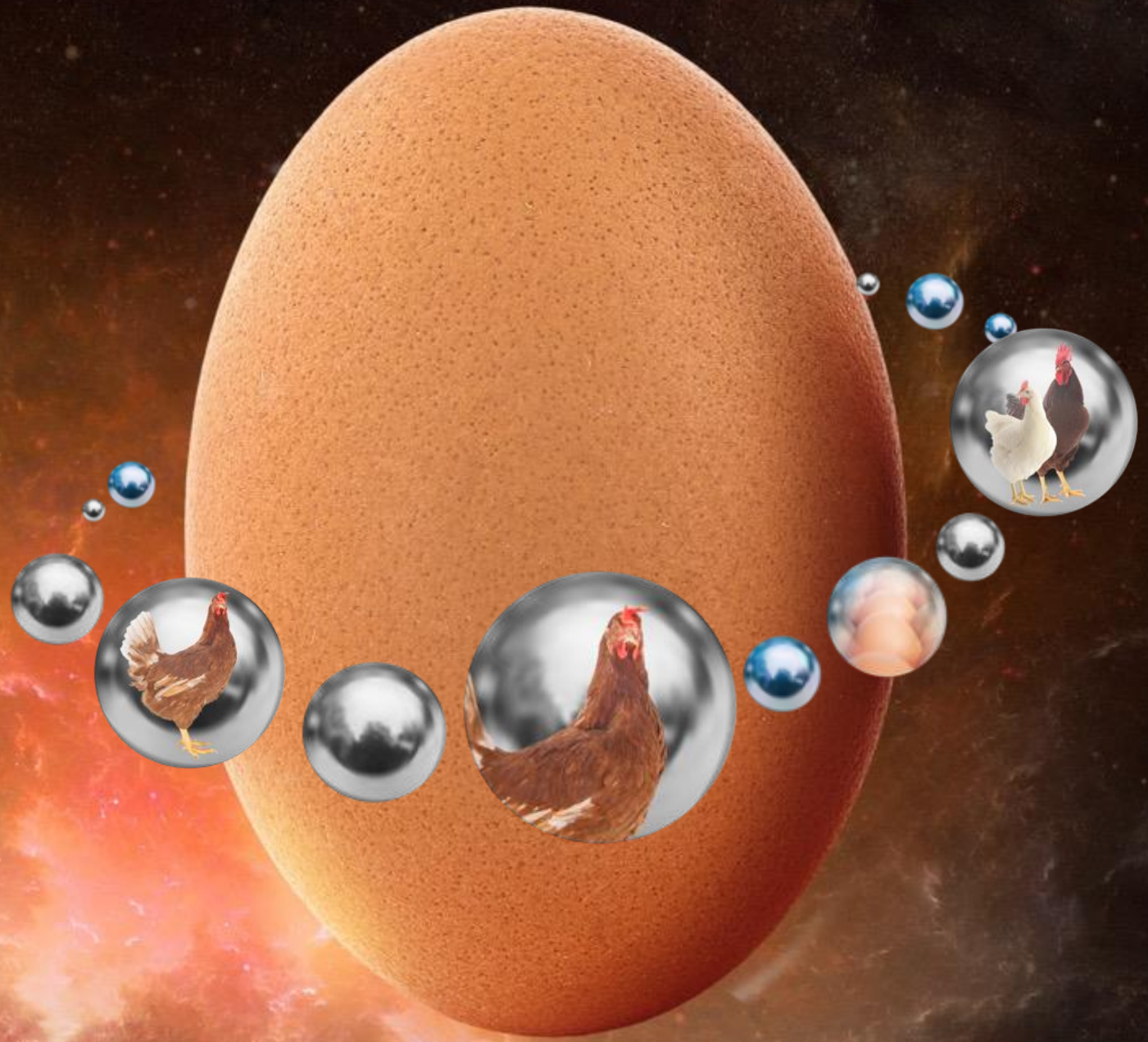
