

Instructional Scenario

Pigging Out



Course/Duty Area: Livestock Production Management / Raising and Managing Livestock

Scenario:

Penelope just brought home a healthy piglet, full of energy and curiosity. She's excited about raising it for the market, but questions swirl in her mind: *How much should I feed it as it grows? Will the feed help it gain weight efficiently?* To start, Penelope learns that pigs require different amounts of feed at different growth stages. For example:

- Starter Phase (up to 50 lbs.): High-protein feed (around 20%) to support rapid muscle development; typically, 1.5–2 lbs. of feed per day
- Grower Phase (50–150 lbs.): Protein drops to about 16%; feed intake rises to 4–6 lbs. daily
- Finisher Phase (150–250 lbs): Protein around 14%, with feed intake reaching 6–8 lbs. daily

She discovers that feed efficiency—how well the pig converts feed into weight—is crucial for profitability. A good feed conversion ratio (FCR) for market pigs is about 2.5–3 lbs of feed per pound of gain. To achieve this, Penelope needs to ensure the following:

- Balanced Diet: Corn and soybean meal are common staples, supplemented with vitamins and minerals.
- Clean Water: Always available, as water intake drives feed intake.
- Health Management: Vaccinations and parasite control to prevent growth setbacks.
- Comfortable Environment: Proper temperature and ventilation reduce stress, which improves feed efficiency.

Penelope also learns to track weight regularly and adjust feed amounts accordingly. Using a growth chart or calculator helps her predict when the pig will reach market weight (usually 250–280 lbs. at 5 to 6 months old).

Big Question: How can Penelope decide how much to feed her pig so it will grow as efficiently as possible and be healthy?

Focused Questions:

- How can Penelope track the amount of feed she gives her pig?
- What is the best way for Penelope to keep a record of how much her pig weighs as it grows?
- Using the weight of the pig's feed over a period of days and the weight of the pig, how can Penelope calculate the pig's average daily gain (ADG)?
- What is the typical optimum ADG for a feeder pig?
- If Penelope's pig's ADGs are not in the optimal range, what should Penelope find out about the pig's nutrition, genetics, health, and environment? How can Penelope find this information?

Project-Based Assessment: Have the students calculate a pig's ADG using the formula $(\text{Ending Weight} - \text{Beginning Weight}) / \text{Number of Days}$; it measures how many pounds the pig gains per day, helping track growth for market readiness, with typical ADG often between 1.5 to 2.0 lbs/day, depending on breed and feed.

Step-by-step Calculation

1. Get initial weight: weigh the pig at the start (beginning weight)
2. Get final weight: weigh the pig at the end of the period (ending weight)
3. Calculate the total weight gain: subtract the beginning weight from the ending weight
4. Count the days: determine the total number of days between the initial and final weigh-ins
5. Divide: divide the total weight gain by the number of days to find the ADG

Example

- Beginning weight: 40 lbs (on Day 1)
- Ending weight: 140 lbs (on Day 36)
- Total gain: 140 lbs - 40 lbs = 100 lbs
- Number of days: 36 days
- ADG: 100 lbs / 36 days = 2.78 lbs/day (approx.)

Have students discuss the four factors (i.e., nutrition, genetics, health, and environment) that can influence ADG and what can be done to control them.

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