

# LOVIT

## Amino Plus

Liquid formulation with essential amino acids, vitamins, and zinc for well-being and sustained performance.

### Convincing advantages:

- Supports normal metabolism
- Promotes immune defence
- Prevents reduced performance



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## Amino Plus

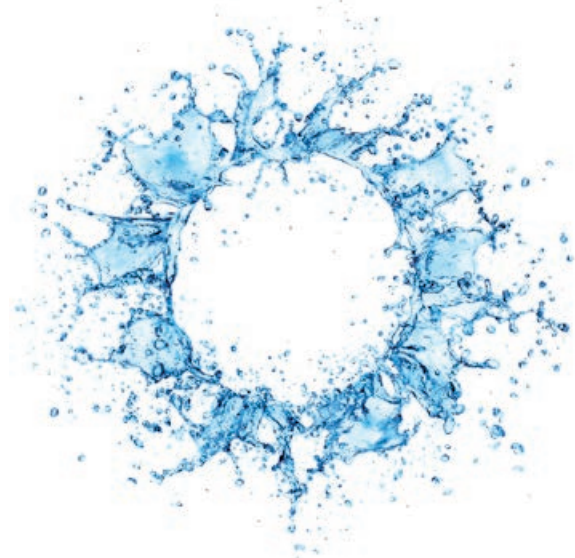
### Amino acids – small components, great effect.

Drops in performance, disturbed behaviour and / or a weakened immune system can be affected by a number of different factors, such as feeding, stocking density, hormone status, etc. If flock management is right, then nutritional aspects are usually the cause of the dysfunction. A too low concentration of amino acids in the feed and incorrect proportions thereof can lead to stress and disquiet in the flock. Feeding turkeys and laying hens diets that are low in methionine and tryptophan often results in increased aggression towards their fellow species. The consequences are e.g. feather pecking and cannibalism – with the corresponding economic impact.<sup>1,2,3,4,5</sup>

**The knowledge behind LOVIT Amino Plus.** An insufficient supply of essential amino acids results in performance deficits and growth depression, as the physiological metabolic activity cannot be maintained. Deficiencies should thus be avoided. LOVIT Amino Plus provides vitamins and essential amino acids quickly and effectively via drinking water in the event of drops in performance.

**Methionine** is involved through its role as methyl group donor in the synthesis of numerous important compounds, such as choline (lipid metabolism), creatine (skin and feathers) and adrenalin (hormone metabolism). **Tryptophan** reaches the brain via the blood-brain barrier where it is conveyed to the neurotransmitter serotonin, from which melatonin can be synthesised. Tryptophan thus has an indirect influence on aggression, blood pressure, experience of pain, sexual and sleeping behaviour.<sup>6,7,8</sup>

The water-soluble vitamins contained in LOVIT Amino Plus serve as co-factors for enzymes and are necessary for the maintenance of normal metabolism. **Niacin** is involved in all vital reactions concerned with energy generation. Niacin deficiency often begins with lack of appetite, weight loss, and inflammations of the mucous membranes. Theoretically, the niacin requirement could be covered completely with tryptophan provided the supply of B6 is good. However, the body uses the available tryptophan even in the event of niacin deficiency primarily for protein synthesis. **Vitamin B1** (thiamin) and **B6** (pyridoxine) are needed to maintain lipid, amino acid and carbohydrate metabolism. Signs of deficiency are cramps and movement disorders. **Vitamin B12** (cobalamin) is essential for blood formation and growth. Vitamin B12 deficiency often proceeds insidiously, however neurological symptoms, such as unrest or change of behavior, can quickly appear.<sup>6,7,9</sup>



**LOVIT Amino Plus:** performance even when demands are high. Selected essential amino acids, B vitamins, niacin and zinc in LOVIT Amino Plus Liquid support a powerful metabolism, an efficient immune system, and also help in stress situations. Thanks to its liquid formulation, LOVIT Amino Plus Liquid is highly effective and quick and easy to use.

**Composition per litre:** Vitamin B1 1,250 mg, vitamin B6 1,250 mg, vitamin B12 5,500 µg, niacinamide 6,000 mg, zinc 2,500 mg, lysine 1.2 %, methionine 0.5 %, threonine 0.6 %, tryptophan 0.05 %.

**Recommended use:** 0.5 – 2 l per 1,000 l of drinking water for a period of at least 3 consecutive days. Repeat as necessary.

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

#### References:

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- 3 Dalton HA, Wood BJ, Torrey S. Injurious pecking in domestic turkeys: Development, causes, and potential solutions. Worlds Poultry Sci. J. 2013;69:865-875
- 4 Tablant NL, Vaillancourt JP, Martin SW, Shoukri M, Estevez I. Spatial distribution of cannibalism mortalities in commercial laying hens. Poultry Sci. 2000;79:705-708.
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- 6 Pape H-C, Adams CA, Busch A, et al. Futtermittelzusatzstoffe – Technologie und Anwendung. AgriMedia 2006.
- 7 Jeroch H, Simon A, Zentek J.
- 9 Biesalski HK. Vitamine und Minerale. Thieme 2016.