Cage-Free Rearing

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Rearing/Production systems Global

Cages

Enriched cages

Barn egg

Aviary systems

Free range

Biological

Cage-Free Rearing

Influences on Layer Behavior

Lighting

Feed

Red mites

Vaccination

Climate

Flock density

Cage-Free Rearing

What do we like to know before we start rearing?

- White or Brown layers?
- Production based on number of eggs, Kg of eggs, market needs
- Age of the Layers in production
- Type of equipment rearing/production
- Type of feeding/drinking system rearing/production
- Daylight influence rearing/production

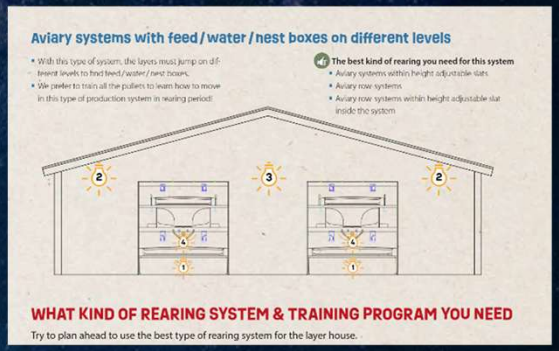
Cage-Free Rearing

Make a plan before the start of rearing

Determine the strategic road with:
Advisors from the hatchery, feed suppliers, Veterinarian and other involved parties!

EQUIPMENT REQUIREMENT

- Barn system with full litter
- Barn system with full slats
- Barn system with 2/3 slats and 1/3 litter
- Aviary systems with in height adjustable slats
- Aviary row systems
- Aviary row systems with in height adjustable slat(s) inside the system.



H&N Cage-Free Mangement Guide
https://hn-int.com/

Equipment Requirement

Cage-Free Rearing

- The more closely the rearing facility resembles the future production system, the easier it will be for the pullets to settle down in their new environment after being transferred to the laying house.

- With this we can use the complete genetic potential of our H&N breed.

EQUIPMENT REQUIREMENT

STOCKING DENSITY

An adequate stocking density leads to success in rearing chicks. A high stocking density impacts negatively on daily growth, flock uniformity and chick development. Furthermore, a high stocking density combined with reduced feeder space will limit feed consumption, which might already be low under certain conditions (e.g. hot climate or poor feed quality) and sufficient access to water.

Table 2: Stocking density in rearing farms*

Age	Floor space		Feeder space**		Drinker Space	
	Row-systems	Floor***	Row-systems	Floor	Row-systems	Floor
0 – 3 weeks	140 cm^2/bird	21 birds/m^2	2.5 cm/bird	4 cm/bird 60 birds/pan	1.25 trough cm/bird 12 birds/nipple	1.4 trough cm/bird 12 birds/nipple 100 birds/fountain
3 – 16 weeks	285 cm^2/bird	16 birds/m^2	5 cm/bird	8 cm/bird 30 birds/pan	2.5 trough cm/bird 8 birds/nipple	2.5 trough cm/bird 8 birds/nipple 75 birds/fountain

*This table is a general recommendation and you should adhere to your own country's recommendations.
minimal recommendations * includes all the available space

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Aviary Rearing

Row systems

- ✗ Learn how to jump 100%!!!!
- ✗ Enrichment first days/weeks in cages
- ✗ Ventilation block by system

Aviary Rearing

In height adjustable systems

- ✗ Planning white/brown pullets
- ✗ Catching pullets
- ✗ Mortality by accidents
- ✗ Higher costs/hen

Aviary Rearing!

EQUIPMENT REQUIREMENT

- What kind of feeding, and drinking system is used in production?
- Is feed/water/nest boxes placed on the same level in production?
- Do birds need to jump on perches to find the different levels?
- What is the maximum hight that the layers need to jump to in the production system?

