

**Chlorination**

- Eliminates bacteria and many viruses
- Most effective in warm water > 18 °C
- Can affect the potency of medication and vaccines
- Concentrations > 5% can harm metal equipment and gaskets

**Chlorine dioxide**

- No interactions known with medication
- Improves digestive health of the flock

**Organic acids**

- Reduce the pH value of the water
- Improve digestive health of the birds
- Single acid application can cause slime formation and block pipelines and nipples. High dosages of single acids can damage water system and also be fatal to the birds
- Organic acids are also a tool to reduce bacterial load in feed

**Caution:** If the pH value of the water drops to a low level, this will have a negative impact on water intake and can have a negative effect on the equipment as well as vaccines and medication.

The water quality has to be checked on a regular basis. If the water is supplied by an own well, make sure that the samples of water are examined at least twice a year. Feed has to always be of best quality. Establishing a quality monitoring program helps to assure and to monitor nutrient content, microbial and mycotoxin contamination. One of the key factors is to store supplements hygienically to avoid contamination during storage. Besides storage, clean feed can also be contaminated during transportation. Therefore, it is important to include trucks into the biosecurity regime. The feed supplier has to be certified and controlled. He should be able to perform heat treatment as a tool of sanitation, although very high temperatures might have an impact on the quality and may reduce the nutrient value of the feed. Retain a sample and bill of each delivery to have traceability in the event of a disease outbreak.

**Rodent Control**

Rodents are attracted to poultry facilities by feed, water and environmental condi-

tions in the barn. They contaminate poultry facilities with faecal excretions and are major vectors and reservoirs of pathogens; especially Salmonella. Therefore, having an effective vermin control in place is a big advantage. Take expert advice and audit the success of the monitoring program regularly.

**New Technical Guide Biosecurity & Hygiene**

We are pleased to introduce our latest technical Guide on "Hygiene and Biosecurity" where all the discussed topics have been compacted for you. The guide is available in English, German and Spanish. Please contact our marketing department: [marketing@ltz.de](mailto:marketing@ltz.de) to place your orders for the same.

Djanet Ould-Ali,  
Technical Service



It is probably not uppermost in your mind when you dye eggs for Easter that you are depending on an invisible structure called the cuticle being present.

The amount of change in colour you see depends on how much cuticle is present on the egg. Having colourful Easter eggs is good news, but more importantly the cuticle prevents bacteria entering the egg. This reduces the chance bacteria can reach the developing chick if the egg is fertile and keeps the eggs we eat safe.

With industry we are developing tools which are more practical, although less colourful, to measure the amount of cuticle on an egg. This will allow genetic selection to improve the cuticle and improve biosecurity for poultry.

Ian Dunn Ph.D



# Random Sample Test of LOHMANN LSL and Dekalb White

**German Random Sample tests for layers are based on two state-owned testing stations in North Rhine Westphalia and Bavaria. Worldwide, additional testing stations are located in the Czech Republic, North Carolina and Japan. These tests supply comparable figures of performance and behaviour traits which are captured under standardised conditions.**

Therefore, breeding companies provide different strains, depending on the query of the testing stations. The tricky thing in this matter is always that none of the participants knows the results of these comparable tests in advance. However, Lohmann Tierzucht can be very satisfied with the results of the latest tests at Haus Düsse in North Rhine Westphalia.

The white layers tested were of LOHMANN LSL and Dekalb White origin. They were

Table 1. Performance traits for white layers.

strain	LSL	Dekalb
<b>Performances</b>		
Egg number/HH	330.7*	318.6*
Egg number/HD	333.9	333.0
Laying performance/HD [%]	91.7	91.5
Average egg weight [g]	63.4	64.1
Egg mass/HH [kg]	20.9	20.4
Egg mass/HD [kg]	21.2	21.4
<b>Feed intake</b>		
per hen and day [g]	112.8*	115.2*
per egg	123.1	125.8
per kg egg mass [kg]	1.938	1.964
per HD [kg]	41.1*	41.9*
<b>Mortality</b>		
	2.4	8.4

Quelle: Hof&Feld, LZ 8-2014: 39-41  
HH= hen housed; HD= hen day \* significantly different at p=0.05

Table 2. Differences in LSL and Dekalb White layers; Surplus over feed costs.

strain	LSL	Dekalb
<b>Performances</b>		
Egg number/HH	330.7	318.6
Egg number/HH [%]	20.9	20.4
Purchase in price of kg feed [€]	0.3069	0.3069
Revenues from egg sales/HH [€]	26.35	25.77
Feed intake/HD [kg]	41.10	41.90
Feed costs/HD [€]	12.61	12.86
Surplus over feed costs [€]	13.74	12.91

**Difference 0.83 €**

housed in small aviaries for a production period of 364 days. In total, 252 layers of each strain were housed in seven compartments with 36 layers each. Due to the request of the testing stations, all layers were hatched in the same hatchery, reared together and transferred into the production units at 18 weeks of age under the same feeding and light regime.

The average laying performances in a production cycle of 364 days were above 91 %, thus very good for both strains. However, high mortality rates of Dekalb layers diminished egg numbers per hen housed (HH). The average egg number per HH was 331 for LSL hens which is 12 eggs more than the average for Dekalb hens. Despite the higher egg weight for Dekalb layers, the total egg mass production per HH was 0.5 kg lesser in Dekalb layers as compared to LSL layers. The feed intake was also higher for Dekalb layers. The calculated feed intake was at around 113 g for the LSL hens on a daily basis. In regard to 1 kg of egg mass produced, one LSL layer consumed an average of 1.99 kg of feed, whereas one Dekalb layer consumed 2.11 kg. With a purchase price of 30.69 €/dt of feed, the difference calculated in feed intake results in a difference of 0.25 € per HD.

The surplus calculated over feed costs was 13.74 € for each LSL layer and 12.91 € for a single Dekalb layer. With these results, the LSL flock is significantly superior to the Dekalb flock. High egg numbers, low mortality and the very good feed conversion ratio of LSL layers not only provide satisfaction for the farmer but they are economically interesting as well. Over the total production period of one year, these very good performances result in a surplus over feed costs of 0.83 € for LSL layers as compared to Dekalb hens!

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