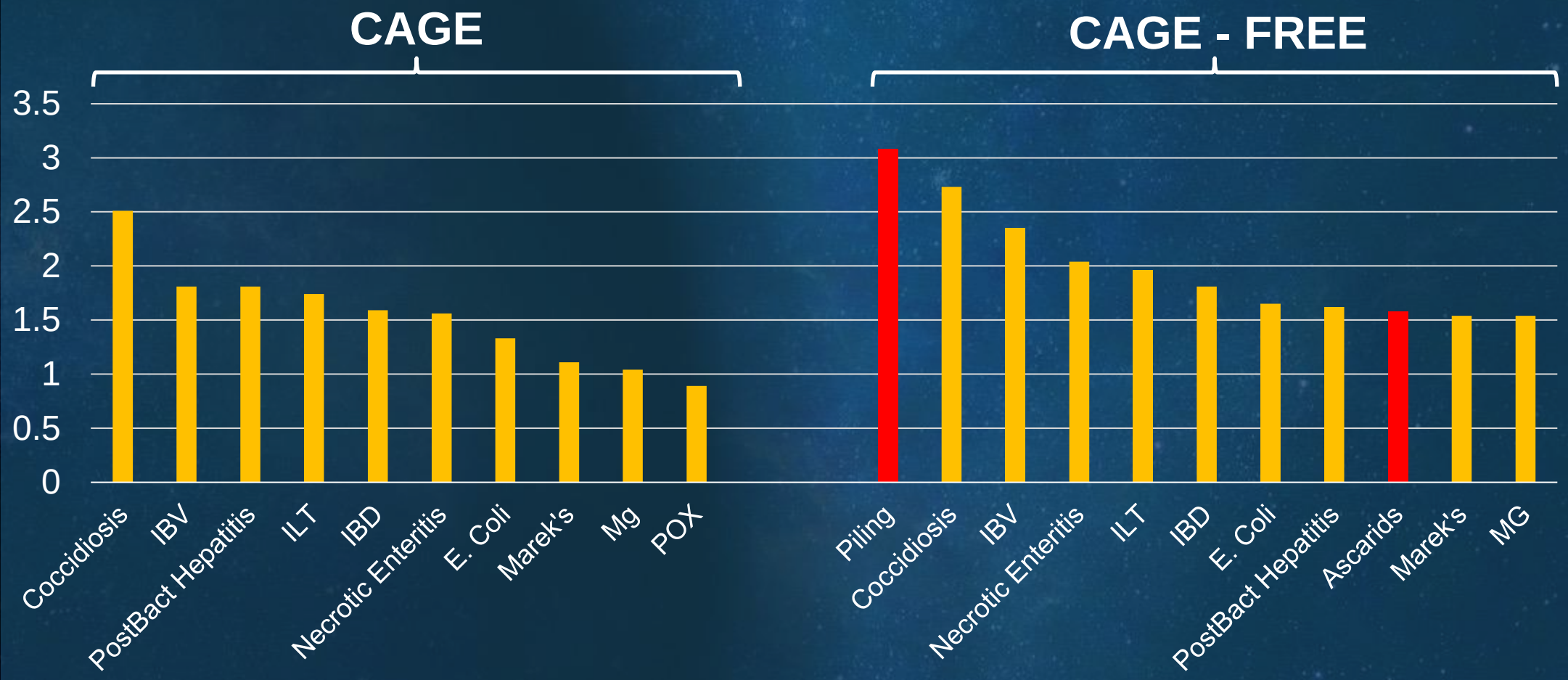