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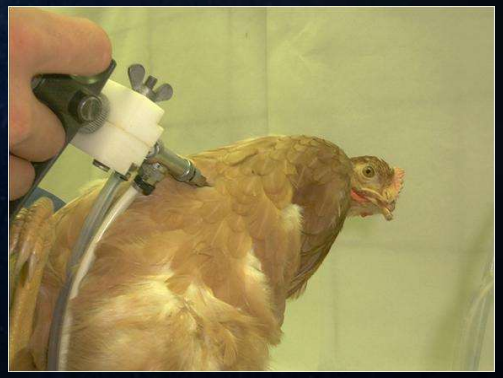
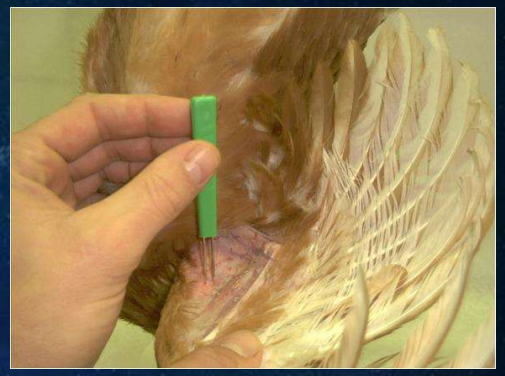
Vaccination Program





Discuss with local veterinarian for best choice.
Also looking at economic benefits!

Try to finisch vacination program before transfer!

Brooding

Prepare for housing

- Preparing for placement from DOC

  - *Check setting in the computers if they are O.K.*
  - *Is everything checked & tested (especially with first flock)*

- Start pre-heating the house on time.

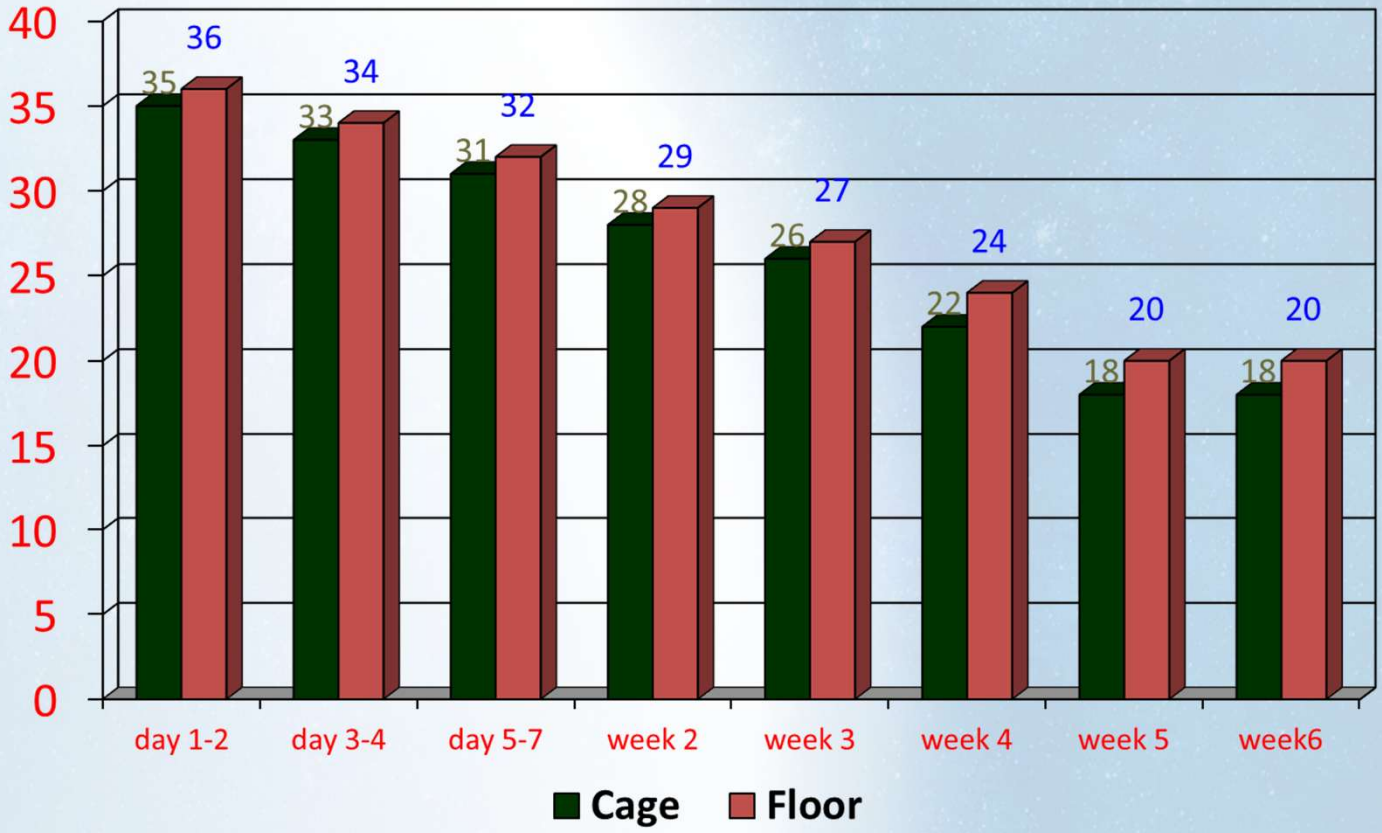
  - *House temperature up to 35°-36° C.*
    In summer time, at least 24 hours before arrival of the chicks.
    *In wintertime **at least** 48 hours before arrival of the birds*

  - *The first 48 – 72 hours after placement, this temperature must be maintained.*

The relative humidity preferred to be at least 60%.

