



***Key Management Points for
Optimum Male Performance***

打造最佳公鸡养殖成绩的管理要素

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Question? 问题?



- Why does fertility decline with age?
为什么随着鸡龄的增长受精率会降低?



As far as the male is concerned, this can be due to: 就公鸡方面来说，这可能是因为：

1. Lower quality and/or volume of semen (less spermatozoa)

In general, males have acceptable Sperm Quality up to 55 - 60 weeks of age.

低质量的和/或者数量少的精子（精子减少）

通常情况下，在50-60周龄之前，公鸡可以提供可接受的精子质量

2. Lower libido or mating interest (less matings).

There is a natural decline in after 35-40 weeks of age.

性欲或者交配兴趣降低（交配次数减少）

在35-40周龄以后有一个自然性的降低

3. Reduced Mating Efficiency (less completed mating).

Possibly due to: Poor weight management in Rearing and Production, Injuries and/or Leg & Feet disorders.

This factor is possibly the **MOST IMPORTANT**

交配效率降低（圆满完成的交配次数减少）

有可能是因为：在养殖和生产过程鸡只重量管理不到位，外伤和 / 或者腿和脚的疾病

这一条有可能是导致受精率下降的**最主要**的原因

4. High Weekly Male Mortality resulting in a reduced Male to Female ratio.

公鸡周死亡率高导致公母比例降低

Key Points 要点



- Rearing weights 育成体重
- Uniformity 均匀度
 - Floor & feeder space 地面和料位空间
 - Grading 分群
- Selecting the good males 挑选好的公鸡
- Body Condition 体况
 - Body weight control & Testis development 体重控制和睾丸发育
- Male mixing 公母混合
- Sexual Synchronization 性成熟同步
- Male feeding and body condition during production 产蛋期公鸡的喂料和体况



Male Management 公鸡管理

Rearing 育成期

- Achieve 4X of bodyweight at 7 days - This will help attain early uniformity.
在7日龄时鸡只重量达到4倍-这样会帮助我们达到早期的均匀度要求
- How?如何做?
 - Stimulate early feed consumption 刺激早期吃料
 - » Organ and immune system development 内脏和免疫系统的发育
 - » 24 hours light for the first 3 days - 60 lux at least 前3天保持24小时光照—至少 60 lux
 - Ad-Libitum 不限饲
 - » Depending on the brooding and diets conditions, 2 or even 1 week of Ad-lib may be enough & start restriction 根据育雏和饲料状况，2周甚至1周不限饲就足够了，然后开始限饲
 - Feed a starter ration containing 19% 用育雏料
 - » Important for skeletal (80% at 8w) 对骨架发育很重要（8周龄时80%）
 - Delay beak trimming/tipping if necessary till 7 days weight is achieve 根据需要延迟断喙，直到达到7日龄的目标重量

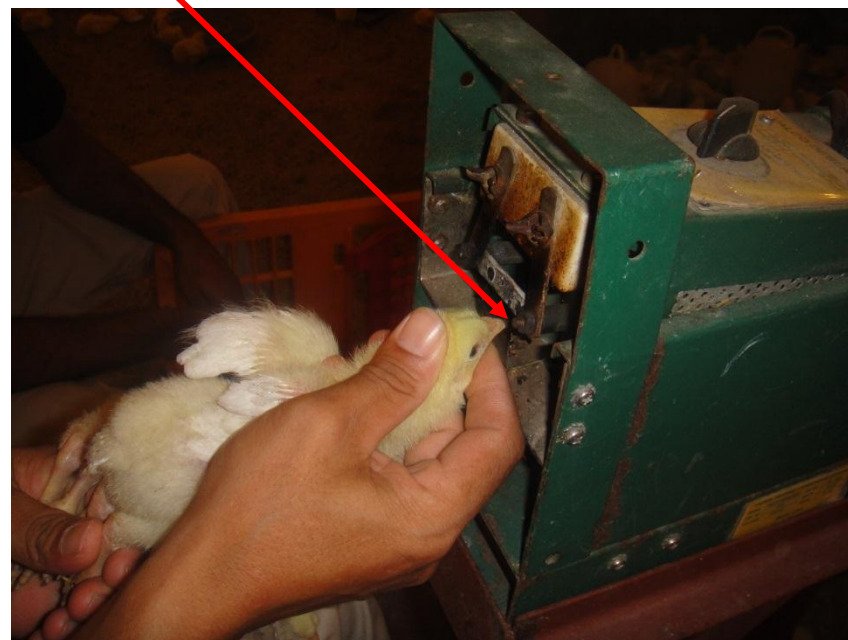
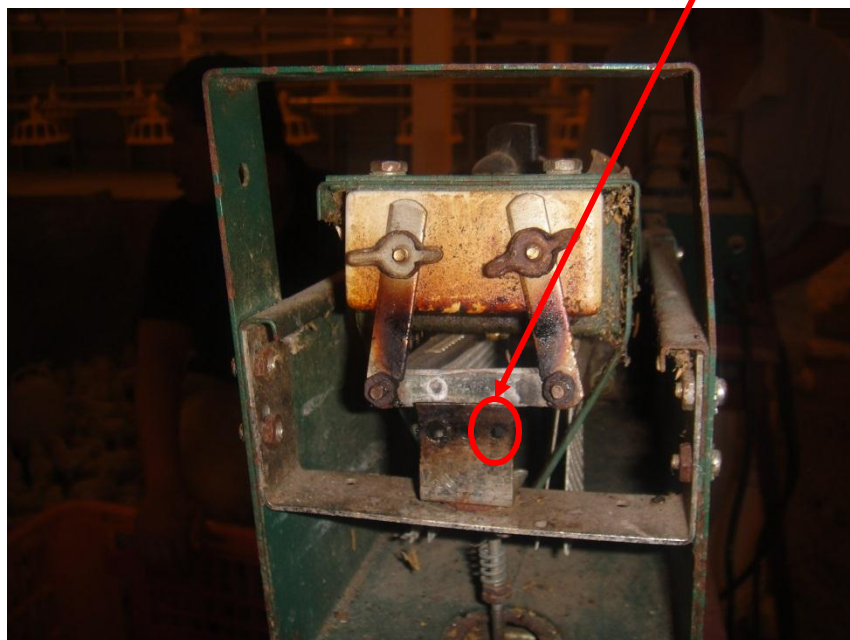


Male Management 公鸡管理

Rearing 育成期

Use the smallest hole to avoid over debeaking

用最小的孔来操作以避免断喙过度





Male Management 公鸡管理

Rearing 育成期

- At rearing stages (4-6 weeks) be sure the body weights are at least at standard or slightly above the standard to ensure good start on skeletal development.
- 育成阶段（4-6周），保证公鸡体重至少达到标准或比标准稍高，这是为了保证骨骼的良好发育。
- Rear males separately until 140-154 days.
- 在140-154日龄前公鸡单独饲养