Health program updates in the cage free management guide

Fernando Carrasquer Puyal
DVM CEAV
Global Technical Services
Veterinary Specialist

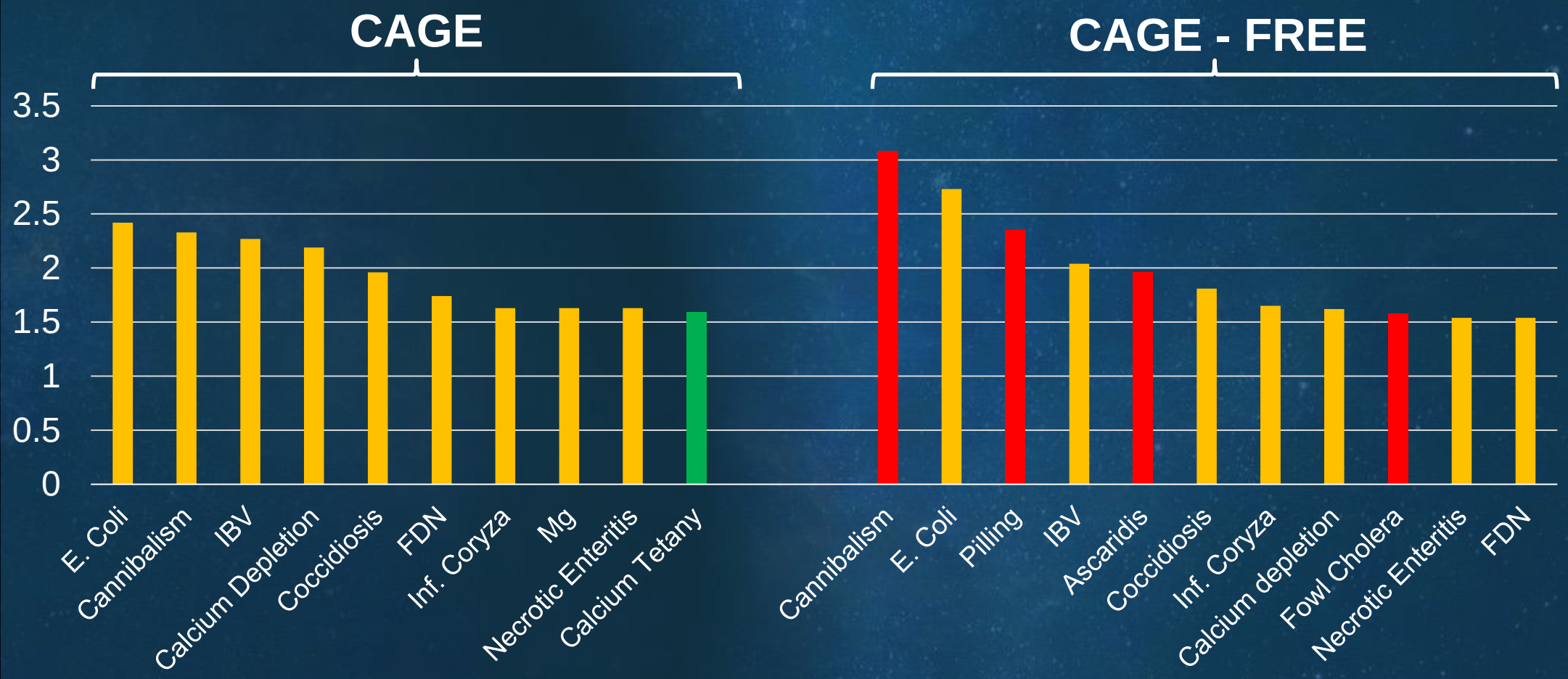
What is different about the health of cage-free birds?

2020 AVEP pullet disease Survey

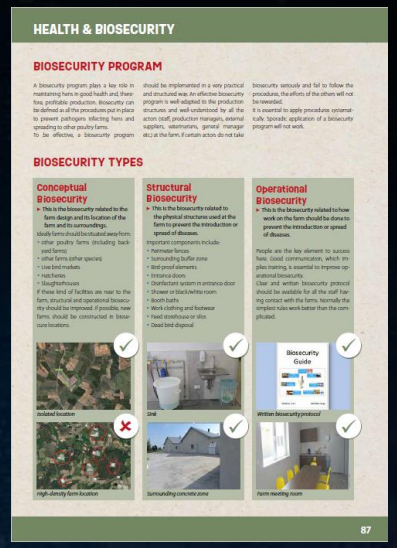


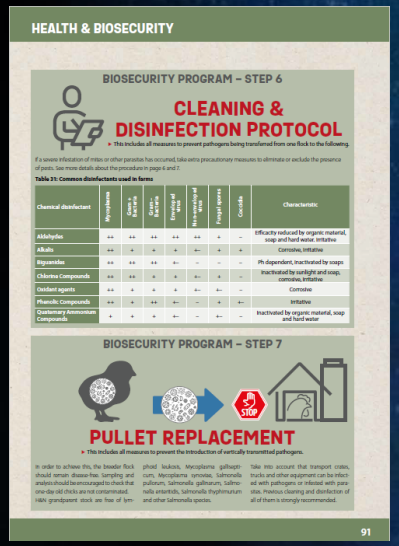
What is different about the health of cage-free birds?

2020 AVEP layer disease Survey



What will you find in the health and biosecurity chapter?





