content). If required, this can be used for future analysis and investigation.



Procedure

Equipment

1. A permanent marker pen.
2. Sampling stick / spear.
3. Sealable plastic bag for a 500 g (18 oz) sample.



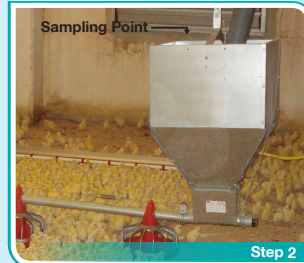
Procedure

Quality control of feed is a critical aspect of modern poultry production. Ideally, finished feed should be analyzed from every batch of feed delivered. Leave at least one or two days after a new batch of feed is delivered before sampling to ensure it is the new batch being sampled.

Step 1 On the sealable bag write the following information for the feed to be sampled:

- Date the sample was collected.
- Farm name.
- House number.
- Feed type / code.
- Date feed was delivered.

Step 2 The sample must be taken from the feed hopper nearest to the feed being consumed by the birds.



Step 3 Insert sampling stick / spear into the feed to be sampled, ensuring the slot is facing down.



Step 4 Twist the spear 180 degrees so the slot is now facing upwards.



Step 5 Withdraw spear from the feed (keeping the slot facing upwards).



Step 6 Remove stopper from the end of the spear.



Step 7 Open the sealable bag and pour the feed in. Repeat steps 2 to 6 until a 500 g (18 oz) sample has been collected. When taking samples ensure that the spear is inserted in different areas and to different depths of the feed to give a representative sample.

Step 8 Seal the bag.

Step 9 Place the sample bag in a clean, dry and (if possible) cool area and retain.

Note - Feed samples should be retained until the end of the flock cycle. If no analysis is needed, the samples should be disposed of during the cleanout period prior to the arrival of a new flock.



Interpreting results

If any of the flock performance issues listed below are seen, it is good practice to send retained feed samples to an external laboratory for physical quality and nutrient analysis.

- Increased FCR.
- Reduced Early Growth.
- Reduced Late Growth.
- Low Uniformity.
- Feed Wastage.
- Leg Problems.
- Wet Litter.
- Poor Feather Cover.

Physical Quality

Analysis of physical quality is necessary to check the feed form and particle size of the delivered feed is to agreed parameters.

Recommended feed form for broilers.

Age	Feed Type	Feed Form and Size
0 - 10 days	Starter	Sieved crumble 1.5 - 3.0 mm diameter or Mini-pellets 1.6 - 2.4 mm diameter 1.5 - 3.0 mm length
11 - 18 days	Grower (This is normally the first delivery of grower feed)	Sieved crumble 1.5 - 3.0 mm diameter or Mini-pellets 1.6 - 2.4 mm diameter 4.0 - 7.0 mm length
19 - 24 days	Grower	Pellets 3.0 - 4.0 mm diameter 5.0 - 8.0 mm length
25 days to processing	Finisher	Pellets 3.0 - 4.0 mm diameter 5.0 - 8.0 mm length

Interpreting results

Recommended particle size for broiler feeds.

Form	Starter	Grower	Finisher
	Crumb	Pellet	Pellet
> 3 mm	15%	> 70%	> 70%
> 2 mm	40%	20%	20%
> 1 mm	35%		
< 1 mm	< 10%	< 10%	< 10%

If particle size analysis is outwith the parameters above consult the feed supplier.

Nutrient Analysis

Nutrient analysis is necessary to check actual nutrient levels in finished feed against feed formulation.

Guidelines for acceptable variation of analyzed feed compared to expected formulation.

Nutrient	Difference from expected formulated value
Protein (Crude Protein and Amino Acids)	+ / - 5%
Moisture	+ / - 10%
Energy	+ / - 2%
Fibre	+ / - 10%
Calcium and Phosphorus	+ / - 10%
Vitamins	+ / - 10%
Other Minerals	+ / - 10%
Fats	Must have minimum value
Contaminants	Must be below maximum value

If there are any concerns that the nutrient levels of the feed are below specification and impacting bird performance, laboratory analyses of the finished feed may be required. The actual analyses required should be discussed with your local nutritionist, but Crude Protein, Calcium (Ca), Phosphorus (P) and energy are the first nutrients that should be investigated. Analyzed values should be compared to formulated values and any variation between the analyzed and formulated values discussed with your local nutritionist.

More Information

- AviaTech - Feed Physical Quality
- Broiler Management Handbook
- Broiler Nutrition Specifications