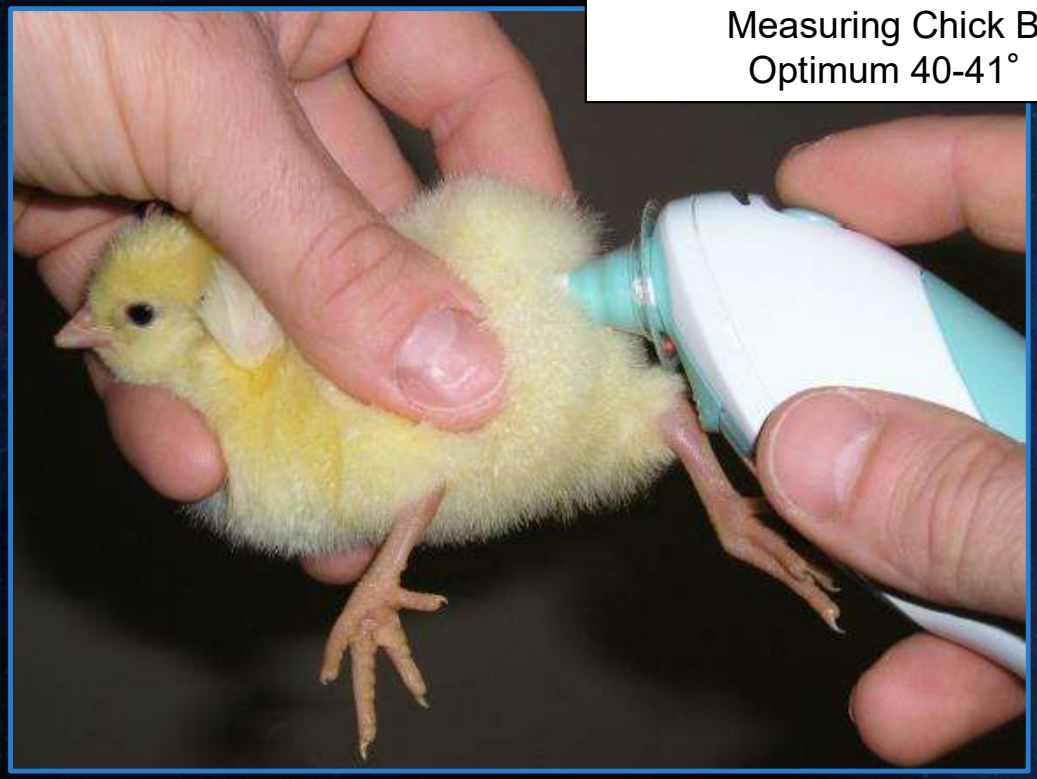
Brooding

temperature



Brooding

temperature



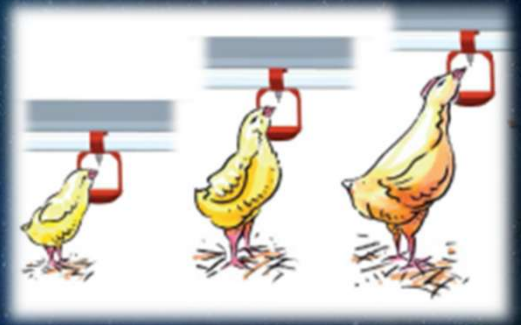
Measuring Chick Body Temperature
Optimum 40-41° C (104-106° F)

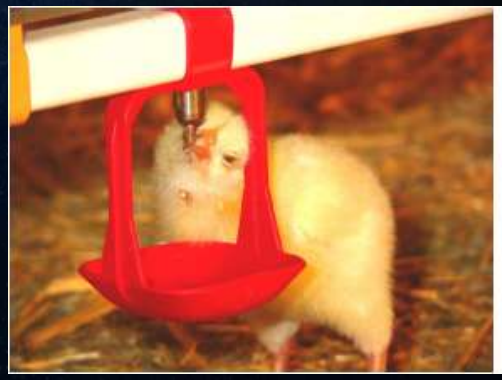
Adjust House Temperature according to the Chick Body Temperature!

