



## LAYER PROGRAM

**KEMIN**<sup>®</sup>

## Main challenges in layers and egg production

### INTRODUCTION

In egg production the economical results are very much related to animal health and welfare. Mainly the intestinal health can be under high pressure in those long living animals. Every specific issue mentioned in this short program somehow is depending on (intestinal) health. As always health and management are very important.

The healthy and well performing layer breeders are crucial for good start of pullets. A healthy, uniform, and robust pullet flock is important for the future productivity of a layer flock.

The immune system plays an eminently important role in the life of birds making them more resistant to disease and support vaccination efficiency.

### PULLET HEALTH MANAGEMENT

The genetic selection of poultry for superior production rates has been responsible for the increased productivity of the modern poultry industries. However, many studies have shown that such selection may be coincidentally accompanied by decreased resistance to disease or changes in immunological response.

It is particularly important to support pullets in the maturation of the immune system as they need to cope with an extensive vaccination program.

Any investment in the pullet phase (0-17 weeks) will show results far beyond that period even up to 60-90 extra weeks. A healthy, uniform, and robust pullet flock is essential for a layer flock with a bright productive future.

### UNIFORMITY

Uniformity and health status before start of the lay onset are very important for the productive future of the layers. The maturity should be reached at the same time. If layers start laying at the same time, the peak will be reached in time and will be higher. Heterogeneity of the pullet flock is caused by individual animals that

cannot keep track with the normal growing and development rate. Mostly due to multiple challenges:

- Coccidiosis
- Bacterial enteritis
- Respiratory diseases

Intestinal health and integrity are crucial. They enable the animals to withstand and overcome those inevitable challenges without losing track with the rest of the flock.

### INTESTINAL ISSUES IN THE START LAY PHASE (18-30 WEEKS)

A good start is everything for laying hens.

The start lay phase is very challenging. Transport and change of environment, hormonal changes, feed changes and lay onset are very stressful.

In this period, a lot of the digestion issues often result in chronic enteritis. Impaired intestinal health with loss of intestinal integrity, often combined with colibacillosis, causes generalized symptoms (peritonitis, polyserositis) and mortality.

### MAINTAIN PRODUCTIVITY AND EGGSHELL QUALITY IN THE LAY PHASE (PEAK-72 WEEKS)

A flock of laying hens is a collection of individuals. Although this period isn't the most challenging period in the life of the hen, several animals can suffer from respiratory challenges, enteritis and other issues. This results in more and more birds that die or stop laying eggs. If the mortality or morbidity is too high, economics of the flock decrease. Additionally, the egg (shell) quality will be impaired, and the price will drop.

Optimizing the intestinal health in this period will guarantee an optimal absorption of nutrients (like minerals) and solve most of the issues, even the behavior can be altered.

### EXTENDING LAY PHASE

Extending the laying cycle (up to 110 weeks) can economically be a very good idea. But this will only be the case if the eggshell quality, productivity, and performance is maintained at optimal level. Key for maximal performance in aged laying hens is intestinal health.

Egg quality is closely related to the overall (intestinal) health status of birds

Stage	Challenge	Product name
ALL CYCLE	Heat Stress, Stress, Cannibalism, Feather picking	Aleta™
		CLOSTAT®
	<i>Salmonella</i>	FormaXOL™
	Mycotoxins	TOXFIN®
PULLET PHASE (0-17 WEEKS)	Vaccination efficiency	Aleta™
	Uniformity	CLOSTAT®
		ButiPEARL™
START LAY PHASE (18 - 30 WEEKS)	Chronic enteritis	CLOSTAT®
	Reaching peak production	CLOSTAT®
1 <sup>ST</sup> AND 2 <sup>ND</sup> LAY PHASE (31-72 WEEKS)	Maintain the lay % and performance	CLOSTAT®
	Egg and eggshell quality	CLOSTAT®
		ButiPEARL™
EXTENDED CYCLE (73 - 100 + WEEKS)	Maintain profitability	CLOSTAT®
		ButiPEARL™

## Products

### Aleta™

A unique beta-glucan, derived from algae (*Euglena gracilis*), serving as an immune modulator to improve animal health.



#### MODE OF ACTION

Aleta is interacting with the immune system resulting in an immune modulation. Immune cells are rapidly recruited and activated to the site of infection increasing the ability of animals to cope with the disease. Consequently, Aleta will help animals during stress, disease and vaccination periods.



