

Guide management

COLOR

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NOVOGEN

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The performance data contained in this document was obtained from results and experimentfrom our own research flocks and flocks of our customers. The data contained in this document does not constitute a warranty or guarantee of the same performance under different conditions of nutrition, density or physical or biological environment. In particular (but without limitation of the foregoing) we do not grant any warranties regarding the fitness for purpose, performance, use, nature, or quality of the flocks. NOVOGEN makes no representation as to the accuracy or completeness of the information contained in this document.





1. FARM PRESENTATION

General information	
Province	
Farm	
Address	
Phone number	
Line	
Hatch date	
Date of transfer	
Rearing period	
Farm	
House	
House system	
Number at beginning	
Production period	
Farm	
House	
House system	
Number at beginning	

2. FLOCK MANAGEMENT DURING THE REARING PERIOD

Rearing is a key period for successful laying performances. During this period it is necessary to reach the target bodyweight and flock uniformity to prepare the birds for the production period. A special care has also to be given to the development of the digestive tract in order to prepare for the fast increase in consumption at the beginning of the production period. A wellmanaged rearing period has positive effects on:

- Quick adaptation to production system (onset of lay, floor eggs prevention)
- Egg production (peak of lay and persistency)
- Egg quality (egg weight, egg uniformity, shell strength)
- Liveability

To achieve those objectives, it is necessary to respect the following basics:

- Management (stocking density, drinker and feeder space, water, temperature, beak trimming...)
- Climate conditions
- Pullet training
- Lighting programme
- Monitoring bodyweight and uniformity
- Nutrition
- Biosecurity and vaccination



Floor rearing system

2.1. STOCKING DENSITY, DRINKER SPACE AND FEEDING SPACE IN REARING

→ Recommendations in floor system

	FROM DAY OLD TO 2 WEEKS OF AGE		FROM 2 TO 5 WEEKS OF AGE		FROM 6 WEEKS TO TRANSFER	
	Temperate climate	Hot climate	Temperate climate	Hot climate	Temperate climate	Hot climate
Stocking density (1)	30 birds/ m2	25 birds/ m2	15 birds/ m2	12-15 birds/m2	12-14 birds/m2	8-10 birds/m2
Starter drinkers	1 / 80 birds	1 / 70 birds	--	--	--	--
Bell drinkers	1 / 150 birds	1 / 150 birds	1 / 100 birds	1 / 75 birds	1 / 100 birds	1 / 75 birds
Nipple drinkers	1 / 12 birds	1 / 10 birds	1 / 12 birds	1 / 10 birds	1 / 12 birds	1 / 10 birds
Starting feed pans	1 / 50 birds		--		--	
Linear chain feeders	2.5 cm / bird		4 cm / bird		6 cm / bird	
Pan feeders	1 / 30 birds		1 / 25 birds		1 / 25 birds	

(1) In case of 100% slat floor, stocking density can be increased by 15% from 6 weeks of age.

2.2. STARTING UP STRATEGY

→ All system

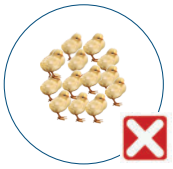
- Before the arrival of the chicks, feed should be accessible. Feeders should be well filled, and feed should be spread over chick paper especially close to the drinking lines. This will stimulate the chicks to use the drinking equipment.
- Feed must be regularly renewed to keep it fresh and attractive.
- Before arrival, the drinking lines must be checked, so that fresh water is provided, and leakage is prevented.
- Triggering the nipples or water cups encourages the birds to drink.
- Unload the chicks close to drinkers and feeders.



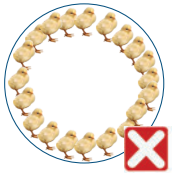
Correct height of drinkers

→ System specificities

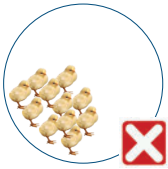
- Floor system
  - Additional starter drinkers and feeders can be used in the first two (2) weeks..
  - If brooding takes place in only one part of the house, do not exceed a stocking density of 20 chicks per m2. Thus, allowing chicks to spread quickly over the whole house within the first 7 days.
  - In case of use of circular brooder guards:
    - > Choose a diameter of 3 to 4 m at day-old but ensure the ring can be enlarged 48 hours after the arrival.
    - > Ensure that the brooder guards can be easily removed after the birds have familiarised themselves with the location of the drinker and feeder systems. Usually, guards can be removed 5 to 7 days after arrival.



