

# TECHNICAL BULLETIN

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OF MERIDEN ANIMAL HEALTH LIMITED*

## **OREGO-STIM<sup>®</sup> BOOSTS LAYER PERFORMANCE**

### **Introduction**

Orego-Stim<sup>®</sup> is used in commercial layer farms throughout the world to help sustain high egg production rates as well as to prevent the manifestation of gastrointestinal tract diseases. The increase in the average daily production rate of the farm is usually the main concern of the layer producers and is largely due to the performance-enhancing properties of Orego-Stim<sup>®</sup>.

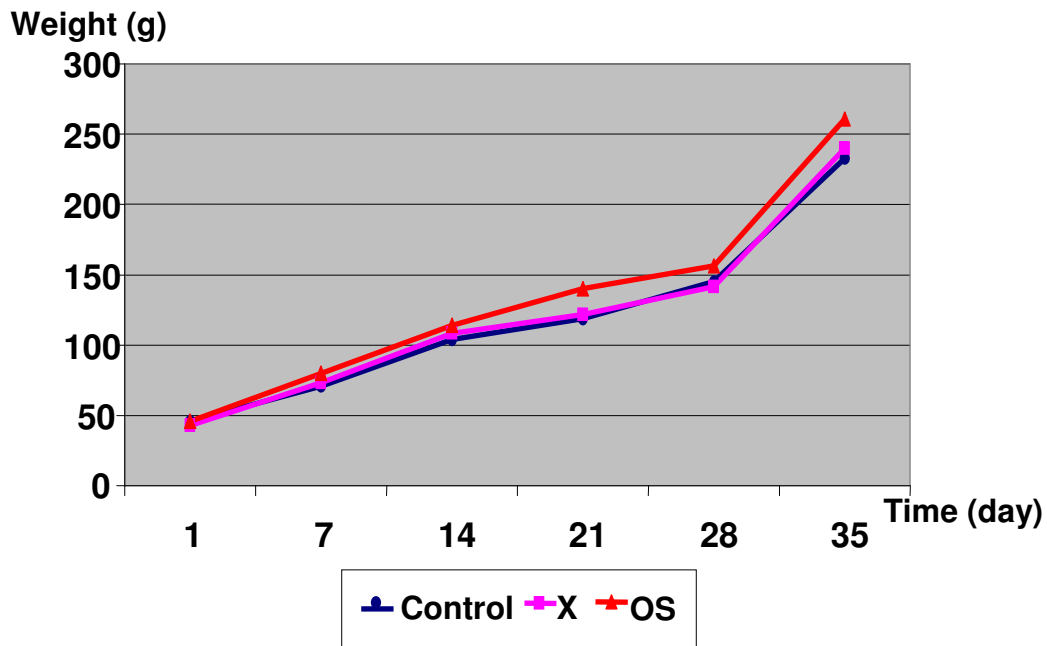
However, other benefits of Orego-Stim<sup>®</sup> to commercial layers that may not yet be known to many include better growth and uniformity of replacement pullets, better egg shell quality and a reduction in the percentage of inferior eggs.

### **Disease Control**

In terms of preventing gastrointestinal tract diseases, Orego-Stim<sup>®</sup> not only prevents and controls coccidiosis and necrotic enteritis problems, but also various other bacteria such as *Salmonella spp.* and *E. coli* which carry a risk of zoonotic transmission and which may cause problems such as egg peritonitis in layers as well as gastroenteritis and diarrhoea in all forms of poultry. With the inclusion of Orego-Stim<sup>®</sup> into the diet of laying hens, egg production goes on with only minimal incidences of Salmonella contamination of the egg shell or even none at all.

A trial was conducted in July 2001 to study the effect of Orego-Stim<sup>®</sup> in on the growth performance and histopathology of layer chicks challenged with live *Eimeria* oocysts. Histopathological results from the study showed that the use of Orego-Stim<sup>®</sup> appeared to exert a moderating effect on the infection of live *Eimeria* oocysts, as directly challenged via oral dose, at the early stages of the chick growing period. This positive effect allowed the chicks to achieve higher weight gains compared to the groups receiving the standard or a commercial coccidiostat.

