

Overview of Poultry Broiler Production

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Key points, stages, and best-practice considerations for raising meat-type chickens (broilers).

1. Introduction to Broiler Production

Aspect	Description
Purpose	Produce high-quality chicken meat efficiently.
Typical Species	<i>Gallus gallus domesticus</i> – commercial broiler strains (e.g., Cobb, Ross, Hubbard).
Market Size	Globally >100 million tons of live weight per year; the sector drives much of the world's protein supply.
Key Performance Indicators (KPIs)	- Feed conversion ratio (FCR) (feed/kg/gain/kg) <1.6 - Average daily gain (ADG) 55–70 g/bird/day - Mortality <4% - Carcass yield 70–73% of live weight

2. Production Cycle Overview

Phase	Age (days)	Main Objectives	Typical Management Actions
1. Hatchery	0 (day-old)	Obtain healthy, uniform chicks	- Egg incubation (21 d) - Vaccination (Marek, IB, ND, etc.) - Chick handling, sexing (if needed) - High-protein starter feed (22–24 % CP)
2. Starter	0–14	Rapid early growth, gut development	- Warm brooding temperature (32–34 °C, gradually reduced) - Light program: 24 h light first 3 d, then 22 h light/2 h dark

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3. Grower	15–28	Continue growth, improve feed efficiency	- Grower feed (20–21% CP) - Temperature 24–28°C - Reduce lighting to 18h light/6h dark
4. Finisher	29–42 (or to target weight)	Maximize breast meat, prepare for processing	- Finisher feed (18–20% CP) - Temperature 21–24°C - Light 16h/8h (optional)
5. Processing	42–56 (target live weight 2.0–2.5kg)	Slaughter, evisceration, chilling, packaging	- Pre-slaughter fasting (6–8h) - Controlled stunning and chilling to maintain meat quality

Cycle length varies by market (e.g., 5 weeks for fast-growers, up to 8 weeks for slower-growers).

3. Housing & Environmental Management

Component	Recommended Range	Why It Matters
Temperature	32°C (day) ? 21°C (week 5)	Affects feed intake, growth, mortality
Relative Humidity	50–70%	Prevents respiratory problems and litter moisture issues
Ventilation	0.2–0.5 m³/?bird/?h (adjusted for temperature & ammonia)	Controls ammonia, CO₂, heat load
Litter	Clean, dry wood shavings or rice hulls; depth 5–10cm	Provides insulation,