

MALE BREEDER MANAGEMENT

MALE REPLACEMENT: A SOLUTION TO MAINTAIN FERTILITY

Flock fertility evolves during the production period mainly due to bird age and the ability and interest of males to mate. The evolution of fertility can vary according to the breed used and from flock to flock, but it will always tend to decline when birds get older. One of the solutions to minimize this drop of fertility is to replace a proportion of the males. This must be carefully planned and managed to be effective and maintain flock performance (production level, floor eggs, liveability and fertility).

WHY MALE REPLACEMENT?

- Maintain fertility after 40-45 weeks of age.
- Stimulate old males in the flock to increase their mating frequency.
- Allow the replacement of males with poor physical condition.

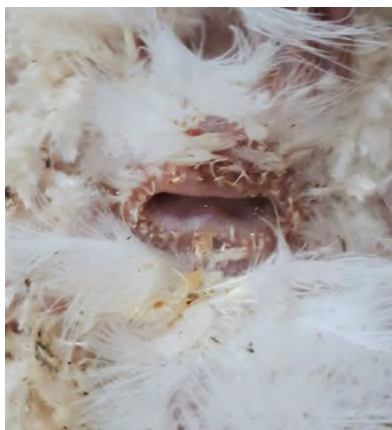
SEX RATIO: KEY POINTS

- Maintain flock fertility by ensuring a good mating activity.
- Sex ratio between 7.5 and 10% according to the breed and the flock.
- Adjust sex ratio to avoid creating aggressivity or domination between birds.

DIFFERENTIATE ACTIVE MALES FROM INACTIVE MALES



Red abdominal skin,
reddish shanks



Wet and fully visible cloaca



Rough feathers,
red and big comb

Figure 1: Example of an active male

► Males to grade-out:

- ⇒ Those in poor physical condition: too heavy or weak, with leg issues or non-optimal fleshing (see figure 2).
- ⇒ Inactive males: not mating (see figure 3).
- ⇒ Too dominant males which would limit the integration of new males.

Male selection allows to the sex ratio to be adjusted and to estimate the number of young males needed for male replacement.

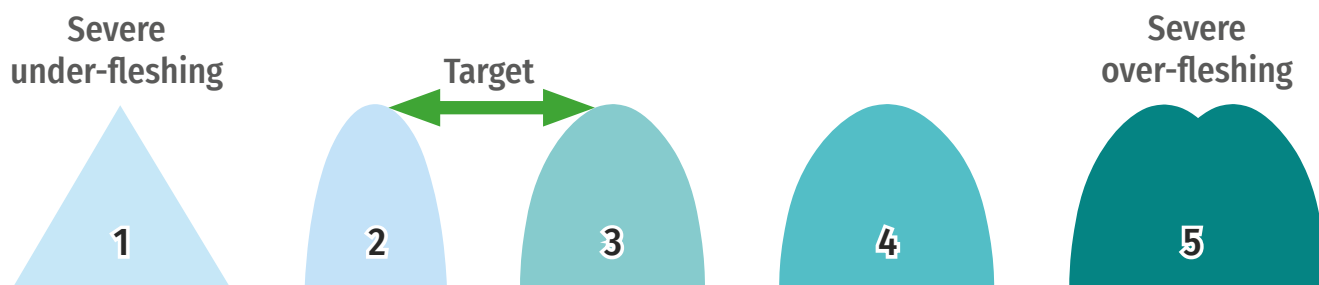
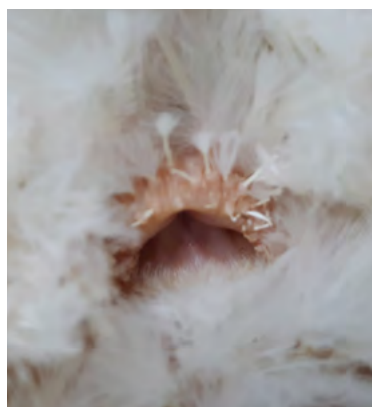