Brooding

- Check the drinker height regularly, especially in first weeks of Rearing
- **Give extra attention with IR treatment!**

  360° nipple drinker/cup drinkers





Brooding

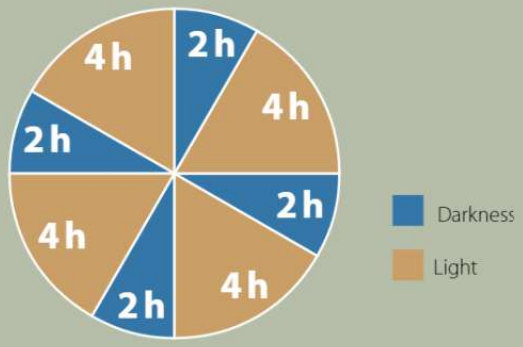
Intermittent lighting program

Intermittent Lighting Program

- **Dark houses only (< 3 lux)**

This program can be used for up to 7 – 10 days after arrival. Then switch back to the regular step-down lighting program. Using this lighting program has the following advantages:

- Chick behaviour is synchronized; they rest or sleep at the same time.
- Weak chicks will be stimulated by stronger ones to move as well as to eat and drink.
- The behaviour of the flock is more uniform and evaluating the flock is much easier.
- Chick mortality will decrease.



Lighting Program

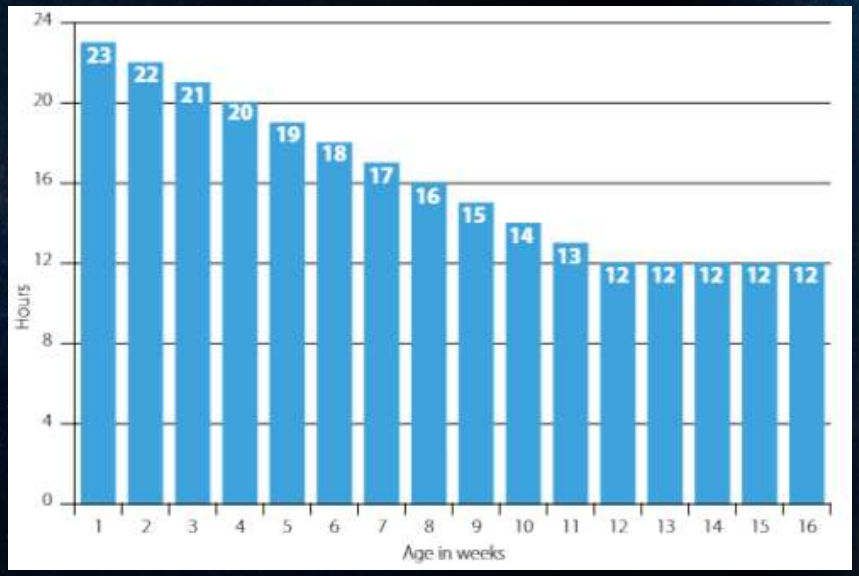
influencing factors

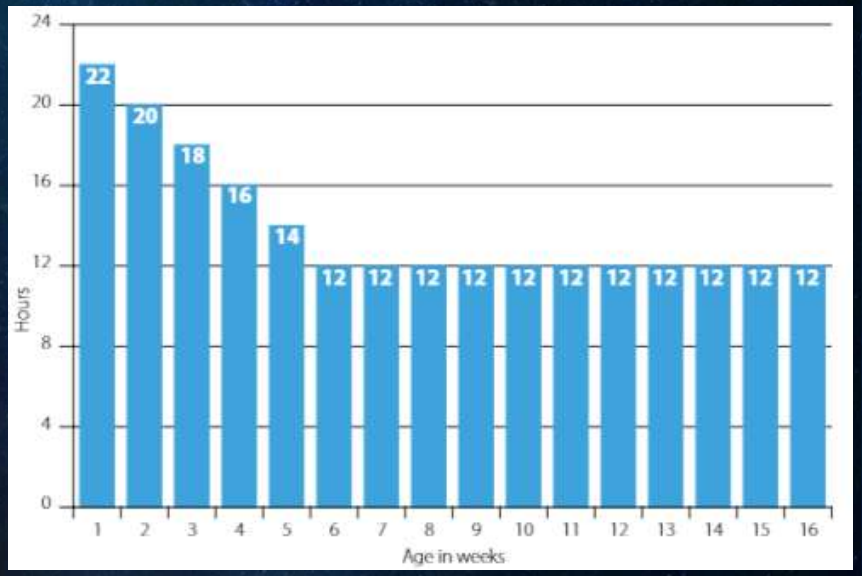
- Latitude/ Longitude: *North/South, East/West*
- Hatch date: *Year Season, Natural day light*
- House design: *Closed, light tight, open sided*
- Target body weight: *Egg size, feed consumption*