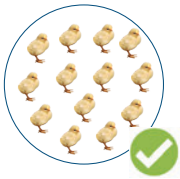
Too cold



Too hot



Air draft



Optimal

→ *BEFORE CHICKS' ARRIVAL*

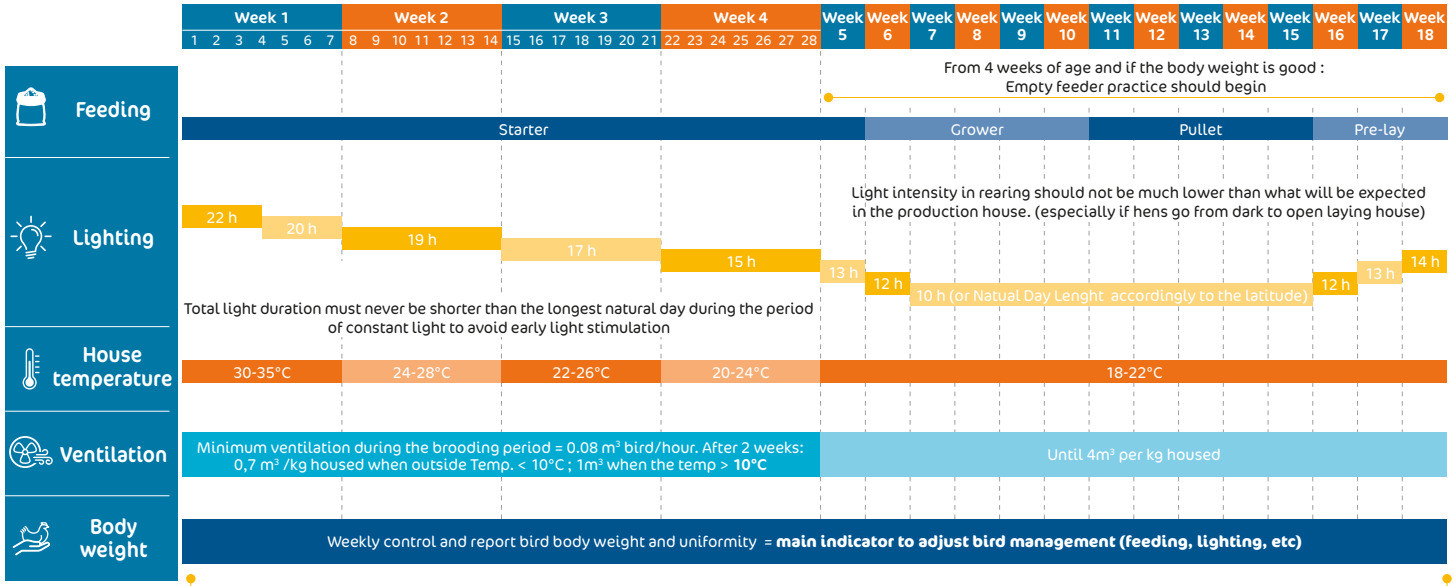
- 6 hours before arrivals:
  Temperature should be around 29-30°C.
- 30 hours before arrivals:
  House should be fully warmed up to 35°C.

→ *AFTER CHICKS' ARRIVAL*

- Control the temperature at chicks' level.
- The chicks' feet must be hot.
- Check the distribution and behaviour of the chicks.



Checking of the chicks' temperature



Before arrival:

- Feed and water should be accessible to the chicks.
- The floor and system should be fully warmed before placement to 35°C
- The rearing system and equipment have to be carefully chosen according to the equipment used in the production farm. Density must be respect (refer to Novogen management guide)

Weighing frequencies :

- Weekly until 26 weeks of age
- Every 2 weeks from 26 to 36 weeks of age
- Monthly after 35 weeks of age

Before 4 weeks, weigh in batches of 5 to 10 birds using a bucket / After 4 weeks = individual weigh

Transfer is advised around 16 to 17 weeks of age:

- Before the appearance of the 1st eggs.
- After a last vaccine planned 1 week prior the transfer.
- After de-worming of the flock (3 days prior the transfer).

* ALL INFORMATIONS ARE INDICATIVE AND MUST BE ADAPTED ACCORDING TO EACH FLOCK CONDITION

3. LIGHTING PROGRAMME

To establish your own lighting programme, it is important to take into account the following factors:

- Your location (changes in light duration (day length) during the year)
- The characteristics of the rearing unit (lightcontrolled, semi-dark or open house type)
- Season of the year (increasing or decreasing day length)
- Temperature (light duration at the highest temperature)
- Date of the hatch (what is the natural day length at the bodyweight targeted when light stimulation will take place for onset of lay?)
- Growth of the flock
- Past records of performance obtained in this rearing unit
- Avoid any unwanted external lights in the dark house. It can affect the lighting program and efficiency and induce feather pecking.