Male Management 公鸡管理

Uniformity 均匀度

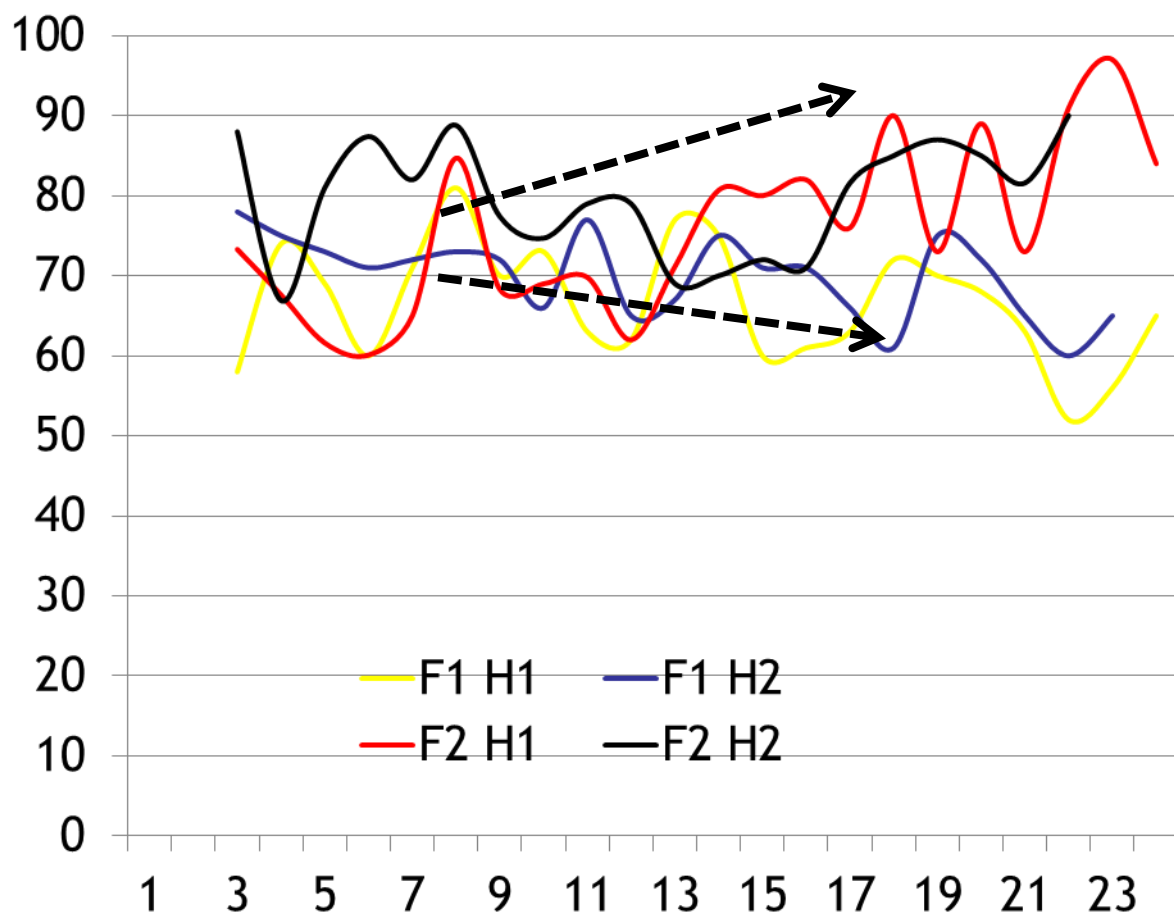


- Uniformity of males is considered more important than in females
- 公鸡的均匀度被认为比母鸡的更加重要
- Increased uniformity of males results in:
- 提高公鸡均匀度有以下效果:
 1. Uniform frame size (relative to effective copulation)
 1. 均匀的体型
 2. Proper (testes) development
 2. 良好的（睾丸）发育



Male Management 公鸡管理

Uniformity 均匀度



Target is to have an increasing weekly uniformity trend 目标是有有一个均匀度每周都升高的趋势

Analyzing the progress of weekly flock uniformity along with the weight is very important! 每周分析鸡群的均匀度进展和体重是至关重要的

Decreasing uniformity trend is an indication of a continuing problem 均匀度下降的趋势是持续会发生问题的提示



Male Management 公鸡管理

Uniformity - Strategy 均匀度 - 策略方法

- The Cobb male is sensitive in rearing to bird density and feed distribution.
科宝公鸡在育成期对鸡群密度和饲料分发速度很敏感
- These males develop properly when the density is kept below 4 males per m² throughout the rearing period
如果育成期公鸡的均匀度在4只/平方米以下，公鸡可以发育良好
 - Rearing density - 4 /m²; at 10w 3.5 /m²
育成期密度-4只/平方米，10周龄 3.5只/平方米
 - Most common mistake is to compromise males floor space in favor of females
最常见的错误操作就是为了给母鸡提供更多的饲养面积而减少公鸡的饲养面积

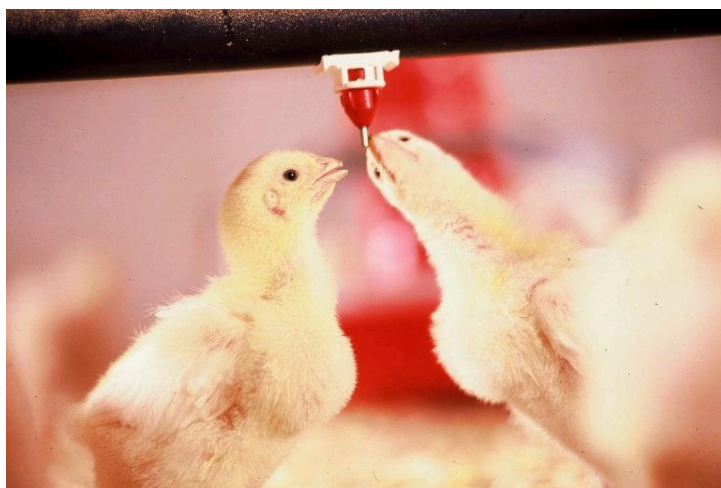


Male Management 公鸡管理

Uniformity - Strategy 均匀度 - 策略方法



- Feeder space (in rearing)
 - Chain Feeder 0-10w (10cm) 10-15w (15 cm) 15w-culling (20-25 cm)
 - Pan Feeder- 1 pan/ 8-9 males
- 喂料空间（育成期）
- ---链条式 0-10周（10厘米），10-15周（15厘米），15周以后（20-25厘米）
- --- 料盘 1盘/8-9只公鸡