Biosecurity

- We keep thinking that biosecurity comes first (also in cage free).
- 5 full pages for basic biosecurity rules

Vaccines

- We keep thinking that vaccines play a key role in birds health.
- 1 full page for basics on adapted vaccine programs.
- 1 full page for basics on vaccines administration.
- Half a page for basics on vaccine monitoring

HEALTH & BIOSECURITY

VACCINE MONITORING

Serological data obtained after the bulk of the vaccination program is completed, normally by 15 or 16 weeks of age is a good method for evaluating the immune status of a flock of pullets prior to production. Such data also serves as an immune status baseline for determining whether a field infection has occurred when production drops are observed. It is recommended that the flock owner submits 25 good serum samples to a laboratory one or two weeks prior to the pullets being placed in the laying house to establish freedom from certain diseases such as Mycoplasma gallseptícum (Mg) and Mycoplasma synoviae (Ms) prior to onset of production.

Serological data can give valuable information on the immune titer levels for a number of disease-causing agents. Working with a poultry laboratory to set up a profiling system will make better evaluations of vaccination programs and flock conditions possible.

Table 33: Serological monitoring

Disease	ND	IB	AmPV	EDS	AE	MG	MS	IBD
Technique	ELISA, HAI	ELISA, HAI	ELISA	ELISA	ELISA	ELISA, PRA	ELISA, PRA	ELISA
Week	15, 25, 45, 65, 85	15, 25, 45, 65, 85	15, 25, 45, 65, 85	15, 25, 45, 65, 85	15,25	1, 15, 25, 45, 65, 85	1, 15, 25, 45, 65, 85	1

COCCIDIA

Coccidiosis is a disease caused by protozoan species of the genus Eimeria. They are species-specific and those affecting hens replicate in different parts of the intestine. The severity of the disease produced depends on the species and the degree of infestation. In some cases, the bird will die, while in others the birds will be stunted in their growth and are likely to have complications with necrotic enteritis.

In long-lived birds, control is based on the establishment of immunity against each of the Eimeria species. Cross immunity is very poor and does not provide good protection. For this purpose, coccidiostat programmes can be used as long as they allow partial cycling of the protozoa. In this way, lesions are reduced but immunity can be developed if there is a challenge during rearing. Another simpler and more effective option is the use of vaccines. These are usually given in the first few days of life and must be cycled several times in the birds to produce a long-lasting and robust immunity. For this, not only their application but also the management of the birds in these early weeks must be well managed. This is different depending on the type of vaccine used (attenuated or non-attenuated).

Lesion location in the gut for main Eimeria species in chickens

HEALTH & BIOSECURITY

INTERNAL PARASITES

Internal parasites are a common finding in birds in free-range systems but may also be present when birds do not have access to outdoor parks.
They cause a reduction in nutrient absorption by the birds. Depending on the level of infestation this can lead to a deterioration in bird body condition, decreases in production, egg quality and even promote cannibalism and mortality.
They usually cycle outside the bird's gut which may be direct or have another intermediate host. Different species also colonize different parts of the intestine or other parts of the bird's body.
Since it is very difficult to avoid contact with these parasites (especially in free-range), a population control programme should be applied to avoid heavy infestations that cause damage to the birds.

- In those parasites that have cycles with an intermediate host, it is important to cut the cycle by controlling the population of those hosts.
- Rotation of outdoor flocks as well as proper drainage and maintenance are necessary to avoid areas with high egg loads.
- NAD programmes should include treatments to reduce the parasite egg load during the service period.
- It is necessary to monitor the presence of parasites either by faecal egg counts or by post mortem examinations.
- Flocks should be treated with deworming drugs repeatedly to keep parasite populations from growing out of control and minimise the damage caused.

The main parasites found in laying hens

Hair worm (Capillaria)

These nematodes (worms) parasitize the small intestine. They are small in size: males usually measure 7–13 mm while females are 10–18 mm, so they are difficult to visualize. Some species have the earthworm as an intermediate host.

Round worm (Ascaridia galli)

This the most common infestation. These nematodes (worms) parasitize the small intestine although occasionally they can reach other organs. Occasionally found in eggs. Adults are large, thick, yellowish white worms. Male is 5–7 cm long and female is 6–12 cm, so they can be easily observed during autopsies or in feces. They have a direct cycle, but insect can play a role in their spread as carriers.