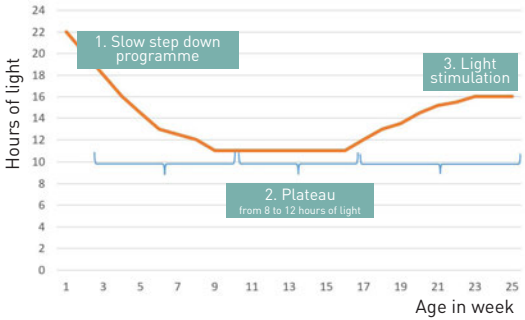
3.1. 3 BASICS STEPS OF THE LIGHTING PROGRAMME

Three (3) main objectives :

1. Promote the growth and homogeneity of the flock during the younger age.

2. Adapt the "plateau" duration according to the type of building (light, dark, semi dark), the season, the evolution of live weights. Do not increase the light duration before the stimulation.

3. Adapt the light stimulation according to the body weight. Pay attention to the light intensity.

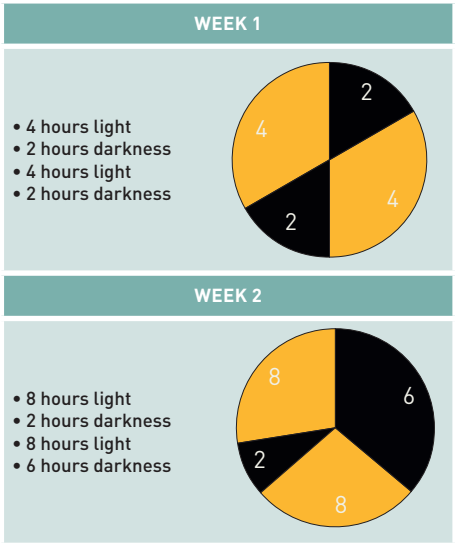


→ LIGHTING PROGRAMME AND LIGHT INTENSITY DURING THE FIRST WEEKS OF THE REARING PERIOD

It is essential to begin with a high light intensity to ensure the chicks are active and can easily access the water and feed points. A higher light intensity during the brooding period will encourage growth by promoting higher levels of activity of the flock and a higher feed intake. The light must be evenly distributed to avoid dark spots.

After 2 or 3 weeks and according to the behaviour of the chicks, the light intensity may be reduced to match the field conditions and the light intensity the birds will be exposed to during the production period (degree of darkness of the rearing house and the laying house).

Light intensity from transfer time should be managed to avoid any dramatic and sudden decrease or increase of light intensity.



→ LIGHTING PROGRAMME DURING PRODUCTION

Never decrease the artificial light duration during the production period as this can lead to an early decline in egg production.

3.2. LIGHTING PROGRAMME IN LIGHT-CONTROLLED HOUSES

AGE (WEEKS)	AGE (DAYS)	LIGHT DURATION IN HOURS	LIGHT INTENSITY
0	0-2	22.00	20-40 lux
1	3-7	20.00	20-30 lux
2	8-14	19.00	10-20 lux
3	15-21	18.00	5-10 lux
4	21-28	18.00	5-10 lux
5	29-35	17.00	5-10 lux
6	36-42	17.00	5-10 lux
7	43-49	16.00	5-10 lux
8	50-56	16.00	5-10 lux
9	57-63	15.00	5-10 lux
10	64-70	14.00	5-10 lux
11	71-77	13.00	5-10 lux
12	78-84	12.00	5-10 lux
13	85-91	11.00	5-10 lux
14	92-98	11.00	5-10 lux
15	99-105	11.00	5-10 lux
16	106-112	11.00	5-10 lux
17	113-119	11.00	5-10 lux
18	120-126	11.00	5-10 lux
19	2-5 % of production	12.00	5-10 lux
20	+ 6 days	13.00	5-10 lux
21	+ 12 days	14.00	5-10 lux
22	+ 15 days	15.00	5-10 lux
23	+ 18 days	16.00	5-10 lux
24	+ 21 days	16.00	5-10 lux
25	Till the end	16.00 [1]	5-10 lux

[1] - *Midnight lighting: It is possible to use an additional 1.00 to 1.30 hours of light in the middle of the dark period in order to promote an optimal feed intake during the first weeks of production or to compensate for the adverse effect of high temperature during the summer. This extra light period may be introduced and removed during the production period at any time after the increase in light duration at the start of lay.*

[2] - *Light intensity and light stimulation should be adapted to local environment and flock condition.*