Figure 2: Evaluation of fleshing



Feathered abdominal skin,
no red shanks



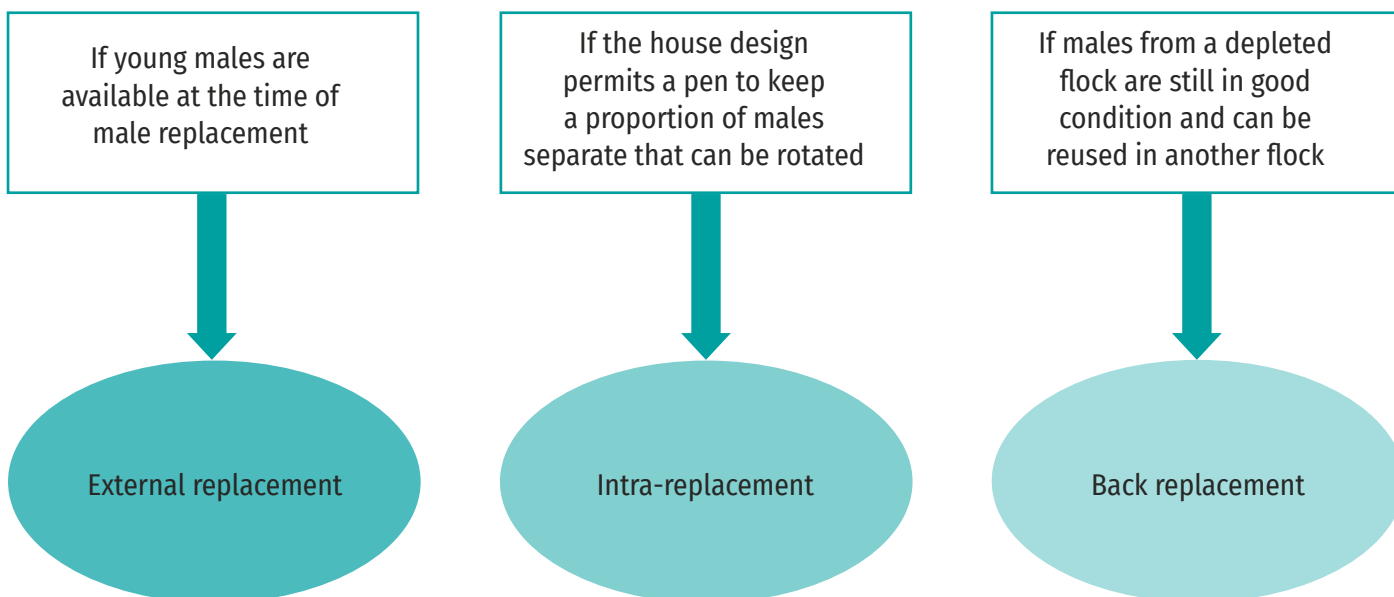
Dry and feathered
cloaca



Male at 48 weeks of age with
too good feathering

Figure 3: Example of an inactive male

DIFFERENT TYPES OF MALE REPLACEMENT



A special case may be “intra-farm” male replacement where males can be exchanged between houses. For example, one house with surplus males to a house with an insufficient number of males. This is particularly an attractive option if biosecurity level of the new males can not be guaranteed.