Cecal worm (Heterakis gallinarium)

These nematodes (worms) are usually found in the cecum. They are tiny: males are about 7–10 mm long while females are about 10–15 mm. They have a direct cycle, but earthworms can act as carrier for them. They are not usually harmful in themselves but because play a critical role as Histomona meleagridis carrier.

Tapeworm (Amoebtaenia, Davainea, Raillietina ...)

Various species of cestodes can parasitise long-living poultry. They do not normally cause damage except in the case of heavy infestations. They usually have cycles with intermediate hosts (ants, houseflies, beetles, snails, ...).

Key Points

- Health is vital to achieve the bird's full genetic potential.
  Act before diseases become a limiting factor for your birds performance!
- Implement a real biosecurity program, not a paper biosecurity program.
- Adapt the vaccine program to your epidemiological situation.
- Administer vaccines according to the manufacturers' instructions.
  No vaccine program will work if vaccines are administered incorrectly.
- Monitor flock serology to verify the effectiveness of your vaccination program.
- Internal parasite control should be considered to avoid damage produced by heavy infestation.

Internal parasites

- Internal parasite control is key in cage-free production as the birds are in contact with the litter.
- 1 full page for basics on worm's control.
- Half a page for basics on coccidia control.

But ... There is nothing in the management guide about behavioral problems ?


ONSET OF PRODUCTION (18 – 25 weeks)

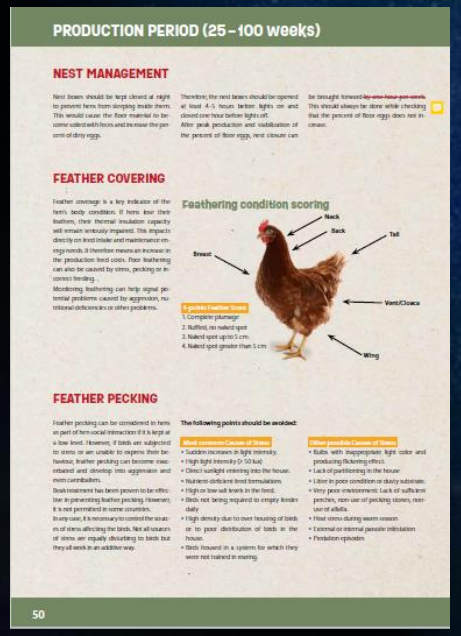
STRESS MONITORING IN LAYERS

FEEDING LAYERS DURING PRODUCTION

Feed distribution in production

DARK LIGHT 50–60 % DARK

46


PRODUCTION PERIOD (25 – 100 weeks)

NEST MANAGEMENT

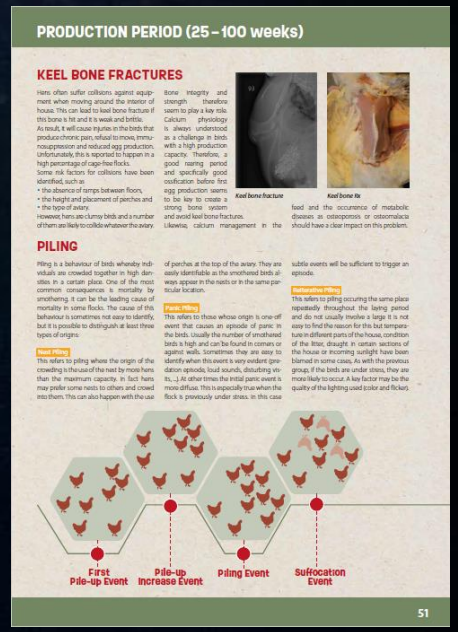
FEATHER COVERING

Feathering condition scoring

Neck Back Tail Breast Vent/Cloaca Wing

FEATHER PECKING

50


PRODUCTION PERIOD (25 – 100 weeks)

KEEL BONE FRACTURES

PILING

First Pile-up Event Pile-up Increase Event Piling Event Suffocation Event

51

Behaviour – like issues

- Definitively YES. But it is not included in the health and biosecurity chapter.
- Information about piling, keel bone fracture, feather covering, stress monitoring and others is provided in the different chapters dedicated to the production cycle.

Thank you for your attention!

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