

Introduction to Poultry Broiler Production

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Key concepts, stages, and best-practice considerations

1. What Is a Broiler?

Aspect	Description
Definition	A chicken raised specifically for meat production, typically slaughtered at 5–8 weeks of age.
Growth Rate	Gains 2.5–3 kg live weight in ~42 days under optimal conditions.
Breeds	Commercial strains (e.g., Ross 308, Cobb 500, Hubbard Classic) selected for rapid growth, feed efficiency, and carcass yield.
Purpose	Supply of white meat for domestic and export markets; high turnover enables continuous production cycles.

2. Production System Overview

1. Planning & Site Selection

- Adequate land, water, and electricity.
- Good drainage, low predator pressure, and biosecurity zoning.

2. Housing

- **Types:** Deep-litter floor houses, tunnel ventilation, or environmentally controlled barns.
- **Key design elements:**
 - Space allowance: 0.07 m²/bird¹ (early) 0.12 m²/bird¹ (final).
 - Ventilation: 0.2–0.3 m³/air/min¹/kg¹ live weight.
 - Litter: Clean wood shavings, rice hulls, or sand; depth 5–10 cm.

3. Equipment

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- Feeders (pan or tube), drinkers (bell or nipple), heating (brooders), lighting system, temperature-controlled ventilation fans.

4. Management Cycle

- Brooding (Day 0-14)** – high temperature (32-34°C) + gradual reduction.
- Grow-out (Day 15-42)** – temperature 21-24°C, lighting 16h/day/8h/night.
- Finishing (Day 35-42)** – focus on feed conversion, health monitoring, and preparing for market.

3. Nutrition Fundamentals

Phase	Age (days)	Primary Feed Type	Key Nutrient Targets
Starter	0-14	Crumble or finely ground mash (22-25% CP)	3000 kcal/ME/kg, 1.2% calcium, 0.45% phosphorus
Grower	15-28	Pelleted feed (20% CP)	3000 kcal/ME/kg, 0.9% calcium, 0.4% phosphorus
Finisher	29-42	Pellet or mash (18% CP)	3100 kcal/ME/kg, 0.8% calcium, 0.35% phosphorus

- Feed Conversion Ratio (FCR):** 1.5–1.7 kg feed/kg live weight (modern strains).
- Additives:** Vitamins, trace minerals, enzymes, probiotics, and, where permitted, coccidiostats/antibiotic growth promoters (subject to regulatory restrictions).

4. Health Management

Area	Recommended Practices
Vaccination	- Day 0: Marek's disease (MD) + Newcastle disease (