Figure 1: Orego-Stim<sup>®</sup> Increases Weight Gain of Eimeria-Infected Chicks



Mr. Nam Hiok Joo, General Manager of Teo Seng Farming Sdn. Bhd. and Feedmill Manager of Teo Seng Feedmills Sdn. Bhd., uses Orego-Stim Powder<sup>®</sup> in pullet feed throughout the pullet stage to prevent outbreaks of coccidiosis and to control the disease. Once a prevalent problem in almost every flock, coccidiosis now no longer poses a threat during the pullet rearing stage. Ever since Orego-Stim<sup>®</sup> was used in their replacement pullets, the farms have recorded a drastic reduction in the use of other coccidiosis medications and increased savings. Teo Seng Farming Sdn. Bhd. currently houses a population of 2 million birds and produces close to 1.5 million eggs a day.

Commercial layers are also often affected by bouts of watery diarrhoea during specific periods of lay. The watery droppings are usually caused by gastrointestinal diseases of bacterial origin. Orego-Stim<sup>®</sup> is able to control and reduce the prevalence of these diarrhoeal bouts by killing pathogenic bacteria in the gastrointestinal tract.

### Growth of Pullets

The period of 15 to 18 weeks is crucial for pullets to achieve a weight gain that is in accordance to the recommendations of the specific breed. This is because pullets who do not reach the standard minimum weight required before the point-of-lay are known to have poor laying performance throughout their laying cycle. It is therefore of utmost importance to ensure that these replacement pullets have adequate nutrition and a good feed conversion ratio in order to achieve the desired weight gain. This can be achieved by the growth-enhancing properties of Orego-Stim<sup>®</sup>.

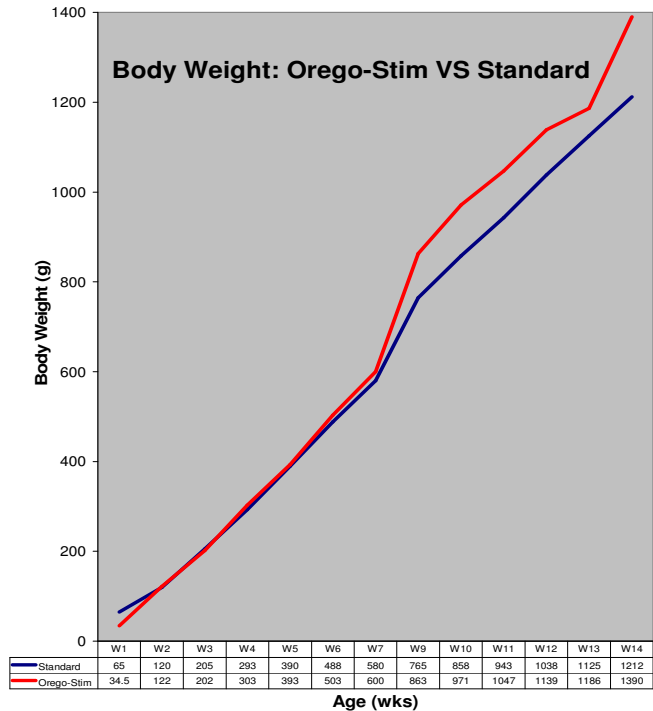
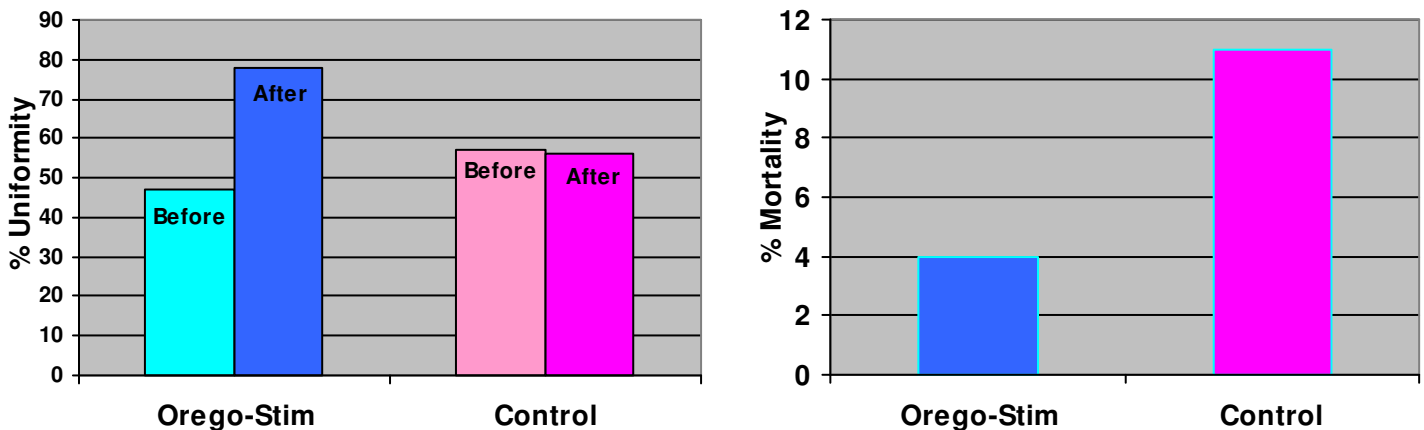