3.3. LIGHTING PROGRAMME IN OPEN REARING HOUSES

AGE (WEEK)	AGE (DAYS)	LIGHT DURATION IN HOURS	LIGHT INTENSITY OPEN HOUSE	LIGHT INTENSITY SEMI DARK HOUSE
0	0-2	22.00	20-40 lux	20-40 lux
1	3-7	20.00	20-30 lux	20-30 lux
2	8-14	19.00	20-30 lux	10-20 lux
3	15-21	18.00	20-30 lux	10-15 lux
4	21-28	18.00	20-30 lux	10-12 lux
5	29-35	17.00	20-30 lux	10-12 lux
6	36-42	17.00	20-30 lux	10-12 lux
7	43-49	16.00	20-30 lux	10-12 lux
8	50-56	16.00	20-30 lux	10-12 lux
9	57-63	15.00	20-30 lux	10-12 lux
10	64-70	14.00 (or NDL)	20-30 lux	10-12 lux
11	71-77	13.00 (or NDL)	20-30 lux	10-12 lux
12	78-84	12.00 (or NDL)	20-30 lux	10-12 lux
13	85-91	11.00 (or NDL)	20-30 lux	10-12 lux
14	92-98	11.00 (or NDL)	20-30 lux	10-12 lux
15	99-105	11.00 (or NDL)	20-30 lux	10-12 lux
16	106-112	11.00 (or NDL)	20-30 lux	10-12 lux
17	113-119	11.00 (or NDL)	20-30 lux	10-12 lux
18	120-126	11.00 (or NDL)	20-30 lux	10-12 lux
	2-5 % of production	+ 0.30	20-30 lux	10-12 lux
	+ 6 days	+ 1.00	20-30 lux	10-12 lux
	+ 12 days	+ 1.00	20-30 lux	10-12 lux
	+ 15 days	+ 1.00 (or 16.00)	20-30 lux	10-12 lux
	+ 18 days	+ 1.00 (or 16.00)	20-30 lux	10-12 lux
	+ 21 days	+ 0.30 (or 16.00)	20-30 lux	10-12 lux
	Till the end	16.00 [1]	20-30 lux	10-12 lux

NDL: Natural Day Length

[1] - *Midnight lighting: It is possible to use an additional 1.00 to 1.30 hours of light in the middle of the dark period in order to promote an optimal feed intake during the first weeks of production or to compensate for the adverse effect of high temperature during the summer. This extra light period may be introduced and removed during the production period at any time after the increase in light duration at the start of lay.*

[2] - *Light intensity and light stimulation should be adapted to local environment and flock condition.*

4. FLOCK MANAGEMENT DURING THE PRODUCTION PERIOD

4.1. STOCKING DENSITY, DRINKER SPACE AND FEEDING SPACE IN PRODUCTION

	FLOOR		CAGE SYSTEM	
	Temperate climate	Hot climate	Temperate climate	Hot climate
Stocking density / useable area (1)	8-9 birds/m2	6-7 birds/m2	450 cm2/bird	540 cm2/bird
Bell drinkers	1 cm / bird	1.5 cm / bird		
Nipple drinkers	1 / 10 birds	1 / 8 birds	1 / 10 birds	1 / 8 birds
Linear chain feeders	10 cm / bird		10 cm / bird	
Pan feeders	1 / 20 birds			
Perches	15 cm / bird (> 30 cm between perches and > 20 cm between wall and perch)			
Pop Holes	2 m / 1000 birds (height > 35 cm / width > 40 cm)			
Nest	Individual nest = 1 nest / 7 birds Group nest = 1m2 / 120 birds			
Litter area	> 250 cm2 / bird			

(1) - *In the case of 100% slat floor, stocking density can be increased by 15% after transfer.*
(2) - *Depending on country regulation, greater minimum space is requested. Always comply with the law.*

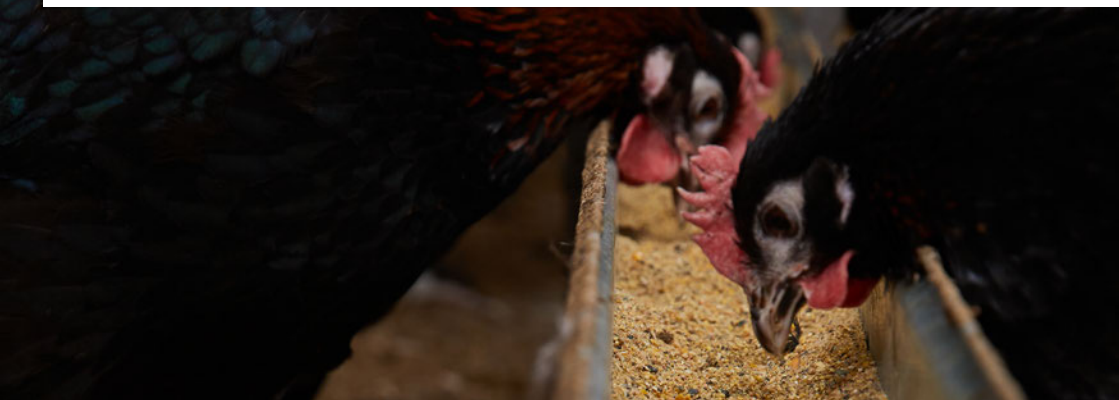
4.2. TRANSFER

Transfer is advised around 16 to 17 weeks of age. The following should be taken into consideration prior to transfer:

- This is done before the laying of the first eggs.
- The transfer should be done one week after the last planned vaccination.
- The transfer can be done three (3) days after deworming of the flock.