	EXTERNAL FLOCK REPLACEMENT WITH YOUNG MALES	INTRA FLOCK MALE REPLACEMENT	BACK FLOCK MALE REPLACEMENT
FLOCK AGE AT MALE REPLACEMENT	38-45 weeks	First time before 40 weeks then every 10-14 days if needed	40-45 weeks
MALE AGE REPLACEMENT	25-28 weeks	Same as flock age	35-45 weeks
MALE TARGET WEIGHT	Based on the performance objectives: minimal weight of 3 700 – 4 000g according to the breed		
NUMBER OF MALES TO ADD	Between 20% and 30% of the number of males to ensure a good integration	Exchange 10 to 20% of males	Between 20% and 30% of the number of males to ensure a good integration
COMMENTS	<p>Light stimulation at least 3 weeks before replacement to:</p> <ul style="list-style-type: none"> ➤ Have mature males ➤ Avoid shocking males by light duration and intensity when mixing them with females 	<p>Male rotation can start from the beginning of the production period to:</p> <ul style="list-style-type: none"> ➤ Preserve males ➤ Stimulate mating activity during the production period 	<ul style="list-style-type: none"> ➤ Only add males in good physical condition ➤ Biosecurity must be considered before adding males
ADVANTAGES	<ul style="list-style-type: none"> ➤ Young males create high mating activity and are active for a longer period ➤ Positive and long-term effect on flock fertility if the mixing is a success ➤ Possible anticipation of male replacement 	<ul style="list-style-type: none"> ➤ Low economic and sanitary risks ➤ Allows to isolate poor males, get them back in good condition and reintroducing them with the females ➤ Quick increase of fertility: no adaptation period needed 	<ul style="list-style-type: none"> ➤ Economically interesting ➤ Good integration into the flock due to age
RISKS	<ul style="list-style-type: none"> ➤ Young males active, but inefficient at the beginning ➤ If males are not mature enough, risk of domination by females and males already mixed ➤ The amount of feed provided may not suit young males' requirements ➤ Sanitary risk to consider when replacement males from another farm 	<ul style="list-style-type: none"> ➤ If males are not in good physical condition, the replacement effect can be limited ➤ Males are older: harder to maintain fertility over time 	<ul style="list-style-type: none"> ➤ Limited anticipation of male replacement because it depends on male quality ➤ Sanitary risk to consider when replacement males are older than the flock receiving them

GLOBAL MALE REPLACEMENT MANAGEMENT: KEY POINTS

- Male replacement consists of replacing at least 20 to 30 % of the number of males to obtain good results. The number of new males should be sufficient to change the existing pecking order into the flock.
- Males for replacement must be in good physical condition, uniform and sexually mature to be able to compete with older males.
- Mix males during the dark period where possible, otherwise mix toward the end of the light period to facilitate male adaptation. It gives them all the dark period to get used to their new environment.
- Distribute males all along the length of the house, and close to drinkers or feeding system. If slats are present, place the males on the slats.
- Adjust the feed quantity to the number of males: add 10-20 g/male for the first 2-3 days after male replacement to help male adaptation and support their increasing requirements in nutrients and energy used for mating activity.


In general, the objective of male replacement is to maintain a good level of fertility until the end of the production period. A major increase in fertility is usually expected 2 to 3 weeks after male replacement.

POINTS OF ATTENTION

- Make sure not to introduce males that are too heavy or weak.
- Adjust the sex-ratio according to the condition of the replacement males.
- Weigh replacement males separately from old males for at least 4 weeks after replacement to ensure a good adaptation.
- Check the height of the feeding system: make sure it is not too high to provide a good access to the new males.
- During the first two weeks after male replacement, expect to observe an increase of:
 - ▷ Aggressiveness between males
 - ▷ Male interventions during mating attempts which could lead to a slight drop of fertility.
- Respect access to the feeding system: 20 cm/male for feeding tracks or 8 males/pan feeder.
- It is very important to keep old males in good physical condition: they represent the majority of the working and effective males and are essential to the persistency of fertility over time.
- If male replacement is applied in conditions where new males are not allowed to adapt well to their new environment or with old males in bad physical condition, male replacement may not give the expected effect on fertility and may even be counter-productive.

BIOSECURITY

The decision to use replacement males as a tool to maintain fertility cannot be made without considering the risks to biosecurity from moving males from house to house or farm to farm. Always take veterinary advice and ensure adequate testing of the health status before the replacement of a breeder flock.

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