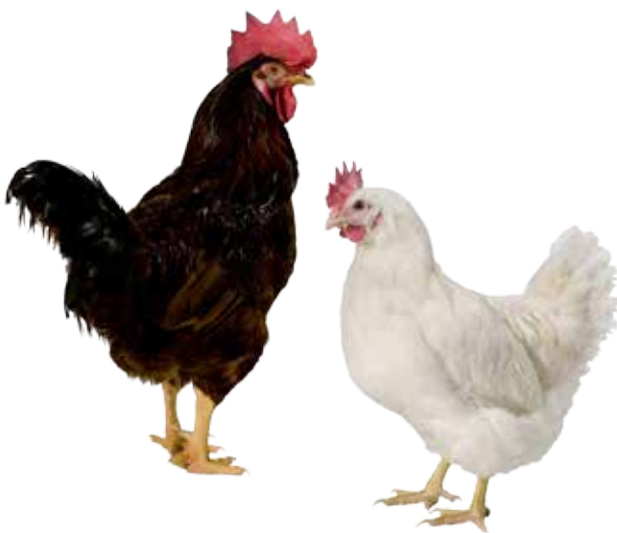




OPTIMIZING HY-LINE BROWN MALE PARENT PERFORMANCE

The Hy-Line Brown parent stock male is a brown feathered bird with an 18-week body weight target of 2.20 kg (4.85 lb) and a mature body weight of 2.78 kg (6.13 lb). Achieving the bodyweight targets for the male during grow is critical for optimum mating behaviour and fertility. The male and female breeders should reach sexual maturity at the same age. Genetic improvements in female parent stock birds is providing earlier maturity and producing settable eggs at a younger age. It is very important to grow and develop roosters for timely performance matching the female line.

For males and females to attain sexual maturity at the same age, a focus on attaining male target body weights with good uniformity is critical. Many times, rooster fails to achieve the desired growth during rearing. Commonly, males are not weighed and good growth and development of roosters is assumed. To achieve the goal for Hy-Line Brown breeder performance to produce 100 female chicks by 75 weeks requires a focus on male growth and development.



Hy-Line Brown parent male and female

MALE BREEDER REARING RECOMMENDATIONS

- Males should not be beak trimmed. Females should be well beak trimmed at 10-14 days.
- Fifty males should be weighed starting at day 7. Birds should then be weighed weekly along with the females until 32 weeks and then every 4 weeks until the end of production. The uniformity goals for males are the same as females, greater than 85% uniformity. Continuing to weigh males during the production period is important because weight loss during this time can cause regression of testicles that will negatively affect fertility.
- Males and females can be grown together from one day of age if farm history shows body weights have been at or above body weight targets.
- Separate male growing is recommended, if reaching target male body weights has been difficult. Males can be grown separately for the first 10 to 12 weeks to aid better growth.
- Raising males separately ensures even access to feed and water, eliminates competition from females and makes it easier to weigh and observe males.
- Males and females should receive the same feed.
- Males and females should receive the same lighting program. Male sexual maturity is strongly affected by light stimulation, when increased levels of luteinizing hormone and testosterone occur. Testosterone is responsible for testicle size, mating behaviours, and secondary sexual characteristics such as comb and wattle development.
- A focus on good rearing principles requires optimal feed, light, air, space and water. More comprehensive information can be found in the "Growing Management of Commercial Pullets" technical update.

HY-LINE BROWN MALE STANDARD WEIGHTS

Age in Weeks	Grams
1	70
2	140
3	200
4	330
5	450
6	590
7	730
8	900
9	1060
10	1220
11	1370
12	1530
13	1690
14	1830
15	1960
16	2060
17	2140
18	2200
19	2200
20	2280
21	2320
22	2390
23	2430
24	2480
25	2520
26	2560
27	2590
28	2620
29	2650
30	2680
31	2710
32	2730

FLOOR REARING OF HY-LINE BROWN MALES

- 0–4 weeks – rear males in a separate brooding ring or pens. Males should be brooded in the warmest and best conditioned part of the house. In floor brooding, a male chick brooder ring can be kept 1°C warmer than female rings.
- 5 weeks – introduce 1% (1:100) of females into the male pen and 1% of the heaviest males into the female pen. This will help with socialization. For example: if you have 10,000 females and 1,200 males, mix 100 males with the females and 12 females with the males.
- 10–14 weeks – if at 10 weeks the males have achieved the threshold weight of 1220 g (2.69 lbs), start slowly introducing more males with the females. Underweight males should be kept in the male pen longer to grow. Introduce males to the females over the course of 1–2 weeks.
- Transfer birds after the lights turn off in the evening. Blue or green house lights or headlamps can be used to minimize disruption of flock but allow the crew to see during mixing.
- During mixing and transfer, it is important to start culling any sub-standard males. Cull roosters with these flaws:
 - lame
 - foot pad lesions
 - overly aggressive
 - poorly feathered (lacking tail feathers)
 - physical defects (cross beaks, crooked toes)
 - fearful behaviour (hide in nests)
 - appear low on pecking order
 - lack a masculine appearance (“crow headed”)
- Do not allow cull males to remain in the flock. Males more than 200 grams (0.44 lbs) under average male weight should be culled. Strong selective culling of roosters is required to achieve highly uniform roosters.
- 15–20 weeks – Continue to cull poor males down to 8%. After transfer, observe males closely and cull birds that are hiding in the nest and appear to be socially castrated.