In order to minimize the stress at transfer time, it is important to:

- Rear the birds on a similar drinking system as they will encounter on transfer.
- Increase light intensity to encourage water consumption.
- Maintain temperature as close as possible to the temperature experienced by the pullets at the end of the rearing period.



5. MONITORING BODYWEIGHT AND UNIFORMITY

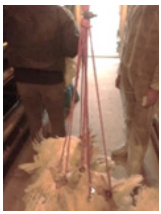
5.1. BODYWEIGHT CONTROL

- The birds must be sample weighed weekly from the first week.
- During the first 4 weeks, collective weights can be taken in batches of 5 or 10 birds using a bucket.
- After 4 weeks, the birds must be weighed individually.
- From 26 weeks of age, weigh the birds every 2 weeks and then monthly from 35 weeks of age.
- Weigh a sufficient number of birds (around 100).





Individual body weight = Correct weight



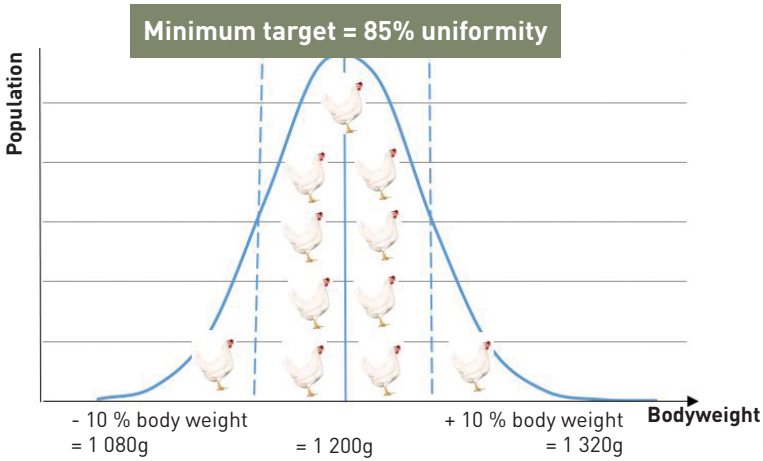
Wrong way to weight

5.2. UNIFORMITY CONTROL

The uniformity target is set to ensure 80 % of the body weights are in a range between + 10 and -10 % of the flock mean body weight.

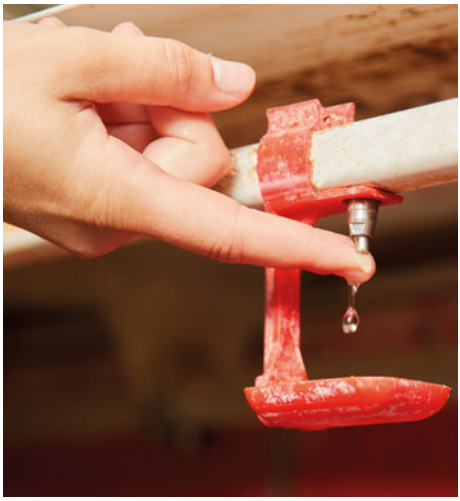
UNIFORMITY	EVALUATION
> 90%	Very good
80-85%	Good
75-80%	Medium
< 75%	Insufficient

Uniformity = number of birds weighing +/-10% of average flock weight



6. WATER MANAGEMENT

Water is the first and most important requirement for poultry, they drink around 1.8 times more than what they eat. Therefore, water management and quality is a priority to ensure optimal flock performances.



6.1. WATER MANAGEMENT DURING THE REARING PERIOD

Before start up:

- Check the quality of the drinking water and the pipelines.
- Clean and rinse the water pipelines.
- Make sure that the water temperature is around 20 to 25ºC.

After start up:

- Provide water ad libitum.
- Keep the water pressure as low as possible. It will help the chicks find the water.
- Adjust the height of the drinkers according to the chick size and growth. Ensure that the chicks can drink without any difficulties.