- Water space
 - Nipples- 1 nipple per 8 cockerels.
 - Bell Drinker- 1 bell per 75 cockerels.
- 饮水空间
- --- 1只乳头/8-9只公鸡
- --- 钟型饮水器- 1个/75只小公鸡



Male Management 公鸡管理

Uniformity - Strategy 均匀度 - 策略方法



- Whatever the kind of male feeders use:
不管使用何种公鸡料线
 - Feeders should be stable without tilting
料盘应该固定，不能倾斜
 - Winch type for manual feeders
人工喂料料盘所使用的绞盘类型的选择
 - It is essential to have fast (<3 minutes) and uniform feed distribution to achieve high uniformity
 - 饲料的分发速度（<3分钟）对取得高均匀度非常重要



Male Management 公鸡管理

Uniformity - Strategy 均匀度 - 策略方法

- Separate the lightest and heaviest males beginning at 3-4 weeks of age.
- 从3-4周龄时开始， 将最轻和最重的公鸡挑选出来。
- Smaller males must be fed more feed so they can achieve proper frame size before 10 - 12 weeks of age.
- 给比较小的公鸡喂更多的饲料， 让它们在10-12周龄前骨架大小达到目标水准
 - ❖ (90% of the frame-size is set by 12 weeks of age).
 - ❖ (90%的鸡只体型大小在12周龄时已确定)



Male Management 公鸡管理

Uniformity - Strategy 均匀度 - 策略方法

- Beware of the slats height especially when using chain feeders the first time ~ 4-5-6 weeks 注意棚架高度，特别是在4-5-6周龄时第一次启用链式料线
- Males should have easy access on the feeders once the feeders starts to run 在料线启动运行时，公鸡应很容易的从料盘吃到料
- Failure of the males to go in to the feeders immediately will cause problem in attaining early uniformity 如果不能成功的让公鸡去料线吃料，会立即在前期均匀度达标方面出现问题





Male Management 公鸡管理

Male Selection - Good males 公鸡选种 - 好公鸡



- Condition of Feet and Legs
 - Maintain good litter quality
 - Control body weight.
 - Handle with care during vaccinations and weekly weighing.
 - Slat condition

腿和爪的情况

- 保持良好的垫料质量
- 控制体重
- 在免疫和每周称重时小心操作
- 棚架的情况

Male Management 公鸡管理

Male Selection - Legs and Feet 公鸡选种 - 腿和爪



Bumble foot & Staphylococcus infection
爪部水泡和葡萄球菌感染



Male Management 公鸡管理

Male Selection - Legs and Feet 公鸡选种 - 腿和爪



Curly toes
脚趾歪曲



Male Management 公鸡管理

Male Selection - Legs and Feet 公鸡选种 - 腿和爪



- At 6 weeks go from 15 to 14 %.
 - At 8 weeks go from 14 to 13.5 %
 - At 12 weeks go from 13.5 to 13 %
 - House around 8 to 9 % if sexual maturity permits.
-
- 6周齡 15-14%
 - 8周齡 14-13.5%
 - 12周齡 13.5-13%
 - 性成熟时, 8-9%



Male Management 公鸡管理

Male body weight & Condition 公鸡体重和体况



- “**Bodyweight**” is one tool to help gauge the progress of a flock.
- Bodyweight” is not the only way to evaluate the male’s reproductive potential. An estimate of **body condition** is also important.
- Equally important “tools” are Flock Uniformity & Condition (breast confirmation & fleshing).
 - Handle males on a regular basis.
 - Flocks can have similar average weights, but different body composition
- “**体重**” 是监测鸡群发育情况的一个工具
- “**体重**” 不是衡量公鸡性能潜力的唯一方法。**体况** 同样重要
- 其它重要的“工具”有鸡群均匀度、体况（胸型）
 - 日常监测公鸡的发育
 - 平均体重接近的不同鸡群，可能它们的体况大不相同



Male Management 公鸡管理

Male body weight control & Sex separate Feeding

公鸡体重控制和公母分饲



- Key to successful sex separate feeding
- 公母分饲成功的关键
- - Males need to quickly identify their specific feeders.
- --公鸡需要迅速地找到它们各自的喂料器
- Use of a separate feeding system/program which quickly achieves close to 100% exclusion of the males from the female feeding system.
- 使用独立喂料系统/计划，快速取得接近100%公母分饲的系统。
- Best option is to have the same type of male feeder in rearing and production.
- 最佳的选择是在育成和产蛋时使用相同类型的公鸡喂料器



Male Management 公鸡管理

Male body weight control & Sex separate Feeding

公鸡体重控制和公母分饲



- Key: Feed Restriction
- 关键: 限制饲料
- Female only Grill (FOG), MEG- Male Exclusion Grill
- 只限母鸡进食的护栅 (FOG)
 - Grill horizontal width of 43-45mm
 - 护栅宽度43-45毫米
 - Grill vertical height of 50-55 mm
 - 护栅垂直高度50-55毫米
- Prevent females stealing from males.
- 防止母鸡偷吃公鸡的食物
 - Keep male feeders 45-50 cm (18-20") high
 - 保持公鸡的喂料器在45-50厘米（18-20英寸）高度

65 mm height and 45 mm width
高65mm, 宽45mm



50-55 in height + 1/2" PVC pipe
高50-55mm + 1/2" PVC 管



Male Management 公鸡管理

Male body weight control & Sex separate Feeding 公鸡体重控制和公母分饲

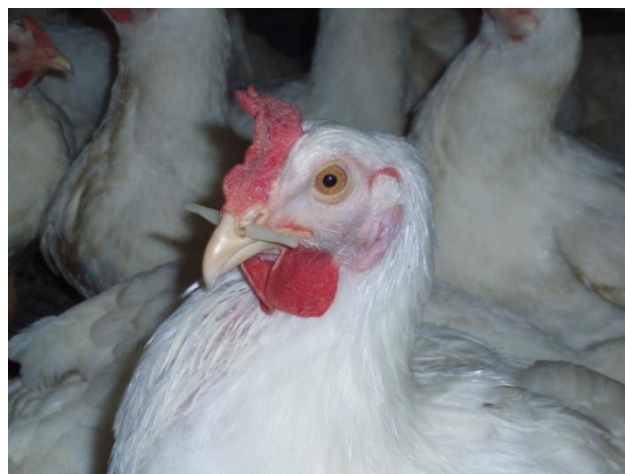
- Males should be excluded from female feeder and vice versa.
- 应使公鸡不能吃到母鸡喂料器中的饲料，反之亦然。
- Full exclusion does not start until combs are completely developed (26-27 weeks of age).
- 在鸡冠完全长成（26-27周龄）前无需开始完全阻离进食。
 - Restricting the opening to 50-55 mm height and 43-45mm width will help exclude the male from the female feeder until full comb development occurs.
 - 在鸡冠完全长成前，把开口限制在50-55毫米高和45毫米宽有助使公鸡不能吃到母鸡喂料器的饲料。
- Allocating less feed on the male feeder and adding extra (or not) on the female feeder until it is observed that no further stealing takes place may only train the males to steal from the female feeder which can result in developing 2 groups of males which will greatly effect fertility.
- 在公鸡喂料器里分发较少饲料，在母鸡喂料器里增加额外（或者不增加）饲料，直到观察不到再有偷吃情况出现，这只会训练公鸡从母鸡喂料器里偷吃，结果就是制造了2群公鸡，会使受精率大受影响。



