# LOVIT E+Se

Liquid formulations with vitamin E, (sodium ascorbate), and selenium to support fertility and vitality.

### **Convincing advantages:**

- · Promotes fertility and hatchability
- Protects sperm, ovaries and embryos against cell damage
- Supports the endogenous defence mechanism in the event of oxidative stress





## LOVIT E(C)+Se - reproduction performance through cellular protection.

A constantly high reproduction rate with a correspondingly high hatching rate is expected from breeder birds. Stress, a change in feed quality, poor physical condition and an older flock can have a negative impact on hatching rate, spermatogenesis, laying performance and egg quality. An excess of unsaturated fatty acids, combined with reduced availability of vitamin E, vitamin C and selenium, can lead to decreased egg production and severely limited hatchability. Avian sperm has a high content of unsaturated fatty acids, which are essential for the mobility of the sperm and the fusion with the egg. However, this high content of unsaturated fatty acids makes the sperm particularly susceptible to oxidative processes.<sup>1,2,3,4,5</sup>

The knowledge behind LOVIT E(C)+Se. The endogenous defence mechanism against oxidative damage can be supported through targeted supplementation with certain additives that also act as antioxidants.

**Vitamin E**, also known as the "fertility vitamin" stands for a group of eight fat-soluble compounds (tocopherols) and is the only antioxidative substance that directly protects membrane lipids, lipoproteins and depot fats. An adequate supply with vitamin E induces higher egg weight, good hatchability and excellent sperm quality. A further benefit is the accumulation thereof in the depot fats, so that the fatty acids and colourants are protected against oxidative processes and a positive effect on the stabilisation of the carcass is achieved.<sup>6,7,8</sup>

**Sodium ascorbate** acts in a similar way to vitamin C as a cellular antioxidant and can regenerate spent vitamin E. Furthermore, it alleviates the endocrine effects of (heat) stress and improves fertility properties. Sodium ascorbate promotes the formation of antibodies, particularly in young animals. $^{2,67,8}$ 

### Composition per litre:

	E+Se Complementary feed	EC+Se Complementary feed
Vitamin E	200,000 mg	80,000 mg
Sodium ascorbat	e	100,000 mg
Selen	50 mg	20 mg*

<sup>\*</sup> The organic source of selenium (selenomethionine) in LOVIT EC+Se has a very high degree of bioavailability.



**Selenium** is a component of the endogenous antioxidant system and complements the protective effect of vitamin E. An equally important function of selenium is its involvement in thyroid and fertility hormone metabolism. A good supply of selenium is reflected in improved sperm quality, increased fertility and a rise in the quality and quantity of eggs. Weight gain, feed conversion and carcass weight are improved in fattening poultry.<sup>2,7,8</sup>

**LOVIT E(C)+Se:** reliable fertility with vitamin E, sodium ascorbate and selenium. LOVIT E(C)+Se maintains the fertility of breeder birds and supports the vitality of the offspring. Egg and meat quality benefit in addition. Thanks to its liquid formulation, LOVIT E(C)+Se is quick and easy to use.

**Recommended use:** 0.5 – 1.5 l per 1,000 l of drinking water for a period of 3 days at minimum. Repeat as necessary.

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

#### References:

- ${\tt 1} \quad {\sf Lara\ LJ, Rostagno\ MH.\ Impact\ of\ heat\ stress\ on\ poultry\ production.\ Animals\ 2013;3:356-369.}$
- 2 Akbarian A, Michiels J, Degroote J, Majdeddin M, Golian A and De Smet S. Association between heat stress and oxidative stress in poultry; mitochondrial dysfunction and dietary interventions with phytochemicals. JASB 2016;7:37.
- 3 King'ori AM. Review of the factors that influence egg fertility and hatchability in poultry. Int. J. Poult. Sci. 2011;10(6):483-492.
- Machlin LJ, Gordon RS, Marr JE, Pope CW. Effect of antioxidants and unsaturated fatty acids on reproduction in the hen. J. Nutr.1962;76:284-290.
- s Surai PF, Fujihara N, Speake BK, Brillard JP, Wishart GJ, Sparks NHC. Polyunsaturated fatty acids, lipid peroxidation and antioxidant protection in avian semen. J. Anim. Sci. 2001;14:1024-1050.
- 6 Biesalski HK. Vitamine und Minerale. Thieme 2016.
- 7 Jeroch H, Simon A, Zentek J, Geflügelernährung. Ulmer 2012.
- 8 Pape H-C, Adams CA, Busch A, et al. Futtermittelzusatzstoffe Technologie und Anwendung. AgriMedia 2006.