Water consumption recommendations according to environmental temperature

HOUSE T ºC	WATER / FEED RATIO		WATER CONSUMPTION IN PRODUCTION (ml/bird)
	REARING	PRODUCTION	
15	1.6	1.7	210
20	1.7	1.8	205
25	2.3	2.1	230
30	3.0	3.1	320

6.2. WATER QUALITY

- Ideal water temperature: 20/22°C.
- A microbiological analysis must be done once a year (minimum). In case of local water supply use, more samplings should be performed.
- Take a water sample at the entry point to check the quality of the water supply.
- Take a water sample at the end of the system to check the efficiency of the disinfection system.
- Purge the nipples pipe and clean the drinkers regularly.
- Disinfection of the drinking system must be performed regularly.
- Clean the pipe system during the sanitary break between flocks.
- Control of the flow of the nipples (40 ml/ minute).
- Control of the ratio water / feed on a daily basis.

7. NUTRITION

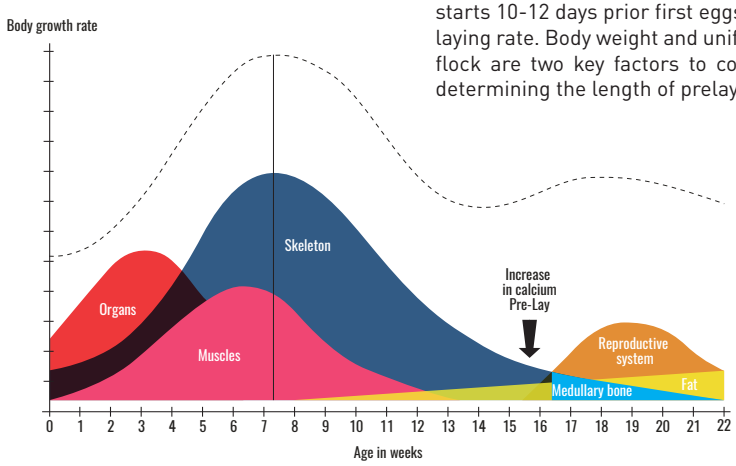
Some important points for the **Rearing Period** :

- Starter Feed
  - It is recommended to formulate a highly concentrated starter feed via using highly digestible raw materials. This feed is crucial to have the best muscle and skeleton at the end of week 5. This feed should be a in crumble form to maximize feed intake in order to reach standard body weight.
  - Usage of a good quality oil is also beneficial for energy source. An emulsifier can be justified to increase the efficiency of added fats. Increasing sodium level in starter feed will stimulate feed consumption. Normally, starter feed is given from day zero to end of 5 weeks, but if target body weight is reach earlier, it possible to switch to the next feed. If target body weight is not achieved at the end of 5 weeks, continue giving the same feed for 1-3 weeks more.

- Grower Feed
  - It is usually given from 6 weeks to end of 10 weeks of age. Grower feed is less dense than starter feed. In this case, raw materials that have different density and digestibility can be used. However, this feed should also be designed to support skeletal and muscular growth because chicks need to grow maximum from day zero till 8 to 10 weeks. Grower feed is usually mash feed but it can be also in crumble form.

- Developer Feed
  - It has quite low nutrient density. Crude fibre level should be as high as possible (4 - 6.5%) in this period. Adding fibre and maintaining feed granulometry in the diet increases gut size and improves feed intake capacity. This is one of the important factors for hen to reaches a good peak of production as well as a good persistency. There are several raw materials that can be used as source of fibre in the diets to develop the feed intake capacity. Usage of oil (1-2 %) will reduce dustiness of the mash feed in grower and developer feed.

- Prelay Feed
  - Used before a flock starts to eat layer 1 feed. It helps to compensate lack of body weight and improve uniformity. The development of organs such as ovaries, oviducts, and liver involved in egg production is supported by the extra protein contained in this feed. It also supports the development of Ca-accumulation in medullar bones. This is why prelay feed should have around 2.5 % Ca and higher protein than developer feed. Prelay feed is a kind of transition feed, so proper use of prelay feed prepares better the flock for the laying period. The introduction of pre-layer feed is dependent to the bird's sexual maturity, age and body weights. It usually starts 10-12 days prior first eggs until 2- 5 % laying rate. Body weight and uniformity of the flock are two key factors to consider when determining the length of prelay feeding.



Some important points for the **Laying Period** :

- Phase feeding is recommended for a successful production performance. To maximise reach of Novogen genetic potential, nutrients of each feed is suggested based on maintenance needs of birds, standard egg mass and egg shell quality as well as optimal conditions of production (20 - 22°C) and biosecurity. Do not change to next feed until you see the egg mass drops.