Figure 2: Orego-Stim<sup>®</sup> Increases Pullet Body Weight

Orego-Stim<sup>®</sup> also improves the uniformity of the birds during the pullet growth period, so that selection becomes a relatively easy task. A trial was conducted in the Jabotabek area of Indonesia in 14 week-old pullets to see the effects of Orego-Stim<sup>®</sup> on the mortality rate and uniformity level during this stage.

Figure 3: Orego-Stim<sup>®</sup> Increases Pullet Uniformity While Decreasing Pullet Mortality

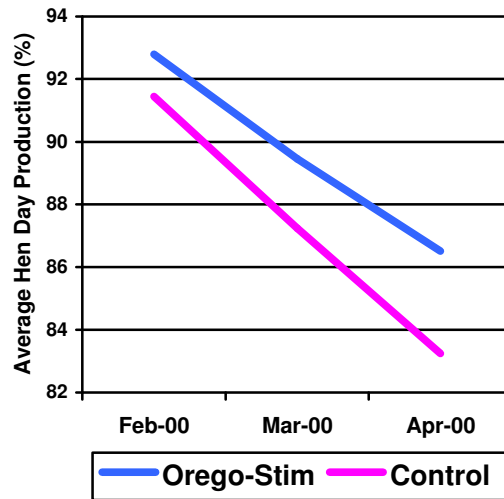


### Increase in Egg Production

A trial was conducted in year 2000 at LTK (Melaka) Sdn. Bhd., one of the largest commercial eggs producers in Malaysia with 1.5 million hens supplying slightly more than a million eggs every day, partly for export. The mentioned trial yielded the following results:

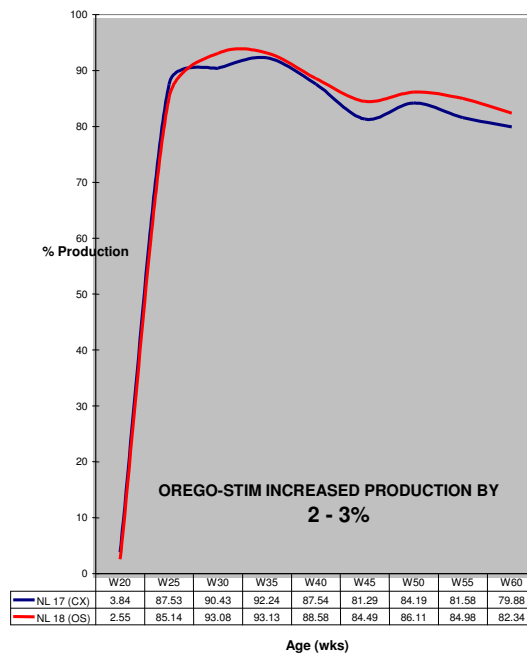
Figure 4: The Effect of Orego-Stim<sup>®</sup> on the Egg Production of Commercial Layers

### Average Hen Day Production (%)



		Average Hen Day Production (%)	
Month	Control	Orego-Stim <sup>®</sup>	Difference
February 2000	91.44	92.79	1.35
March 2000	87.24	89.45	2.21
April 2000	83.26	86.51	3.25