Male Management 公鸡管理

Male body weight control & Sex separate Feeding

公鸡体重控制和公母分饲



- NOZ-bon
- 鼻签





MILLIMETERS 40

42

44

46

48

2

1 7/8

1 3/4

1 5/8

1 1/2

INCHES

65 mm height and 48 mm width
高65mm, 宽48mm







Male Management 公鸡管理

Body weight and Fertility relationship 体重和受精率的关系

- Too much feed restriction affects male weight and weekly weight gain.
- 太多饲料限制影响公鸡体重和每周体重增加。
 - Also impacts the pituitary gland which triggers the release of the reproductive hormones required for sexual maturity and sperm production.
 - 还会影响到脑下垂体。脑下垂体是促使释放性成熟和生产精子必需的生殖激素。
- The male weight, weekly weight gain and pattern of weekly weight gain all affect testicular development.
- 公鸡体重、每周体重增长和每周体重的增长方式全部都会影响到睾丸的发育。
- Testes size & weight have a direct correlation on sperm production.
- 睾丸的大小和重量与生产精子有直接关系。
- **The greatest period of testes growth occurs 2-3 weeks after light stimulation.**
- 睾丸发育的最佳时间出现在光照刺激的2-3周后。



Male Management 公鸡管理

Male testes development 睪丸发育

Age Period (wks)周齡	Phase 阶段	Important Phenomenon 重要现象	Approximate testes weight (pair) 一对睪丸约重
0-2	Pre-pubertal 青春期前	Start of the gonadal development 性腺发育的开始	-
2-12	Pre-pubertal 青春期前	Multiplication of Sertoli Cells Multiplication of spermatogonias 塞尔托利细胞/精原细胞繁殖	-
13-20	Puberty 青春期	Start of testes development and semen production 睪丸发育和精子生产的开始	0.5-2g
20-24	Puberty 青春期	75% of testes development after light stimulation 光照刺激后睪丸发育75%	25-30g
25-30	Sexual Maturity 性成熟	End of testicular development, maximum semen production 睪丸发育结束, 精子生产最多	35-45g
40-65	-	Start of testicular regression 睪丸萎缩开始	25-30g

High Correlation between Sertoli Cell Numbers and semen production. Maximum potential of semen production is established between 8 and 12 weeks of age.

塞尔托利细胞数目和精子生产之间有高度关联。在8周齡和12周齡之间，精子生产潜力最大。



Male Management 公鸡管理

Male testes development - Sperm Production

公鸡睾丸发育-生产精子

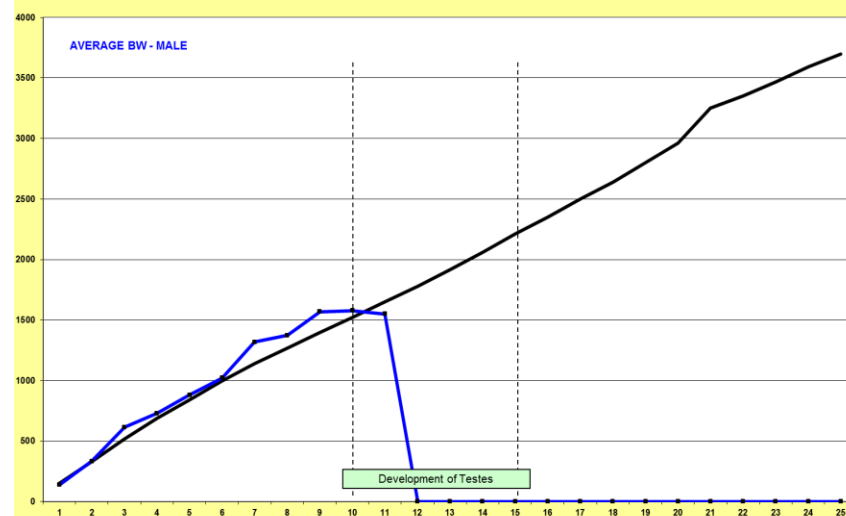
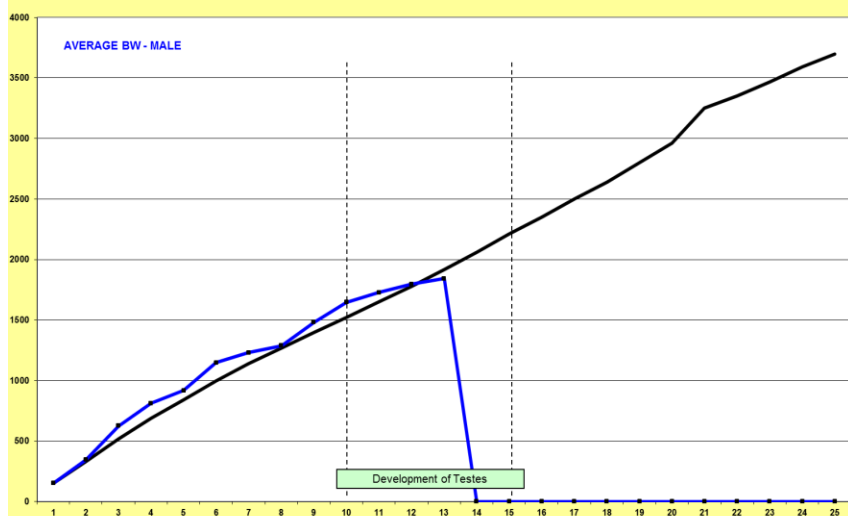
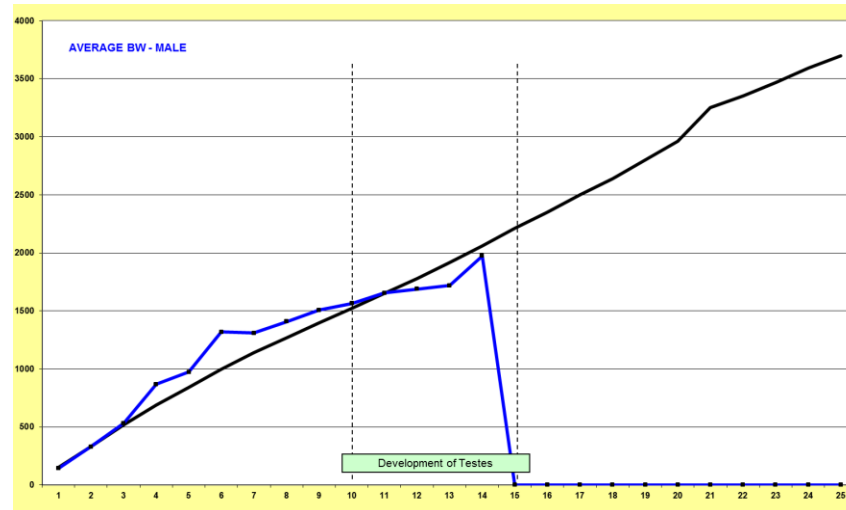
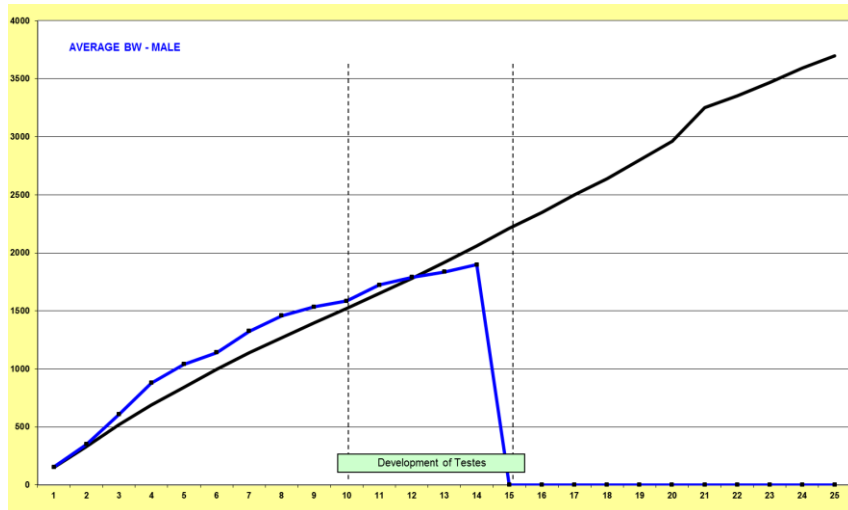
- Sperm production in a rooster is established in the **pullet house**, not in the hen house.
- 公鸡的精子生产在小母鸡舍里已经形成，而不是在母鸡舍里。
- Damage done during the first 12 weeks of life may be **irreversible**. No stress at 2-12 weeks because sertoli cell start to develop.
- 出生后前12周造成的伤害是不可弥补的。在第2-12周，由于塞尔托利细胞开始发育，所以不可对鸡只造成任何压力。
 - **Avoid stress related situations** that inhibit development- pay careful attention to feed & body weight management, feed quality & environment.
 - 压力抑制发育，所以要避免造成压力的状况—小心注意饲料和体重管理、饲料质量以及环境。
 - Sperm **quality** can be improved with diet, but sperm **quantity** will be affected permanently.
 - 精子品质可以通过饮食来改善，但是精子数量受到的影响是永久性的。