- Metabolic Energy: The energy requirement is given taking into account different calculation methods used around the world. In practice, these calculations take into account body weight and egg mass. Energy consumption for maintenance is important. Body weight has an effect on energy requirements; the higher the body weight, the higher the energy requirements. Please note that our energy suggestion does not consider environmental temperature, and local nutritionists need to adapt energy requirements according to local temperature and condition. It should be noted that the metabolic energy requirement (ME) decreases as the ambient temperature rises up to 27°C. This is due to a reduction in energy requirements for maintenance. On the other hand, as the ambient temperature decreases, the ME requirement increases due to a higher need for maintenance.

- Amino acids : All NOVOGEN recommendations are made with a quality protein, with a good availability and digestibility of Amino Acids (A.A.). Recommended ideal amino acid ratios (table 1) are indicated in ranges. These recommendations are given for an average temperature in poultry farm between 20 and 22°C, with optimal conditions and good sanitary level. Any excessive pressure from the microbial population leads to an expenditure of energy and A.A. If necessary, they should be adjusted according to the observed field performances and the desired production objectives (typically feather, egg weight, etc.). Any anti-nutritional factors that may alter the bioavailability of A.A. must be controlled, taking into account the risk, and must be managed accordingly.

- Usage of coarse limestone: This is necessary for eggshell quality. It is important to use coarse limestone from prelay period onwards.

Ideal Amino Acid Ratio for whole period

A.A. RATIOS	STARTER	GROWER	DEVELOPER	PRELAY	LAYER
Dig. Lysine	100	100	100	100	100
Dig. Methionine	45	45	48	50	51
Dig. Methionine + Cystine	77	80	85	90	90
Dig. Tryptophan	19	20	24	21	22
Dig. Threonine	68	68	70	70	70
Dig. Valine	79	79	80	88	88
Dig. Isoleucine	69	75	76	80	80
Dig. Arginine	105	105	106	105	104

- Fibers: A minimum total fiber level is recommended for all their positive effects on the digestion and behaviour of the animals For cage farms, 3.5% is the minimum. These levels need to be increased and adjusted for alternative production system and according to the bird behavior.

- Feed Intake: It can vary according to body weight, egg mass, farm temperature ,feathering condition, energy level of feed, and feed granulometry. Production system affects the feed intake too. Birds that are reared in alternative systems are more active than birds are in conventional cage systems. They need more energy for maintenance. As a result, we need to consider all these parameters when talking about feed intake.

- Feed Granulometry: If the percentage of fine particles is high the feed consumption will be affected. Consequently, laying rate, body weight and egg weight decrease. Feed granulometry must be controlled and adapted as much as possible to table 3 recommendations from the beginning to the end of production.

- Feed Hygiene: Raw materials that are used should be free or have a minimum amount of pathogens. Use ingredients from a reliable supplier that can show analyses report for each batch. Cleaning procedure in all areas of feed mill should be done periodically in each downtime period. Regularly taking samples and test finished feed for enterobacteria and salmonella. Regular pest control program should be applied to minimize the population of rodent.

Feed granulometry

PARTICLE DIAMETER	STARTER	GROWER	DEVELOPER	PRODUCTION
Inferior to 0,5 mm	max 5%	max 5%	max 5%	max 5%
From 0,5 to 1 mm	max 15%	max 15%	max 15%	max 15%
From 1 to 2 mm	50-60 %	45-55 %	25-35 %	20-30 %
From 2 to 3,2 mm	10-20 %	15-25 %	25-35 %	30 -40 %
Superior to 3,2 mm	Max 0 %	Max 0 %	Max 10 %	Max 10 %



8. HEALTH PROGRAMME

8.1. VACCINATION

Applications of vaccines
(Indicative only, check with your local veterinarian)

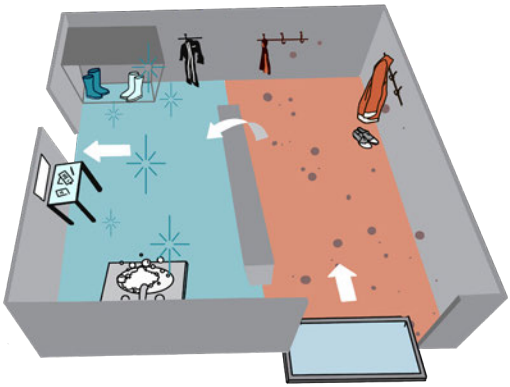
BASIC VACCINES APPLICATIONS		
DISEASE	**ADMINISTRATION METHODS**	**APPLICATION PERIODS**
Marek	Intramuscular / subcutaneous / in-ovo	Day-old
Newcastle Disease (N.D.)	Drinking water / Spray / Subcutaneous / Intramuscular / in-ovo	Depending on the local epidemiological context this can start at day 1
Gumboro	Drinking water / in-ovo	Depending on the local epidemiological context and/or quantity of antibodies of maternal origin
Infectious Bronchitis (I.B.)	Drinking water / Spray / Subcutaneous / Intramuscular	Depending on the local epidemiological context, usually at day 1 with regular boosters
Avian encephalomyelitis (A.E.)	Drinking Water / Wing Web	Usually around 12 to 14 weeks of age

