

Managing Pullet Uniformity

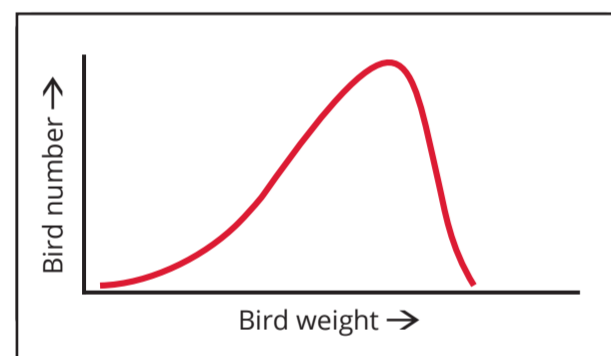
Measuring uniformity and body weight

- 90% of skeletal uniformity is determined in first 12 weeks
- Uniformity in fleshing condition is determined after 12 weeks
- Weigh without feed and water on the same day and time each week
- Use a pen for weighing a minimum of 60 birds and weigh all the birds in the pen
- The resulting weights are used as a basis for feed allocation with the body weight profile

Note:

- Uniformity should never decrease during flock life
- Target: 80% of the birds within 10% of the mean
- Handle birds weekly to evaluate the body condition
- Pullet should achieve fleshing target at 16 weeks
- Delay light stimulation if the birds don't achieve fleshing and fat targets at 21 weeks

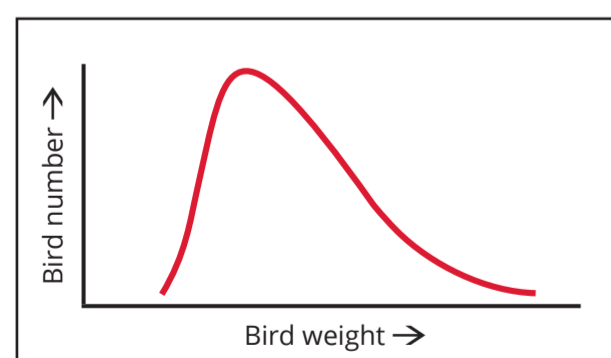
Too many light birds?



Possible causes:

- Poor brooding
- Poor feed distribution
- Not enough feed
- Particle size
- Environmental stress - too much or too little light, too cold, too warm, windy, poor ventilation
- High stocking density
- Vaccination reactions
- Disease e.g. cocci, parasites

Too many heavy birds?

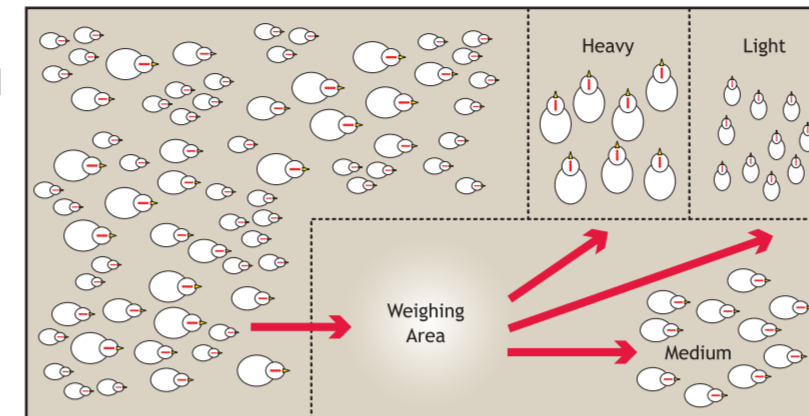


Possible causes:

- Too much feed
- Excessive nutrient density
- Particle size

Grading workflow

- Start grading at 7 days
- Optimal skeletal uniformity is achieved by grading at 7 days, 4 weeks and 8 weeks - 7 days is the most important
- Separate into 3 groups: light, medium, and heavy
- 60-70% of the population should be 'medium' weight