Male Management 公鸡管理

Male testes development - Sperm Production

公鸡睾丸发育-生产精子

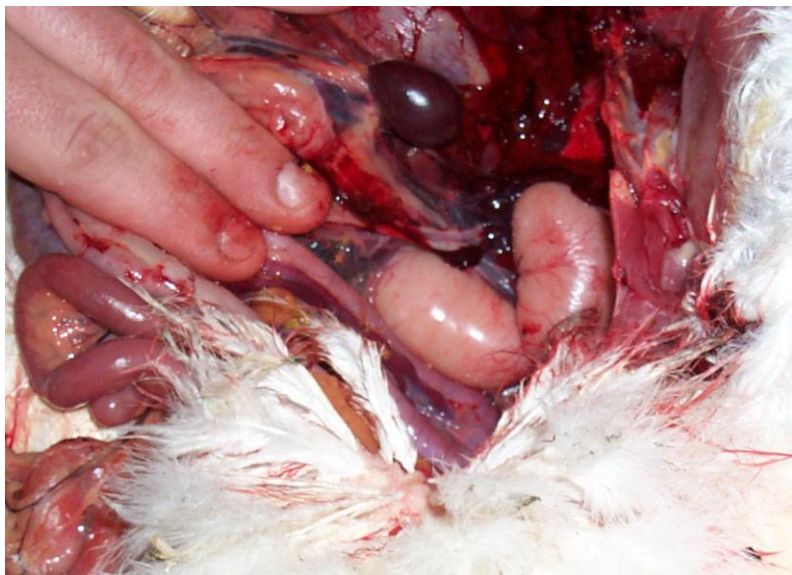




Male Management 公鸡管理

Male testes development - Photo stimulation Response

公鸡睾丸发育 - 对光照刺激的反应



- The greatest period of testes growth occurs 2-3 weeks after light stimulation.
- 睾丸发育最快的阶段出现在光照刺激后2-3周
- Too much feed restriction during 18-23 weeks has been shown to permanently impact semen production.
- 18-23周限饲已经证明会对精子的生产造成永久性的影响

Dr. John Kirby, University of Arkansas



Male Management 公鸡管理

Male testes development - Photo stimulation Response

公鸡睾丸发育 - 对光照刺激的反应



- Males need to have positive growth post light stimulation
 - 公鸡必须在加光后有良好的发育
 - Bringing males “back” to the standard at this time can cause a complete shut-down of testes function 在这个时候为了达到目标体重而给公鸡“减肥”会导致睾丸功能的完全关闭
- Dr. John Kirby, University of Arkansas

Male Management 公鸡管理

Male testes size 睾丸的大小



Normal 正常

Regressed 萎缩



5 grams at 32 weeks
32周 5克



25 grams at 32 weeks
32周 25克



25 grams at 32 weeks
32周 25克

5 grams at 32 weeks
32周 5克



Standard weight of testis at 32 weeks
is 35-45 grams

32周睾丸的标准体重为35-45克



Male Management 公鸡管理

Effect of weight loss during Production VS Sperm Quality & Quantity

产蛋期体重下降与精子质量及数量的关系

Weight Loss 体重下降	Results on Quality/Quantity of Semen 对精子质量/数量的影响
Slight 轻微下降	Sperm quality declines 精子质量下降
100g in 5 weeks 5周时间下降100克	Sperm quality and volume decline 精子质量和数量都下降
500g in 5 weeks 5周时间下降500克	Semen production stops and, sometimes, it is not recovered 停止生产精子，有时这是不可恢复的



