

# LOVIT

## Phos

Liquid formulations with phosphorous, calcium, and further trace and volume elements to support skeletal structure and egg shell quality.

### Convincing advantages:

- Balanced mineral blend for a strong skeleton and good egg shell quality
- Highly-available source of phosphorous
- Reduction of the pH value for efficient digestion



## LOVIT Phos – balanced blends of minerals.

Rapid growth – a challenge for skeleton and metabolism. In the year 1920 broilers needed 112 days until they had reached an average body weight of 1.1 kg. By 1980 they needed 53 days to reach 1.8 kg and by 2015 the animals weighed 2.8 kg after only 48 days. Such a development presents the metabolism of the animals with a challenge. Calcium and phosphorous are important for the development of a normal skeleton and deficiency can occur in flocks of every age. This results in reduced bone mineralisation, which in turn leads to rachitis, osteomalacia, and osteoporosis. Laying hens produce eggs with thin, brittle shells. Unspecific symptoms, such as growth depression, poor immunity, and neurological disorders commonly occur.<sup>2,3</sup>

**The knowledge behind LOVIT Phos.** A solid foundation – the basis for performance. Balanced blends of highly-available minerals in the LOVIT Phos range facilitate the formation of a strong skeleton, a sound musculoskeletal system and good egg shell quality egg shell.

**Phosphorous** and **Calcium** are conducive to the mineralisation of the skeleton in which they are present as hydroxylapatite. In addition, phosphorous is an essential component of many compounds and serves to activate energy-rich metabolites. Calcium functions as an activator of numerous enzymes (e.g. trypsin) and is necessary for neuronal conduction. **Magnesium** and **zinc** contribute to the formation of the bone matrix and thus to the elasticity of bones. **Manganese** and **copper** play an important role as cofactors of many enzymes, including the formation of fascia and skeleton.<sup>2,3,4,5</sup>

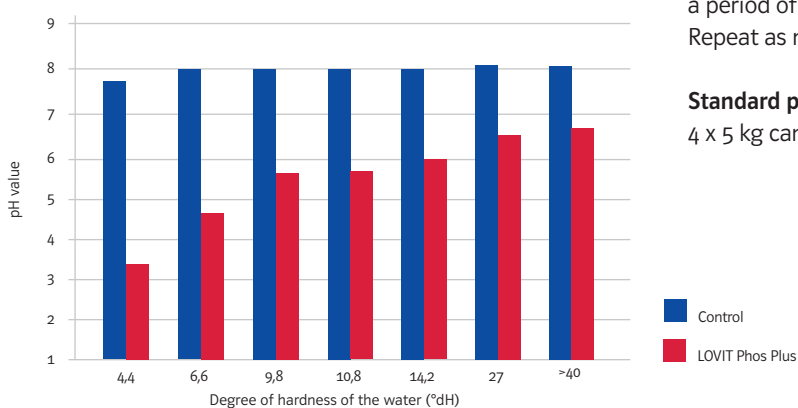
The simultaneous acidification of the drinking water is another of the many advantages of the LOVIT Phos range. Fig. 1 shows the reduction of the pH value relative to the water hardness.<sup>6</sup>

Thanks to the liquid formulation, the LOVIT Phos range is quick and easy to use, and is highly effective. Targeted supplementation with vitamin D3 in a highly-available form is recommended in combination to support the vitamin balance. This can be achieved with LOVIT AD3E(C) or LOVIT Multivit.

### Composition per litre:

	LOVIT Phos	LOVIT Phos Plus	LOVIT High Phos
<b>Phosphorus</b>	<b>7.7 %</b>	<b>10.5 %</b>	<b>11.4 %</b>
Calcium	2.2 %	2.2 %	1.7 %
Magnesium	1.0 %	1.0 %	0.8 %
Sodium	0.75 %	0.7 %	0.6 %
Manganese	4,800 mg	4,800 mg	4,800 mg
Zinc	4,000 mg	4,000 mg	4,000 mg
Copper	2,500 mg	2,500 mg	2,500 mg

### LOVIT Phos Plus reduces the pH value of drinking water



**Fig. 1:** LOVIT Phos Plus reduces the pH value of the drinking water relative to the water hardness. LOVIT Phos Plus 0.1% solution (1 l in 1,000 l of drinking water). Range of hardness soft < 1.5 mmol/l CaCO<sub>3</sub> (= 8.4 °dH), medium 1.5 – 2.5 mmol/ CaCO<sub>3</sub> (8.4 – 14 °dH), hard > 2.5 mmol/l CaCO<sub>3</sub> (= 14 °dH).<sup>6</sup>

#### References:

- 1 US-Broiler Performance. National Chicken Council [homepage on the internet]. 2016. Available from <http://www.nationalchickencouncil.org/about-the-industry/statistics/u-s-broiler-performance>.
- 2 Proszkowiec-Węglarz M, Angel R. Calcium and phosphorus metabolism in broilers: Effect of homeostatic mechanism on calcium and phosphorus digestibility. J Appl. Poult. Res.
- 3 Jeroch H, Simon A, Zentek J. Geflügelnahrung. Ulmer 2012.
- 4 Pape H-C, Adams CA, Busch A, et al. Futtermittelzusatzstoffe – Technologie und Anwendung. AgriMedia 2006.
- 5 Biesalski HK. Vitamine und Minerale. Thieme 2016.
- 6 Lohmann Animal Health. Influence of the application of Phos Plus on the pH-value of drinking water. 2010.

**Recommended use:** 1 – 2 l per 1,000 l of drinking water for a period of min. 3 days, particularly during stages of growth. Repeat as necessary.

**Standard packaging:** 12 x 1 kg bottles per box, 4 x 5 kg canisters per box.