Source: Dr. Chiong Sai Tin, D.V.M., 2000

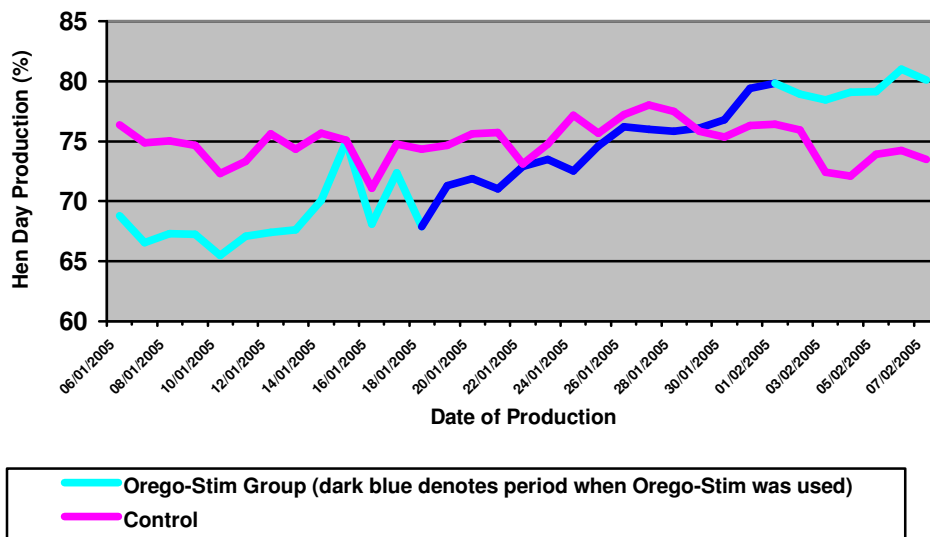


Another trial was conducted in a commercial layer farms in the Jabotabek area of Indonesia, in a flock of hens at the laying period of 67 weeks of age. The laying hens were divided into two groups and were of the same age, breed and management programme. However, one of the groups had an egg production performance that was 5.89% lower than the other. The group with this poorer egg production was given Orego-Stim<sup>®</sup> at an inclusion rate of 250 grams per tonne of feed and the other group assigned as control. The purpose of this trial was to see if Orego-Stim<sup>®</sup> was able to help the inferior group of laying hens to achieve an increase in their egg production or if the decline of their production curve could be slowed down to at least match the performance of the control group.

During the trial, the mean production performance difference between the two groups was reduced to 1.44%. One week after the trial, the mean production performance of the Orego-Stim<sup>®</sup> group had surpassed that of the control group by 5.76%.

Orego-Stim<sup>®</sup> is able to improve and maintain good egg production performance during the laying period. This is because Orego-Stim<sup>®</sup> increases the rate of epithelial cell turnover in the gastrointestinal tract, so that the absorption of nutrients from the intestines improves, which in turn facilitates egg production. Supplementation with Orego-Stim<sup>®</sup> before the start of the expected decrease in the production curve can maintain better production performance or at least prevent a drastic decrease in production.

Figure 5: Egg Production Performance At Week 67



### Egg Shell Quality



In terms of egg quality, observations in the field (*Chiong, 2000*) have suggested that there is a positive effect in terms of producing more uniform and consistent colouring of eggs, coupled with less appearance of blood spots and faeces. This is correlated to the significant decrease in the number of inferior or faulty eggs due to thin-shell, poor consistency or abnormalities such as discoloration, speckles, shell-less eggs and distorted eggshells in combination with other measures, especially dietary ones.

There is also a radical reduction or even totally elimination of the percentage of dirty eggs or eggs stained by faeces (due to the anti-diarrhoeal properties of Orego-Stim®) which are not suitable for sale. Furthermore, there is better homogeneity or uniformity of the daily produced weight of the eggs.