Male Management 公鸡管理

Male testes development - Testes size

公鸡睾丸发育 - 睾丸大小

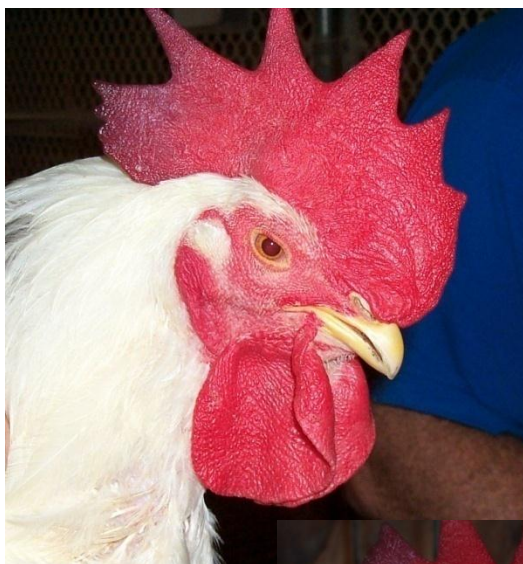
Bigger breast doesn't mean bigger testis
较大的鸡胸不一定意味着睾丸也较大





Male Management 公鸡管理

Mixing with Females - Mating Ratio 公母混养 - 公鸡比例



- In general, a good Mating Ratio should be in the range of 8- 9%.(GOOD MALES)
- 一般来说，好的公鸡比例应该在8-9%的范围内（好的公鸡）
 - Too high ratio leads to increased **male-male aggression** resulting in:
 - 比例太高会导致公鸡之间互相攻击，造成：
 - Male mortality 公鸡死淘
 - **Mating interference** 交配受干扰
 - Too high a ratio leads to increased **male-female aggression** producing:
 - 比例太高会导致公鸡和母鸡之间互相攻击，造成：
 - Female mortality 母鸡死淘
 - **Unreceptive hen** (forever?) 母鸡不接受交配（永远？？）
- Generally, hatch begins to be affected when ratios fall below 6.0%.
- 一般来说，当公鸡比例低于6.0%时，孵化率开始受到影响。



Male Management 公鸡管理

Mixing with Females - 20 to 21 weeks

20-21周龄公母混养



- Mixing of male and female at 21-22 weeks at 5-6%
- 在21-22周龄公鸡比例为5-6%时进行公母混养。
- At 22-23 weeks 7 % males
- 在22-23周龄时，公鸡比例为7%。
- At 24-25 weeks the male to female ratio should be 8 %
- 在24-25周龄时，公母鸡比例应该为8%。
- At 50-60 weeks 7.5 % male to female ratio is enough with good males
- 在50-60周龄时，公母鸡比例应足以达到良好公鸡比例。
- Excess Males should be used during spiking purposes
- 进行公鸡交换时，应使用多出来的公鸡。



Male Management 公鸡管理

Mixing with Females - 20 to 21 weeks

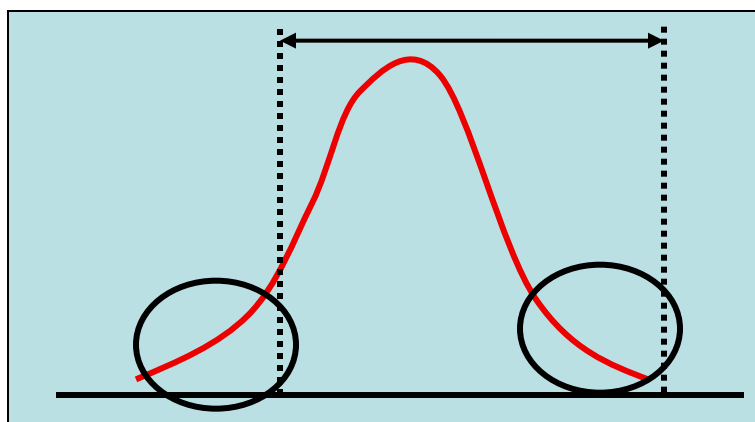
20-21周龄公母混养

- Select only healthy males with good skeletal development and no apparent faults.
• 只选择骨骼发育良好、没有明显缺陷的健康公鸡。
- To optimize uniformity aim to keep the middleweight population by culling out all underweight males and also all extremely heavy males.
• 为了提高均匀度，通过淘汰所有重量不足和极度超重的公鸡，目标只保留中等重量的公鸡。
- Culling of poorly conditioned, extremely big, or males with skeletal or leg problems should be removed from the flock on a weekly basis.
• 每周把状况不好的、超大的或者骨骼或腿部有问题的公鸡淘汰出鸡群以外。
 - Failure to do so allows the feed allocated for these poor males to be consumed by the good males and become overweight.
 - 如果做不到这一点，状况良好的公鸡以及超重的公鸡会把分发给状况不好的公鸡的饲料吃掉。

Male Management 公鸡管理

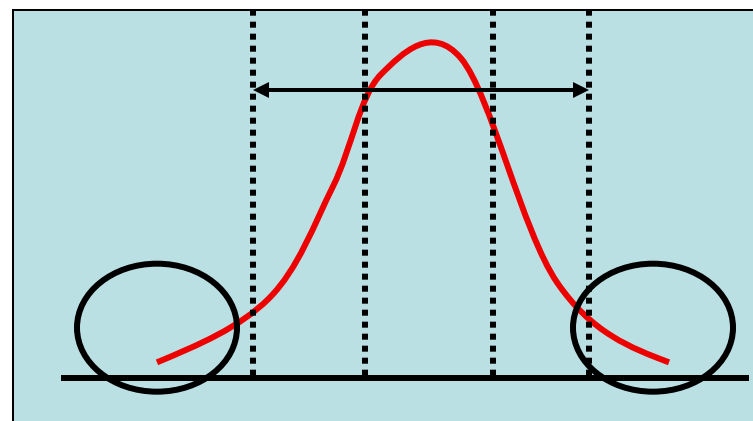
Uniformity is also relevant to optimum distribution of males to females when the social or "pecking orders" are established. 当交往或“啄羽秩序”形成后，公鸡均匀度还与公母混养的最佳比例相关。

Population mixed 混养的公母鸡



- Larger males will obtain or dominate larger groups of females.
- 体型较大的公鸡会得到或者统治较大群母鸡。
- The uneven distribution of females also causes increased competition among the later maturing males which can interfere with fertility.
- 母鸡分配比例不均匀也会导致后来成熟的公鸡之间的竞争增多，干扰受精率。

Population mixed by pens 按围栏混养的公母鸡
Population mixed 混养的公母鸡



- To optimize uniformity aim to keep the middleweight population by culling out all underweight males and also all extremely heavy males.
- 为了提高均匀度，通过淘汰所有重量不足和极度超重的公鸡，目标只保留中等重量的公鸡。
- Match heavier groups of males with heavier females and light males with light females.
- 按重量匹配公母鸡，把较重的公鸡与较重的母鸡混养，把较轻的公鸡与较轻的母鸡混养。







