MANAGING HY-LINE BROWN MAX: TOP 10 CONSIDERATIONS

Hy-Line BROWN MAX

Hy-Line Brown Max is a robust brown layer, excelling in environments characterized by challenging conditions and elevated sanitary concerns. In markets where shell color, egg size, and value from spent hens play a pivotal role in profitability, this breed stands out. Here are key considerations for successful management of the Hy-Line Brown Max:

1. Diet Transition Based on Body Weight at Rear:

Body Weight-Based Transition: Progress through the feeding program based on body weight, not age. Swiftly transition to the next stage diet when body weights align with breed standards. Delaying this process may result in the flock becoming overweight.

Avoid overly dense diets to prevent excessive body weight, especially during the period the developer diet is fed at 12 to 15 weeks of age, to prevent mortality caused by prolapse, fatty liver, and associated production issues.

2. Pre-Lay Diet Introduction:

Low-Density Pre-Lay Diet: Introduce a low-density pre-lay diet from first light stimulation for a duration not exceeding 10–12 days. Avoid feeding high-density diets in this period to avoid excessive body weight development and associated issues with reproductive function. It's preferred to provide at least 50% of the total dietary calcium in the form of coarse limestone. The transition from developer to the pre-lay diet can be synchronized with the light stimulation. See Table 1 for an example lower density pre-lay diet.

3. Gradual Light Hour Decrease:

Light Management: Gradually decrease lights by 2 hours every week until reaching a total of 10 hours by week 8 for closed dark houses, and 12 hours for naturally lit open-sided houses. See Table 2 for the recommended lighting program. For open-sided houses, please refer to www.hyline.com for the specific lighting program corresponding to the natural seasonal day length.

Consideration: If the average body weight exceeds the maximum standard by 6 weeks of age, consider implementing a total of 10 or 12 hours (closed or open-sided houses) by 6 weeks of age.

4. Timely Light Stimulation:

Ensure light stimulation occurs when the flock achieves an average body weight of 1380 g at 85% uniformity (typically between 15–16 weeks of age). Gradually increase light by an additional 1 hour each week until reaching a total of 14 hours, then contemplate increasing by 30 minutes each week until achieving a total day length of 16 hours. Alternatively, conclude increase the light at 14 total hours if achieving >96% HD for peak production post 25 weeks of age.

5. Matching Light Intensity:

Gradually increase light intensity for two weeks before transferring the flock to the laying facility (not before 15 weeks of age to prevent premature stimulation), see table 2. Align the final rearing facility light intensity with the production facility. Use cool lights (>4000 K) at no more than 15 lux in rearing, and warm lights (2700-3500 K) at 20–30 lux in production.

TABLE 1. RECOMMENDED PRE-LAY DIET NUTRIENT LEVELS

Metabolisable energy, kcals/kg	2750
Metabolisable energy, MJ/kg	11.51
Standardised Ileal Digestible Amino Acids	
Lysine, %	0.72
Methionine, %	0.35
Methionine+Cystine, %	0.62
Threonine, %	0.50
Tryptophan, %	0.16
Arginine, %	0.75
Isoleucine, %	0.56
Valine, %	0.61
Crude Protein, %	16.5
Calcium, %	2.50
Available Phosphorus, %	0.42
Digestible Phosphorus, %	0.38
Sodium, %	0.18
Chloride, %	0.18
Linoleic Acid (C18:2 n-6), %	1.20
Choline, mg/kg	1800

TABLE 2. RECOMMENDED LIGHTING PROGRAM

Age (week)	Body Wt. (g)	Lighting (Total Hours)	
		Open	Closed
1	70	22	22
2	130	20	21
3	200	18	20
4	290	16	18
5	380	15	16
6	480	14	14
7	590	13	12
8	710	12	10
9	820	12	10
10	930	12	10
11	1040	12	10
12	1130	12	10
13	1220	12	10
14	1290	12	10
15	1360	12	10
16	1430	13	12
17	1500	14	13
18	1610	14 ½	14
19	1700	15	15
20	1770	15½	15½
21	1810	16	16

Hy-Line

6. Body Weight Management in Lay:

Targeted Gain: Aim for a 320 g (20%) gain from 18 to 25 weeks of age. Ensure steady progress in body weight development but avoid excessive gains during this crucial period. Maintaining body weight development is crucial for sustained laying performance (see Table 3).

