FARM ECONOMICS

Working out the cost of feed per kilogram of gain

A simple method for working out feed conversion ratio and feed cost per kilogram of live-weight gain from your own farm records, with worked examples.

By FeedSport Nutrition Team · Published 6 October 2026 · Updated 23 October 2026 · 3 min read

KEY POINTS

- Feed conversion ratio (FCR) = feed eaten ÷ weight gained.
- Feed cost per kg of gain = FCR × feed cost per kg.
- A cheaper feed is only cheaper if it does not worsen FCR by more than it saves.
- Accurate records of feed delivered, weights and mortality are all you need.

Feed is usually the largest cost in pig and poultry production. Knowing what it costs to put on each kilogram of live weight tells you more than the price of a bag ever will.

The two numbers you need

Feed conversion ratio (FCR) is how many kilograms of feed it takes to produce one kilogram of live-weight gain:

> FCR = total feed eaten (kg) ÷ total weight gained (kg)

A lower FCR is better.

Feed cost per kg of gain combines FCR with the price of feed:

> Feed cost per kg gain = FCR × feed cost per kg

Worked example: broilers

A batch of 500 broilers:

- Chicks placed: 500 at an average of 0.042 kg
- Birds sold: 485 at an average of 2.2 kg
- Feed used: 1,780 kg
- Average feed cost (illustrative): US$0.62 per kg

Total weight gained = (485 × 2.2) − (500 × 0.042) = 1,067 − 21 = 1,046 kg

FCR = 1,780 ÷ 1,046 = 1.70

Feed cost per kg gain = 1.70 × 0.62 = US$1.05

Note that the 15 birds that died ate feed too. This calculation counts their feed but not their weight, so mortality worsens FCR. That is correct: those losses are a real cost.

Worked example: grower-finisher pigs

A pen of 20 pigs from 25 kg to 100 kg:

- Weight gained: 20 × 75 kg = 1,500 kg
- Feed used: 4,500 kg
- Average feed cost (illustrative): US$0.48 per kg

FCR = 4,500 ÷ 1,500 = 3.0

Feed cost per kg gain = 3.0 × 0.48 = US$1.44

Is the cheaper feed really cheaper?

This is where the calculation earns its keep. Compare two feeds (illustrative figures):

	Feed A	Feed B
Price per kg	US$0.48	US$0.44
FCR achieved	3.0	3.4
Feed cost per kg gain	US$1.44	US$1.50

Feed B is 8% cheaper per bag but costs more per kilogram of pig produced. It also takes longer to reach market weight, which adds housing, labour and interest costs.

The same test applies if you mix your own feed. See how to mix your own broiler feed for a home mix compared with complete feed on cost per kg of gain.

How to collect the records

1. **Weigh at the start.** Weigh all animals or a fair sample at placement or transfer.
2. **Record every bag.** Note the date and weight of feed delivered to the pen or house.
3. **Record deaths.** Note the date and, if possible, the weight.
4. **Account for leftover feed.** Weigh feed remaining in feeders and bins at the end.
5. **Weigh at the end.** Use sale weights or weigh a sample.

Common reasons for a poor FCR

- **Feed wastage** from overfilled or badly adjusted feeders
- **Imbalanced diets**, especially low lysine or energy (see feeding grower pigs)
- **Poor mixing**, so some animals get too little of key nutrients (see mixing on farm)
- **Disease, heat stress or poor water supply**
- **Keeping animals past their efficient weight**, since FCR worsens as animals get heavier

Using the number

Track feed cost per kg of gain for every batch. When you change feed, an ingredient or a supplier, compare batches on this number. It is the clearest way to see whether a change paid off. You can test the cost of different ingredient combinations before you buy using our formulation tool.

Need a diet checked? Send your ingredients and targets to the FeedSport nutrition team on WhatsApp +263 77 468 4534 or sales@feedsport.co.zw.

Figures in this guide are typical values and general ranges. Confirm targets for your animals, genetics and ingredients, and check batch specifications before formulating.