#### BENEFITS

- Improves vaccination efficiency
- Helps animals to resist stressful conditions
- Reduced morbidity and mortality during pathogenic challenges (diseases)
- Supports animals in antibiotic reduction programs
- Provides consistent ROI: avoids performance reduction in situations of disease and stress
- Helps young animals to mature their immune system



## Products

### ButiPEARL™

An encapsulated and highly concentrated calcium butyrate. The encapsulation allows for superior handling ease and sustained release along the intestinal tract.



#### MODE OF ACTION

ButiPEARL's proprietary encapsulation technology allows release of its high concentration (50%) of butyric acid throughout the upper and lower gut, where it needs to be to perform its action:

- Enterocyte proliferation and villi growth
- Antimicrobial compounds secretion by paneth cells
- Tight junction reinforcement



#### BENEFITS

- Strengthens barrier against pathogens and avoiding a leaky gut
- Improves nutrient absorption for best performance thus improving egg and eggshell quality
- Improves overall gut health, reduces diarrhea incidence
- Is a tool in antibiotic reduction programs
- Assists the GIT development in newborn and young animals



## Products

### CLOSTAT®

A proprietary probiotic, based on *Bacillus* spp. PB6 spores, originating from natural enteritis resistant chickens.



#### MODE OF ACTION

CLOSTAT spores germinate, start to multiply in the intestine and perform their action:

1. Modulates *Clostridium* spp.
2. Stimulates growth of *Lactobacillus* and *Bifidobacterium* in the intestine
3. Modifies inflammation response
4. Stimulates a well developed and diverse intestinal microbiome



#### BENEFITS

- Reduces the need to treat with antibiotics and the use of antibiotic growth promoters
- Tackles dysbiosis, wet litter and diarrhea problems
- Improves egg shell quality and discoloration
- Better survivability
- Improves flock uniformity
- Improves profit margin through improved production



## Products

### FormaXOL™

Non-antibiotic solution, supported by its encapsulation technology and empowering synergism in between its ingredients, to manage Enterobacteriaceae (e.g. *Salmonella*, *E. coli*).



#### MODE OF ACTION

Formic acid has been proven to kill *Salmonella* & *E. coli*. In FormaXOL, formic acid, citric acid, and functional flavours are microencapsulated with two specific technologies ensuring an effect along the digestive tract. Delivered at the right spot due to its technology, the functional flavours will damage the gram-negative bacterial cell wall and facilitate the entrance of the organic acid within the bacteria, resulting in bacterial death.



#### BENEFITS

- Is a non-antibiotic solution for bacterial control
- Contributes to food safety with safe eggs
- Avoids *E. coli* associated losses during production cycle
- Facilitates egg export (compliance with *Salmonella* regulations)



## Products

### TOXFIN®

Protecting the animal from the adverse effects following ingestion of mycotoxin contaminated feed, is the priority for the TOXFIN family. TOXFIN® range offers multiple solutions to reduce the bioavailability of mycotoxins and their negative effects in the animal, and to allow the production of safe feed.