Male Management 公鸡管理

Male & Female Sexual Synchronization

公鸡和母鸡性成熟同步



- Females must be ready to accept males
- 母鸡必须准备好接受与公鸡交配
- Underweight females will not respond to photo stimulation or to males. This results in:
 - 体重不足的母鸡不会对光刺激或者公鸡做出响应。其结果是：
 - Poor production and lower peak 生产差, 交配高峰较低
 - Poor fertility 受精率差
 - Increased hen mortality 令母鸡死亡率增加
- Problem situations 有问题的情况:
 - Males too heavy (or females too light) 公鸡太重 (或者母鸡太轻)
 - Male aggression / increased mortality 公鸡攻击/增加死亡率
 - Males too light (or females too heavy) 公鸡太轻 (或者母鸡太重)
 - Female dominance over males 母鸡统治公鸡
 - Increased male to male aggression. 增加公鸡之间相互攻击的情况



Male Management 公鸡管理

Male & Female Sexual Synchronization

公鸡和母鸡性成熟同步



- The onset of the male's mating activity is a critical time (>23 weeks)
- 公鸡开始交配活动的时间是关键（23周龄以后）
- A good male-female interaction depends on:
- 公母鸡之间要有良好的互动取决于：
 - Sex ratio 公母比例
 - Bodyweight differential 体重差别
 - Sexual Synchronization with females 公鸡与母鸡性成熟同步
- MX males - mature 2-3 weeks earlier, make sure not to let them to become too heavy before lighting stimulation
- MX公鸡提前2-3周性成熟，确保鸡只在加光前不要超重



Male Management 公鸡管理

Male & Female bodyweight Differential

公鸡和母鸡体重差异

- Sexual synchronization between males and females is largely determined by their **weight differential**.
- 公鸡母鸡性成熟同步很大程度上取决于它们的**体重差别**.
 - The target weight differential for maximum receptivity between males and females at 20 weeks is approximately **680 grams (500-800 grams)**
 - 20周龄的公母鸡要实现最佳交配，目标体重差别应为大约**680克（500-800克）**
 - For optimal fertility, male weights should remain approximately **14-15% heavier than hen weights at 25 weeks of age**.
 - 要实现最佳受精率，公鸡体重应保持在大约**比25周龄的母鸡体重多14-15%左右**。

Percent Difference Table

Wks	BW Female (FF) grams (pounds)	BW Cobb MX Male	% Difference
20	2150 (4.75)	2725 (6.00)	21%
25	3000 (6.60)	3485 (7.70)	14%
30	3440 (7.60)	3980 (8.75)	13%
40	3640 (8.02)	4265 (9.40)	14%
50	3795 (8.35)	4485 (9.85)	15%
60	3900 (8.60)	4685 (10.35)	17%



Male Management 公鸡管理

Male & Female bodyweight Differential

公鸡和母鸡体重差异

- Rooster weights should remain 15-20% above hen weights throughout the production period.
- 在整个生产期间，公鸡体重都应该保持在比母鸡体重多15-20%的水平。
- Generally, poor receptivity of females toward males and poor mating efficiency can be expected if the weight differential exceeds 40% (<500 or >1000 grams)
- 一般来说，如果体重差别超过40%（少于500克或者大于1000克），可以预期母鸡的交配响应和公母鸡交配效率都会较差。
 - Poor fertility, hatchability & persistency can be expected when this situation exists
 - 当存在这种情况时，可以预期受精率、孵化率和持续性都会较差。

Percent Difference Table

Wks	BW Female (FF) grams (pounds)	BW Cobb MX Male	% Difference
20	2150 (4.75)	2725 (6.00)	21%
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Male Management 公鸡管理

Feed amounts - +20 weeks of age

20周龄以后的饲料量

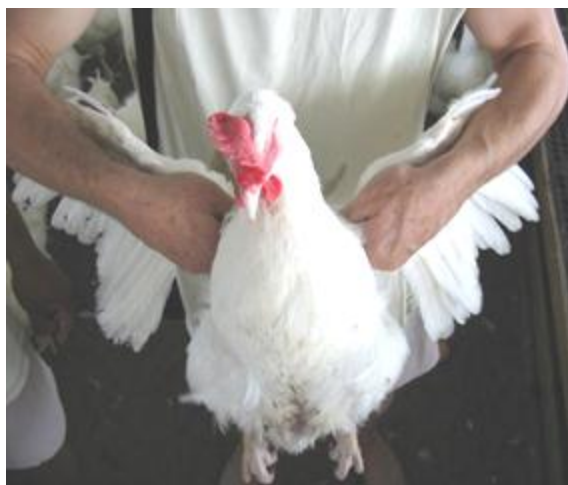
- Male feed amounts should be based on the Male's Conformation (Body Mass in Relation to Frame Size) rather than bodyweight alone.
- 公鸡喂饲量应该根据公鸡的体型（相对于骨架大小的身体质量）来决定，而不应仅仅根据体重来决定。
- At move, (20-21 weeks), where males are normally receiving 100 - 110 grams of feed through the male feeder. Check first the conformation of the males before making any adjustments to the male's feed amount.
- 在转舍时（20-21周龄），公鸡通常需要通过公鸡喂料器接受100-110克的饲料。在对公鸡喂料量进行任何调整前，先检查公鸡的体型。
 - Perform a very good random check of the conformation of the males (possibly a twice weekly basis from 20-25 weeks of age).
 - 对公鸡的体型进行非常好的随机检查（可能的话，从20-25周龄其每两周检查一次）
 - After performing this step we will have a very clear idea on the average conformation and condition of your males.
 - 在进行这个步骤后，我们会对公鸡的平均体型和状况有一个十分清晰的认识。
 - After making this random check, then make a decision if any adjustments to the male's feed amounts are needed.
 - 在完成随机检查后，决定是否需要对公鸡的喂饲量作出任何调整。
- Do not make any feed amount decisions based on body weights alone as conformation is a much better indication if adjustments to the male's feed amounts are necessary.
- 切勿仅仅根据体重来决定喂饲量，因为在有必要调整公鸡的喂饲量时，体型是最佳的参考指标。



Male Management 公鸡管理

Random Checking - Male's Conformation

随机抽查 - 公鸡体况



- “Feel the Male”
- “感受公鸡的情况”
- An estimate of the male's conformation (fleshing in relation to the frame size) is much more important
- 评估公鸡的体况（胸型与体型大小的比例）非常重要
- Check for wing resistance
- 检查翅膀的抗力量



Male Management 公鸡管理

Random Checking - Male's Conformation

随机抽查 - 公鸡体况

- Getting the right feed amount is the key! 正确的料量是最关键的
 - Equipments? 设备?
- Make sure that males always have a positive growth 确保公鸡的体重一直在上升
- Males losing feather 公鸡掉羽毛
 - indication of not getting enough feeds.? 说明没有吃到足够的料?
 - Disease? 疾病?
 - Feeds? 饲料问题?