Vent of a working Hy-Line Brown male.

MOVING TO THE FLOOR BREEDER HOUSE

- Transfer 9–10% males initially. Extra healthy males can be kept in a pen in the house, if possible.
- Starting at a higher male percentage will allow for aggressive culling until the best males exhibiting good mating behaviour remain.
- The mating ratio for the Hy-Line Brown parent is 8% (1 male for 12 females) and must be reached by 20 weeks of age.
- Floor density is an important consideration for good fertility. Overcrowding makes males uncomfortable and reduce mating frequency.
- Observe behaviour as the percentage of the males adjusts from 10% down to 8%. Note, if males are fighting among themselves, if they are fearful, and if they are mating appropriately.
- If males are fighting, this is an indication that the ratio is too high and males need to be removed at a more rapid pace.
- If males are fearful or hiding, this could indicate too many males. If the males are too aggressive during mating and they have been rejected by the females, or are underweight and unappealing to the females, they should be culled.

CAGE REARING

- 0–4 weeks – rear males in cages designed for males. In breeder cages, the upper cages usually provide the warmest and brightest conditions.
- 5 weeks – mix 3–4 females into each male cage to help male socialization.
- 10–14 weeks – due to insufficient cage height, most cage breeder systems do not allow male birds to be added to the female cages. Males should stay in the designated taller cages until transfer.
- During mixing and transfer, it is important to start culling any sub-standard males. Cull roosters with these flaws:
 - lame
 - foot pad lesions
 - overly aggressive
 - poorly feathered (lacking tail feathers)
 - physical defects (cross beaks, crooked toes)
 - fearful behaviour (hide in nests)
 - appear low on pecking order
 - lack a masculine appearance (“crow headed”)
- Do not allow cull males to remain in the flock. Males more than 200 grams (0.44 lbs) under average male weight should be culled. Strong selective culling of roosters is required to achieve highly uniform roosters.
- 15–20 weeks – handle all males during transfer and cull down to 10%.



Roosters with bad feet should be removed.



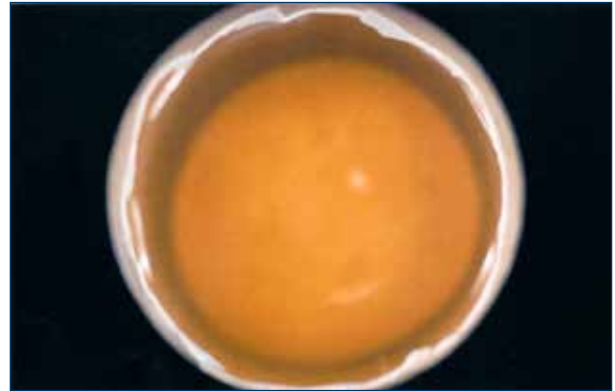
Males hiding in nests should be removed.

MOVING TO THE CAGE BREEDER HOUSE

- Move 10% of males into the breeder cages 4–7 days before the females to allow them to find feed, water, and become comfortable in the environment before being distracted by the females.
- Cull males at transfer to reach the performance manual recommendation of 8% (1 male for 12 females). Extra healthy males should be kept in cages in the house in case they are needed later.
- Walk the house daily and continue culling sub-standard males.
- Cage density is an important consideration for good fertility. Overcrowding makes males uncomfortable and may reduce mating frequency.
- Replace culled males with a healthy extra male from the male cages. Do not replace more than one male into a colony cage at one time. All replacement males in cages must be in place by 20 weeks. If a male needs to be replaced after 20 weeks, only add one at a time.

MONITORING FERTILITY

- Weekly fresh egg breakouts starting at 20 weeks to assess the fertility. At least 100 fresh eggs should be checked for a fertile germinal disc at each breakout. This observation can be used as a quality control tool. Tracking the fertility rate in the flock can help early with detection of any stress, disease, or nutrition issues. The fertility rate will also help troubleshooting any egg storage or hatchability issues.



Infertile Fresh Egg



Fertile Fresh Egg

GENETIC PROGRESS

- In each generation all male lines at the pedigree level are selected for the best mating behaviour, sperm quality, fertility and hatchability. Hatchability traits are moderately heritable for both male and female lines, providing ample opportunity for generational genetic improvements of reproductive traits.