#### MODE OF ACTION

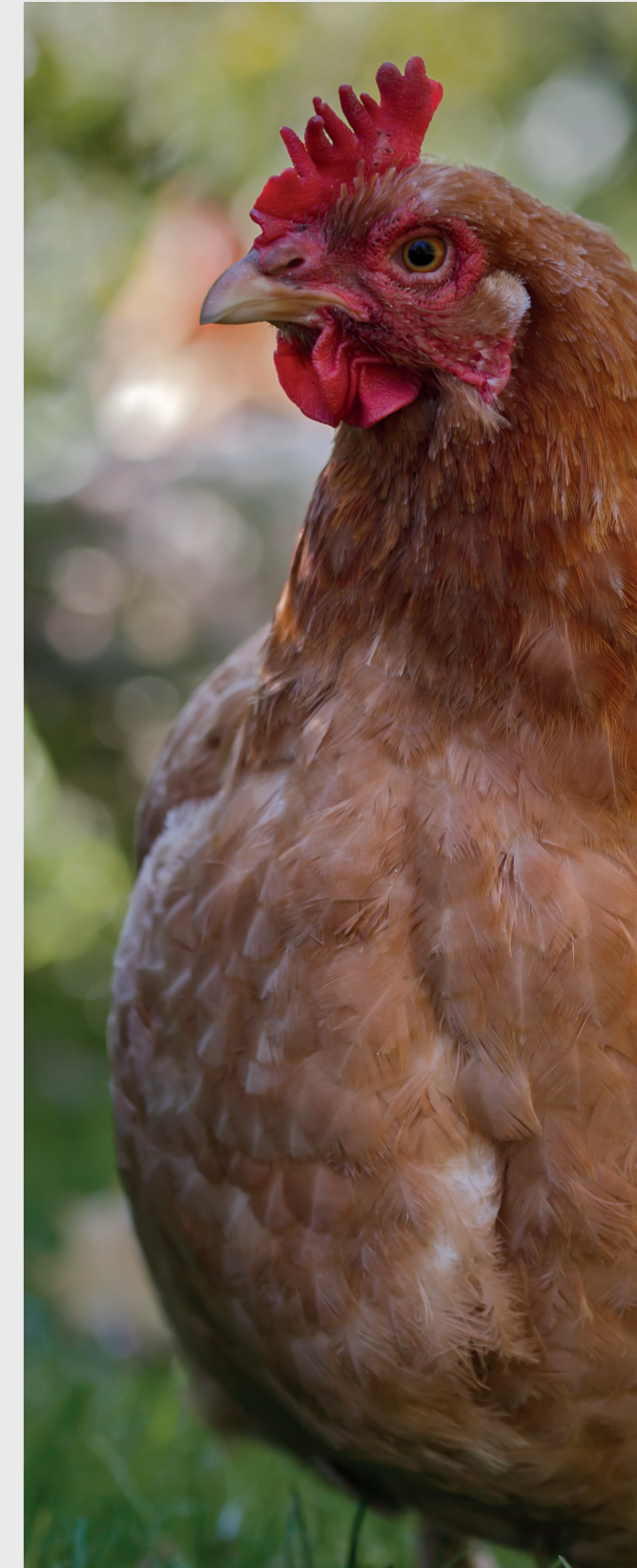
Depending on the TOXFIN product of your choice, different strategies to protect the animal from the adverse effects of mycotoxin contaminated feed are available. From reducing bioavailability of mycotoxins by unique synergistic combinations of adsorbents to an all-in-one solution to tackle the adverse effects of mycotoxins in animals by combining different strategies:

- Reducing bioavailability mycotoxins by unique adsorbent blend ((e.g. bentonite (1m558) fulfilling the European Regulation 1060/2013 as an aflatoxin B1 binder)
- Preventing oxidative stress and protecting the liver
- Supporting and protecting the liver
- Modulating the immune system by a unique algae derived beta-glucan



#### BENEFITS

- Protects the animal from all kinds of mycotoxin threats
- Maintains availability of essential nutrients to the animal
- Reduces symptoms associated with mycotoxicosis
- Avoids performance reduction caused by mycotoxicosis
- Reduces the bioavailability of feed mycotoxins in the gastro- intestinal tract and promotes mycotoxin excretion via faeces
- Fortifies the natural defense system of the animal and safeguards the organs



# DO YOU WANT MORE INFORMATION?

## Contact our Technical Service Manager:



**PAULINA BUKOWSKA**

North & East EU  
Poultry Veterinarian  
[paulina.bukowska@kemin.com](mailto:paulina.bukowska@kemin.com)



**MUTASEM ALHADDAD**

Middle East  
Poultry Veterinarian  
[mutasem.alhaddad@kemin.com](mailto:mutasem.alhaddad@kemin.com)



**RICARDO NETO**

South & West EU  
Pig Veterinarian  
[ricardo.neto@kemin.com](mailto:ricardo.neto@kemin.com)

## HEALTH BY KEMIN



**Aleta™**  
IMMUNE SUPPORT



**Formyl™ - FormaXOL™**  
ENTEROBACTERIACEAE CONTROL



**ButiPEARL™**  
INTESTINAL INTEGRITY



**TOXFIN®**  
MYCOTOXIN MANAGEMENT



**CLOSTAT®**  
INTESTINAL HEALTH

### A publication of Kemin Europa NV

Toekomstlaan 42,  
2200 Herentals  
Belgium

T. +32 14 28 62 00

[www.kemin.com/emena](http://www.kemin.com/emena)