Figure 6: Orego-Stim® Lowers the Percentage of Inferior Eggs

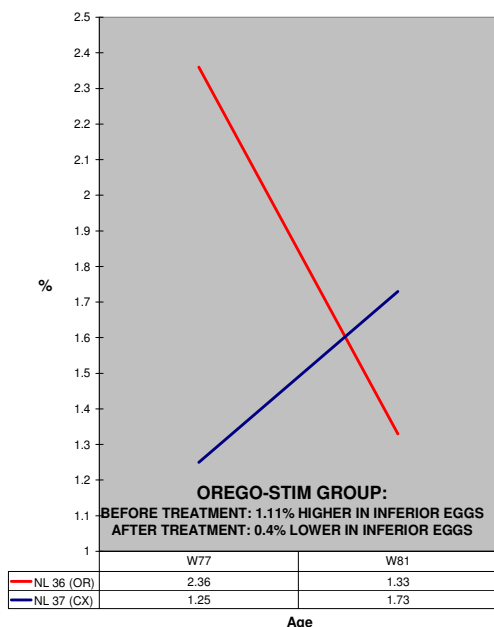


Figure 7: Orego-Stim® Lowers the Percentage of Pale Eggs

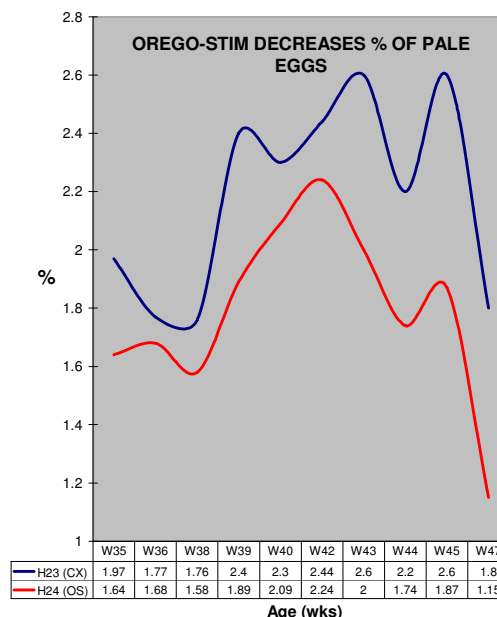
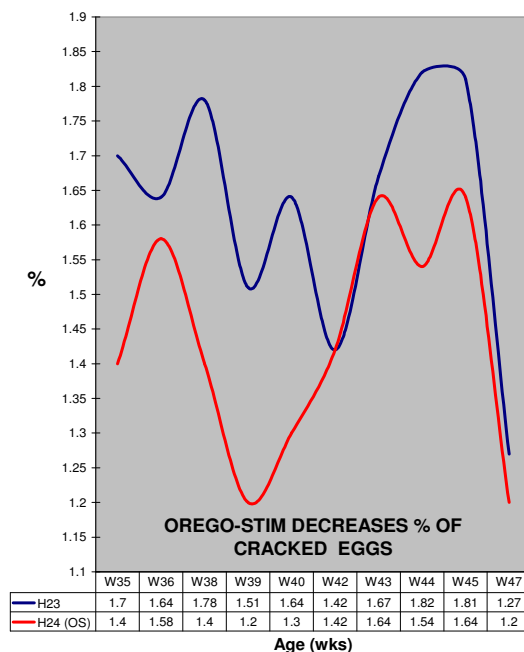


Figure 8: Orego-Stim® Lowers the Percentage of Cracked Eggs



There also tends to be an increase of the daily percentage of grade A eggs and respectively a reduction of the daily percentage of grade C eggs, again due to the performance-enhancing properties of Orego-Stim®.

### **Residue-Free Eggs**

As Orego-Stim® is a 100% natural product, it can safely be used throughout the laying period. Its use in organic farming complies to the Organic Farmers & Growers (UK) standards and its ingredients are listed as Generally Recognised As Safe (GRAS) by the US FDA.

### **How To Use Orego-Stim® In Layers**

The general recommended inclusion rate of Orego-Stim® for layers is the standard poultry inclusion rate of 300 grams per tonne of feed.

Orego-Stim® can be used from day-old. It is safe and reliable, helping chicks to get quickly accustomed to eating solid food, while concurrently combating brooding infections such as *E. coli* and *Salmonella spp.* An additional 150ml of Orego-Stim Liquid® during the first week of life also helps the chicks to drink more water and offers further protection against gastrointestinal pathogens that cause diarrhoea.

Some farmers may opt for the inclusion of Orego-Stim® at specific phases of the layer's life cycle, such as during the pullet stage, or starting 2 weeks prior the onset of production period (point of lay) right up to the depopulation period. Furthermore, if there is coccidiosis and necrotic enteritis challenge in the farm, it would be crucial to know exactly when this challenge period usually occurs, so that an additional 150ml of Orego-Stim Liquid® in the drinking water may be included to combat the problem.

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