Lighting Programs

Comparing a Slow Down versus a Fast Down Program

If it doesn´t appear that body weight targets will be met at week 5, it is highly recomended to change to a slower reduction to allow body weight to improve!





Lighting Program

Step Down Period

- Step wise reduction of day length from placement until age of 4 to 11 weeks.
- Between 3-10 weeks, be extra aware of behavior, and when needed reduce the light intensity. (Temporarily)
- Don‘t stick to the lighting schedule!
  If the birds don‘t reach their bodyweight, don‘t reduce daylength until they are back on target body weight.

Lighting Program

Constant Period

- The day length during the constant period should not be chosen to short. (9-12 hours)
- The birds must grow, and need time to eat
- Never increase the day length during this period. This can induce an advanced onset of lay.

Lighting Program

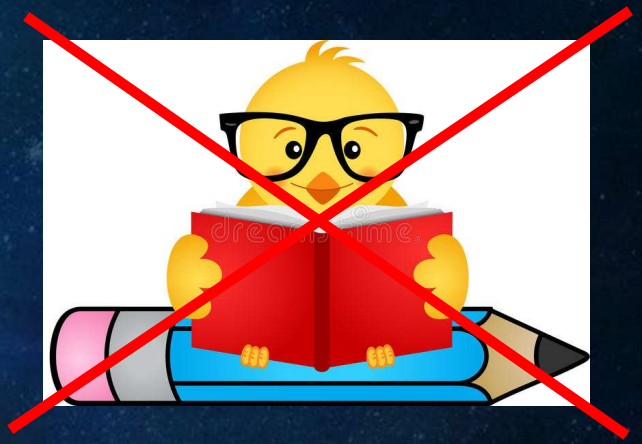
Measure LUX, and avoid bright light and dark spots.

15 LUX for brown pullets and **10 LUX** for white pullets up to 10 weeks

Development of the chicks/pullets!

The birds (and not only ours!) have one failure: They can‘t read!

- *No management guide*
- *No lighting program*



Therefore, it is the pulletgrower who has to determine if everything is „on track“

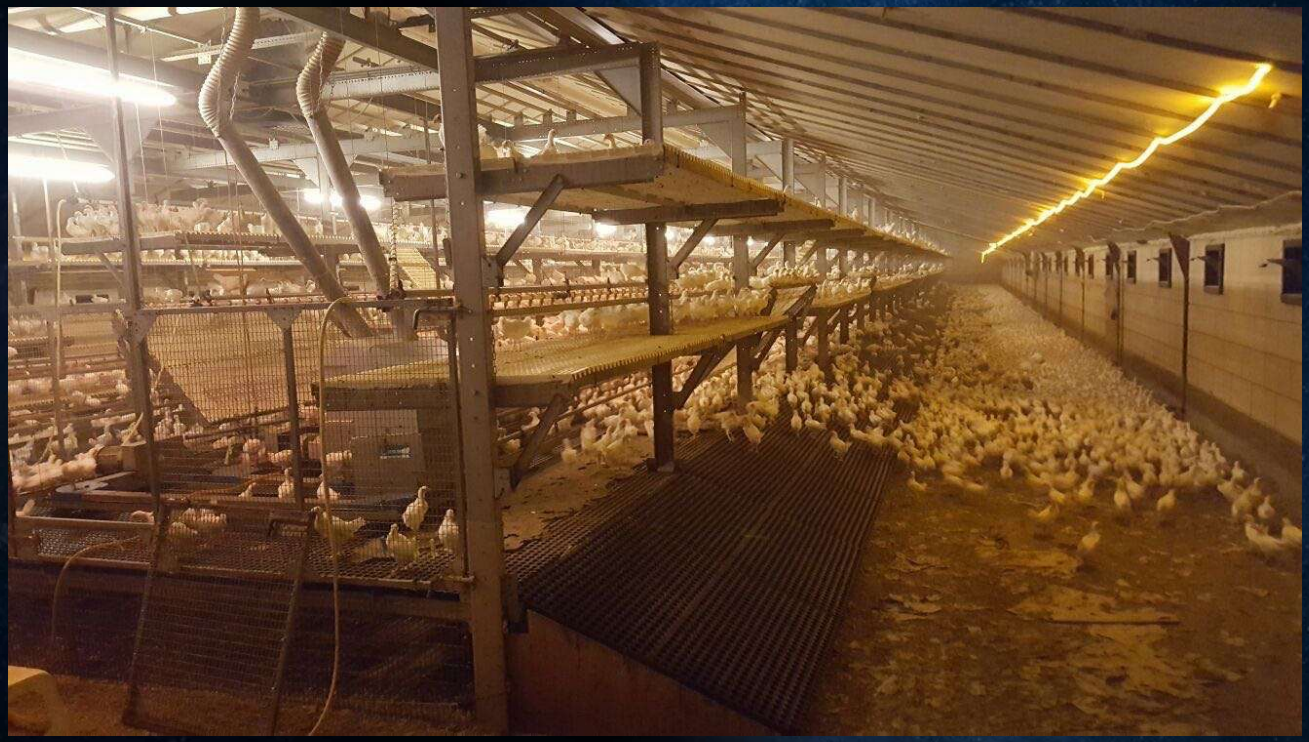
- *Take bodyweights from 1st week onwards, every week*
  Not necessary to take individual BW, only if necessary.