OPTIONAL VACCINES APPLICATIONS		
DISEASE	**ADMINISTRATION METHODS**	**APPLICATION PERIODS**
Coccidiosis	Spray / drinking water	Day-old
Infectious Laryngotracheitis (I.L.T.)	Eye drop / Spray / Injection (recombinant vaccines) / in-ovo / Wing web	Depending on the vaccine and the local epidemiological context
Fowl Pox	Wing Web	8 to 12 weeks
Mycoplasmosis	Spray / Eye drop / Subcutaneous / Intramuscular	Depend on local epidemiological context and vaccine used
Salmonella	Drinking Water / Spray / Intramuscular	Usually based on live vaccines 6 weeks apart and a booster with inactivated 4 weeks before lay
Pasteurellosis	Wing web /Subcutaneous / Intramuscular	Depending on local epidemiological context
Infectious Coryza	Subcutaneous / intramuscular	Depending on local epidemiological context
Egg Drop Syndrome (E.D.S.)	Subcutaneous / Intramuscular	Usually inactivated vaccine before lay

9. BIOSECURITY

9.1. GENERAL FARM RULES

Ideally, the best rule of management is to have one age and one breed per site to ensure the "all-in, all-out" principle is followed at all times. The choice of the site for the farm, including the layout of the houses, must prioritise the elimination of all possible sources of contamination. Biosecurity protection is reinforced by hygiene controls. A changing room should be made available at the entrance of the site. It must be used by everybody entering the farm (incorporating both a shower and a change of clothes).



9.2. CLEANING AND DISINFECTION OF POULTRY HOUSES

Between each flock, cleaning and disinfection of the houses, their annexes, surroundings and access ways are essential to ensure the optimal health conditions required for the incoming flock. Cleaning and disinfection must be done according to strict procedures and protocols.

TIMELINE				
Birds culling/ Prior to cleaning	**Cleaning**	**Desinfection**	**Resting period**	**New flock**
• All the equipments are removed: - Litter is removed - Rodents control - Cleaning of the water and ventilation system	• House: - Internal roof surfaces - Walls - Pits and concrete floors • Equipments: - Nest - Drinkers - Feeding equipments	• Water pipes • House • Feed storage silos • Heating and ventilation ducts • House surroundings and pathways	• Assessment of disinfection - Visual examination - Bacteriological examination The resting period starts when all the operations have been achieved and lasts for at least 10 days.	• Introduce material • Introduce fresh litter • Fumigate • Nebulisation

9.3. RODENT CONTROL

Rodents may be vectors of numerous bacterial diseases such as salmonellosis.
It is important to have an efficient pest control program.

- Insect vectors like beetles, ants, cockroaches, flies can serve as transmitters of diseases.
- Rodents are also major reservoir and transmitter of diseases; therefore, it is important to draw up an efficient and regular rodent control program.

10. LIGHTING PROGRAMME USED

AGE (WEEKS)	AGE (DAYS)	BODYWEIGHT AT START OF THE WEEK (G)	AVERAGE LAYING RATE OF THE WEEK	LIGHT DURATION (HOURS)
0	0 to 2			
1	3 to 7			
2	8 to 14			
3	15 to 21			
4	21 to 28			
5	29 to 35			
6	36 to 42			
7	43 to 49			
8	50 to 56			
9	57 to 63			
10	64 to 70			
11	71 to 77			
12	78 to 84			
13	85 to 91			
14	92 to 98			
15	99 to 105			
16	106 to 112			
17	113 to 119			
18	120 to 126			
19	127 to 133			
20	134 to 140			
21	141 to 147			
22	148 to 154			
23	155 to 161			
24	162 to 168			
25	169 to 175			
25+	176 to 182			

11. REGISTER OF VISIT

Name	Date	Purpose of visit	Advice	Signature



COLOR
Grey Barred



COLOR
Barred Black



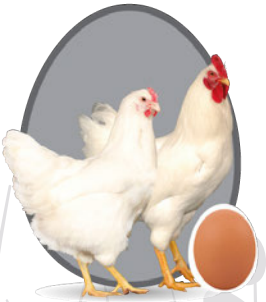
COLOR
Black



COLOR
Sussex



COLOR
Sussex Medium



COLOR
Silver



COLOR
Blue



COLOR
Green



COLOR
Chocolate



COLOR
Ash



COLOR Black Tail

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