Fleshing scores



Breast at 12 weeks of age

- Fleshing score 2

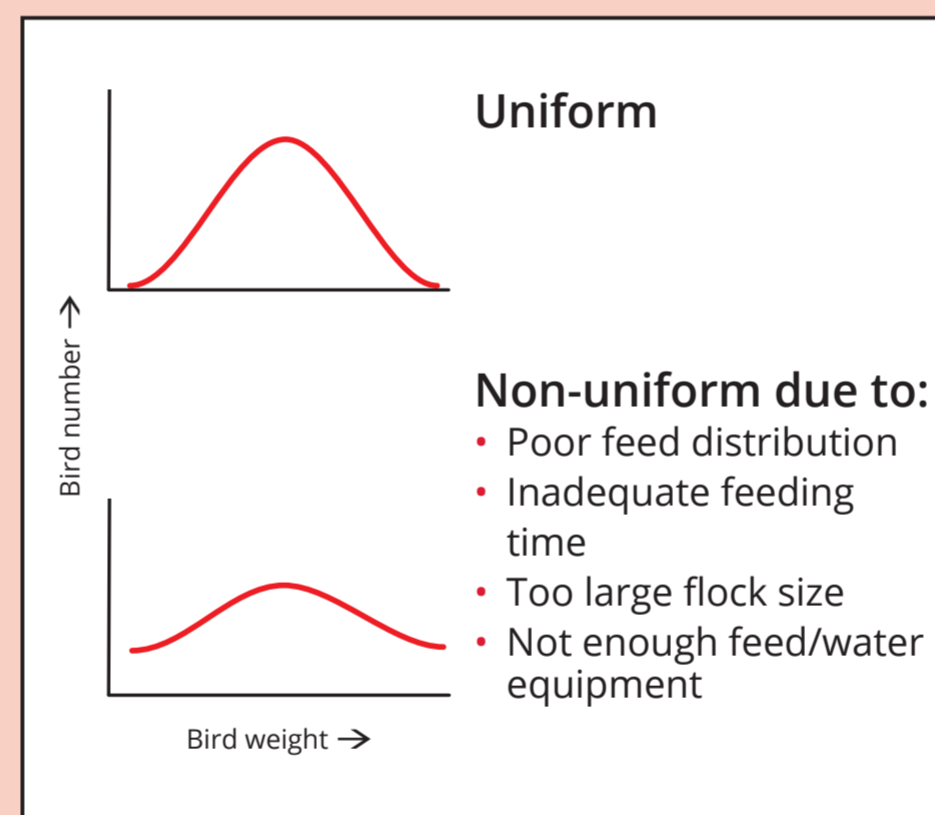


Breast at 16 weeks of age

- Fleshing score 3

Importance of uniformity

- Variability in sexual maturation is a major limitation to achieving high rate of egg/chick production
- Poor uniformity causes staggered entry into lay
- Feed and weight gain is better managed as production starts
- Reduces mortality in early production stages and thus contributes to higher egg production



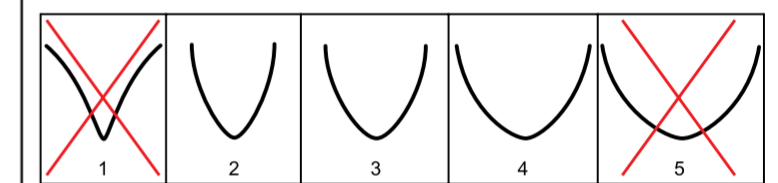
Fleshing and fat development

- The birds have to deposit fat between 16-20 weeks of age

To stimulate:

- Minimum body weight gain of at least 36% between 16-20 weeks
- Feed pre-breeder from 106 days

Fleshing condition in females Rearing



Objectives for Fleshing & Pelvic Fat

Week	Fleshing Score			Total #3 + #4	Pelvic Fat
	#2	#3	#4		
12	70%	30%		30%	
16	40%	60%		60%	
19	<10%	60%	30%	90%	>65%
20	<5%	60%	35%	95%	>75%
21		60%	40%	100%	>85%
22		60%	40%	100%	>90%

Feed distribution principles

- Feeders - adequate space
- Ensure feed is distributed in darkness - maximum distribution time of 3 minutes

Age (weeks)	Feed space per bird (minimum)
1-4	5 cm
5-11	10 cm
12-20	15 cm

Water supply

- 8-10 birds per nipple/75 birds per bell drinkers/ 20-30 birds per cup
- Correct nipple height - birds should never have to stoop forward or be on tip toes to drink
- Adequate water flow - provide 30 to 40 ml/min for first week. Increase 10 ml/week to 4 weeks. Low water flow reduces consumption while high water flow can lead to spillage and wet litter



House set-up

- Stocking density of females 7-8 birds/m²
- Preheat for at least 48 hours prior to chick arrival to an ambient temperature of 32°C
- Optimum concrete temperature of 28°C and optimum litter temperature of 32°C
- Minimum ventilation to remove waste gases and moisture before chicks arrive
- Place 1 supplementary drinker per 50 birds near feed for up to 5 days
- Provide 1 feeder tray per 75 chicks or 40g of feed - ensure 50% of brooding area covered with paper
- Ensure minimum light intensity of >25 lux at chick level



Air quality guidelines

Oxygen %	> 19.6%
Carbon Dioxide (CO ₂)	< 0.3% / 3000 ppm
Carbon Monoxide	< 10 ppm
Ammonia	< 10 ppm
Inspirable Dust	< 3.4 mg/m ³ (.0001 oz/35.3 ft ³)
Relative Humidity	< 70%



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