Development of the chicks

- Start training with dimming period as soon as possible after ending the intermittent lighting program. (14 days)

- Let the chicks out of the system a.s.a.p!!!!!
  Be aware of situations with paracox vacinations, recycled paper!!

Development of the chicks



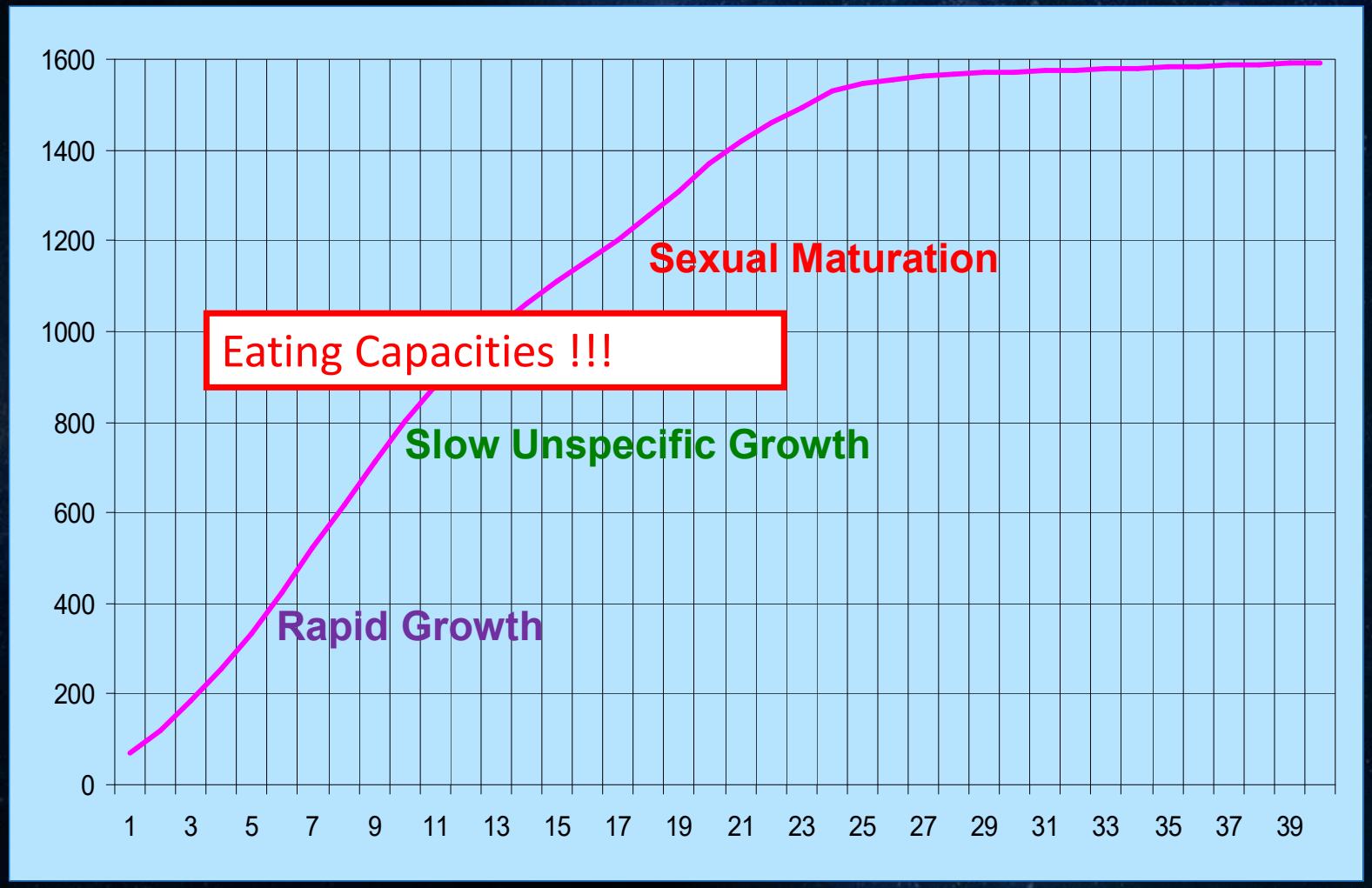
Development of the chicks

- At each change, check on the behaviour of the pullets and how they react to the change.

(e.g., Open the system, change feeding times or increasing the height of the nipple drinkers/slats!

- Very important: make sure that 100% of the pullets are active!
  It is very important that **ALL** the pullet move upwards to the slats/system and perches.

Development during Rearing



FEED MANAGEMENT

- Target to feed ALL the birds the same quantity, and in this quantity the COMPLETE balanced feed.