TABLE 3. WEEKLY BODY WEIGHT GAIN

Age (week)	Body Weight (g)	Weekly BW Gain
15	1360	70
16	1430	70
17	1500	70
18	1610	110
19	1700	90
20	1770	70
21	1810	40
22	1850	40
23	1880	30
24	1910	30
25	1930	20

7. Limestone Particle Size Variation:

Provide a proportion of limestone as a large particle size (3–4 mm) in the diet at increasing proportion relative to smaller size limestone (1–2 mm) through lay (see Table 4). This allows birds to select the required mineral intake and contributes to gizzard function. The gizzard function, in turn, supports the bird's calm behavior. The coarse limestone particle size and the fine-to-coarse ratio must be adjusted according to the in vitro solubility values.

8. Breed Behavioral Characteristics:

Creating an environment that aligns with the calm and sociable nature of Hy-Line Brown Max involves providing the recommended floor, feed, and water space per bird, ensuring optimal ventilation and temperature, maintaining appropriate lighting, managing nutrition effectively, employing low-stress handling techniques, and maintaining consistent management practices (review Hy-Line Management Guide specifications). These measures contribute to the overall well-being of the flock, promoting natural behavior, minimizing stress, and enhancing the breed's adaptability and performance.

TABLE 4. LIMESTONE PARTICLE SIZE

Weeks	Particle Size (fine:coarse)
18–33	40:60
34–48	35:65
49–62	30:70
63–76	25:75
77+	25:75

9. Regular Monitoring and Evaluation:

Regularly monitor and assess body weights against breed target. Measure breast muscle and keel bone condition score. Adjust management practices based on these assessments to ensure optimal performance and bird welfare.

10. Egg Size and Feed:

If a large egg weight is not desired at the end of the production cycle, consider controlling egg size from the beginning of lay by avoiding feeding a higher nutrient density in this period.

Monitor feed intake and calculate nutrient intake relative to breed standards. Assess key nutrients which influence egg size such as protein and amino acids (methionine and cystine), linoleic acid and total fat. Remember: birds do not eat percentages, they eat quantities of nutrients, so estimate the intake of these key nutrients. If nutrient intake is in excess of requirements, consider moving the flock to a lower amino acid and/or linoleic acid density diet. Maintain the energy density to sustain egg productivity. Low energy density diets will also encourage higher feed intake, resulting in increased protein intake, which will increase egg size. Excessive fat levels in the feed will also stimulate feed intake, further increasing egg size.

Check the ratio of methionine and cystine to lysine in the diets. Early stage layer diets must not contain methionine and cystine in excess of 90% of the lysine level.

Progress through the phased feeding program based on egg production and egg size. Transition to the next stage diet once the egg weight is within 2 g of the target.

The egg weight is closely associated with the body weight at the peak of production. Hens that achieve the peak of production with a lower body weight generally yield smaller eggs throughout the entire production cycle, irrespective of the nutritional levels, and conversely, higher body weight tends to result in larger eggs.

The environmental temperature also plays a significant role in influencing feed intake and can be strategically adjusted to either increase or decrease feed consumption. Moreover, utilizing a larger particle size (1000–1200 microns) stimulates the feed intake and facilitates nutritional absorption. Contrary to this, a finer particle size (600–900 microns) yields the opposite effect, reducing feed intake and limiting nutritional absorption.

Ensure that the feed is as uniform as possible to avoid uneven egg size distribution.

By integrating these considerations into management practices, poultry producers can maximize the potential of the Hy-Line Brown Max, promoting not only high saleable egg production and quality but also the overall well-being of the flock.