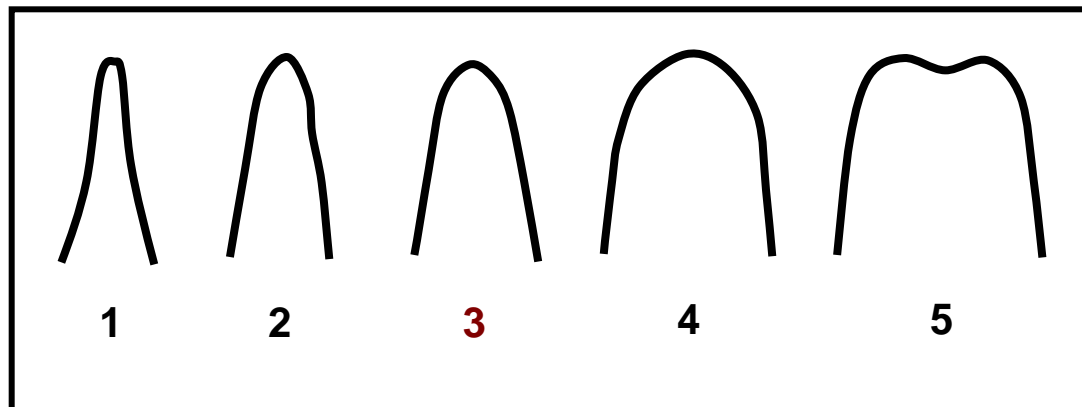
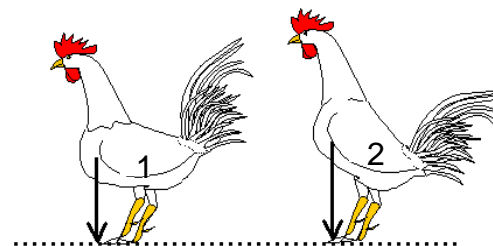
Male Feeder Height
公鸡料线高度 (45-50
cm.)





Male Management 公鸡管理

Male body condition 公鸡体况



Breast shape evaluation = field estimate of body condition. At 30 weeks we want indexes between 2 and 3. By 60 weeks the male should not be more than a 4.

鸡胸形状评估 = 现场评估鸡只身体状况。在30周龄时，我们希望有2型和3型的鸡胸形状。在60周龄前，公鸡的鸡胸形状不应超过4型大小。



Male Management 公鸡管理

Growth during Production - Body condition & Conformation

产蛋期的发育 - 身体状况&体型



The skeletal frame of the male stops increasing upon maturity which occurs between 28-30 weeks of age.

公鸡的骨架在28-30周龄成熟后停止增大。

Body weight increases after 28-30 weeks of age are 100% attributed to an increase in muscle mass.

在28-30周龄后，由于肌肉块的增加，体重增加100%。





Male Management 公鸡管理

Applying Conformation with Weight Management Records 利用体重管理记录适用体型

公鸡肌肉评分

PS鸡场

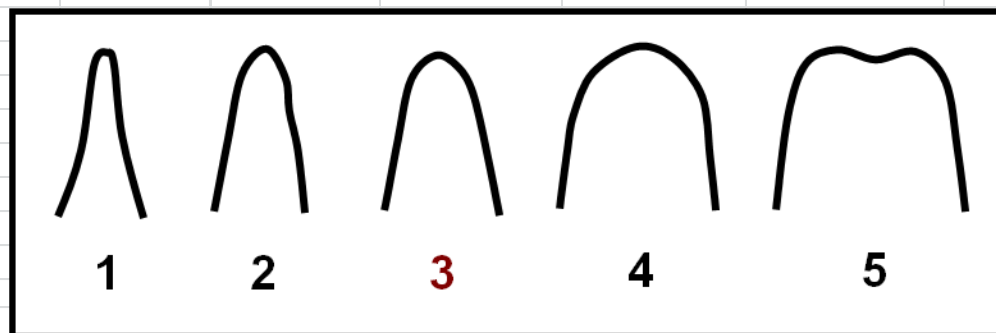
鸡舍编号:

鸡龄:

日期:

Male fleshing scoring						
PS Farm		样本总数				
House #	F	总得分	Total samples		59	
Age:	20-4	平均鸡肉得分	Total score		191	
Date:	14-Nov-10	加光时间	Ave fleshing score		3.24	
			First lighting at			

PARAMETERS 参数



	Fleshing score 鸡肉得分					Total samples 样本总数	Average score 平均得分
	1	2	3	4	5		
1号鸡舍							
Pen 1	3	2	10	6	2	23	3.09
2号鸡舍	3	4	30	24	10	71	
Pen 2	0	5	20	5	6	36	3.33
3号鸡舍	0	10	60	20	30	120	
Pen 3	0	0	0	0	0	0	#DIV/0!
	0	0	0	0	0	0	



Male Management 公鸡管理

Monitoring Rooster condition 监控公鸡的状况

While weighing roosters, look at-
在称重的时候我们需要注意：

Feet and legs for signs of problems that might implicate that the birds are too heavy, slats in poor repair, litter too rough or scratch wet with caked litter

腿和脚：如果发现腿脚有问题可能说明鸡只超重，棚架需要修护，垫料过硬或者鸡只刨湿的结块垫料。

Vent area to determine if the rooster is mating, open vent, pink to red color, vent feathers worn all suggest that the rooster is mating

肛门区域：以确认公鸡是否有交配，肛门开放，粉红到红色，肛门附近羽毛磨损说明公鸡有在交配

Feathering 羽毛

Handle with care during vaccinations and weekly weighing

在免疫和每周称重操作时要注意对鸡只的保护





Male Management 公鸡管理

Productive males - Feather wear

有生产能力的公鸡 - 羽毛状况









Male Management 公鸡管理

Unproductive males - Feather wear

没有生产能力的公鸡 - 羽毛状况





23 9 2002







Summary 总结

- At 4-6 weeks be sure the body weights are at least at standard or slightly above the standard to ensure good start on skeletal development.
- 在4-6周龄时，保证体重至少在标准水平或者稍微高于标准水平，确保骨骼发育有个良好开端。
- Provide the Cobb male with enough floor space; feeder space and fast distribution.
- 为科宝公鸡提供足够的地面空间、喂料空间和快速分发饲料。
 - Avoid stress condition from 2-12 weeks
 - 在2-12周龄时避免对鸡只造成压力。
- Select good males
- 选择好的公鸡。
- Body weight control and sex separate feeding
- 体重控制和按公母分开喂饲
- Synchronize the male & female maturity
- 使公母同步成熟
- Feed amounts/increase base on the body conformation of the males
- 根据公鸡的体型决定喂饲量/加饲量。

Thanks for making Cobb a part of your Business
感谢您让科宝成为您业务的一部分