- To prepare the birds for the big step in feed intake at the start of production.
- To keep up feeding in hot climate areas
- To reduce select feed intake

H&N Cage-Free

T.T. Feed Management

https://hn-int.com/

New challenges in cage-free

Does it work in commercial rearing/production farms

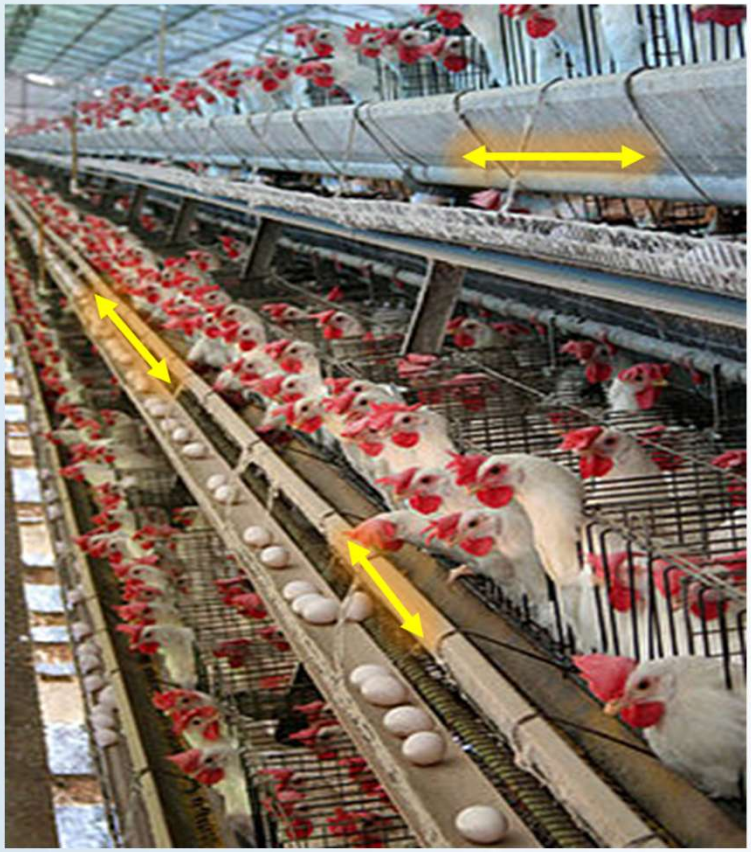
long feed chains

&

Free housed pullets/layers ?

New challenges

Cage versus Cage-Free



New challenges

Ban on beaktreatments

IR-treatment

Untrimmed

Feed Structure

Good

Homogenous mash feed structure the basis for good & even feed and nutrient intake

Source: H&N International

Feed structure

Judged by a hen

- I don´t like hard and scharp granulate
- I don´t like fine powder mashfeed
- I don´t like hard pallets …

Source: G. G. Mateos

Feed structure

What particle size the birds prefer to eat ?

Source: G. G. Mateos

Feed structure

Easy testing on farm level

Feed structure

Easy testing on farm level

Invest for the right feeding system

And take the profit!

- feed chain
- Fast running feed chain (>18 M/Min)
- Enough capacity for transport augers or feed hoppers

✓Profit from less to no waste

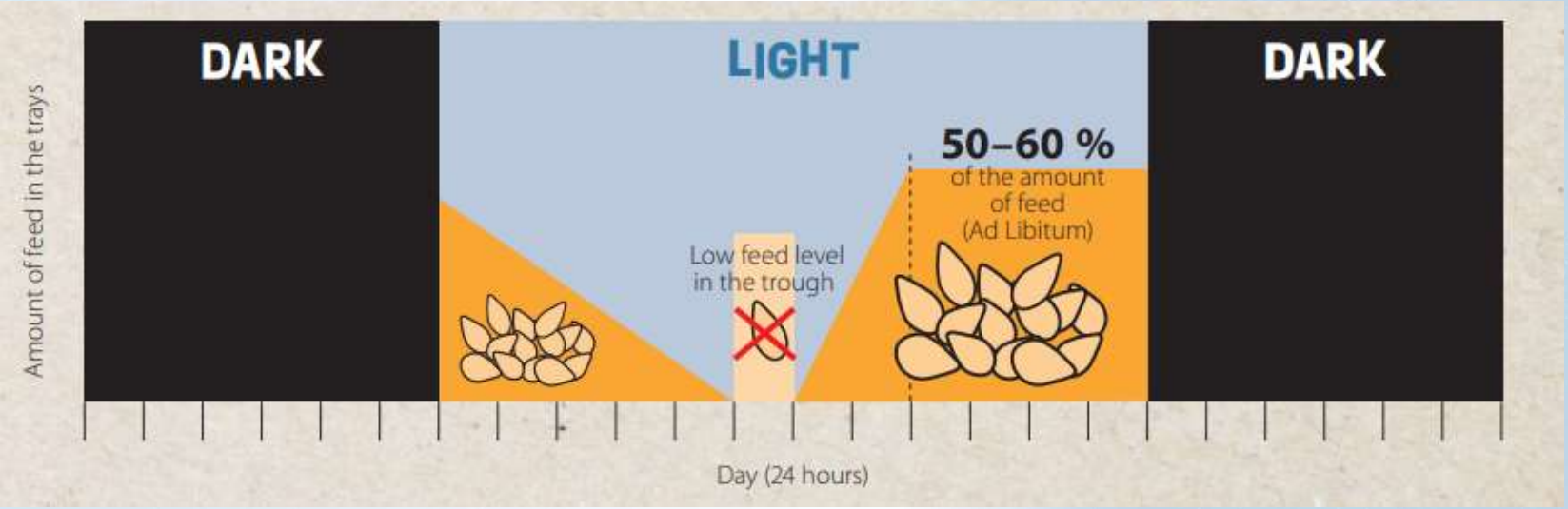
✓Better feeding behaviour

Feed Management

When to start feed management?

- In rearing period (age of 3-4 weeks)
- Start to empty the feeders. (Keep an eye on behaviour of the flock)
- We like to empty the feeders once/day!
- **Continue this also after transfer to production!**

FEED MANAGEMENT



Rearing

Alfalfa (Luzerne)

Use the see if everything running smoothly!

Alfalfa (Luzerne)

To check if everything running smoothly!

- Do we need Alfalfa?
- For what purpose we use Alfalfa?
- When do we use Alfalfa?

Alfalfa (Luzerne)

Use the see if everything running smoothly!

- We don´t use alfalfa to feed our birds!
- We use alfalfa only to give us some information, to see if everything is in good balance!
- **When birds don´t take alfalfa, they are in good balance.**
- Advisable to use it during most stressfull periods:
  In rearing 3 till 10 weeks

Feed Management

Mandatory Steps

- **From week 3-4** in rearing start to empty to feeding troughs once/day!

- Continue this during whole rearing period, and after transfer in production!

(Cage-Free) Rearing

Summarized

- Good feed and feed management
- Observe the birds and they will “tell you”
- Rearing is the key to success

Please be excellent because …

… an excellent manager will still be able
to perform with acceptable results even when
circumstances are not perfect

But …

A manager with poor skills will
spoil the birds and the production results
even in the best circumstances!

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