

PT-12 is a **biological pharmaceutical** on the basis of a highly effective lactobacterium (*Lactobacillus salivarius*) which was isolated from the small intestine of healthy birds and tested on its pronounced settlement activity.

Every pet breeder already knows that there is only small permanent benefit from using antibiotic medication alone. Health is directly correlated with a powerful autochthonous flora of the small intestine where good-natured beneficial bacteria dominate.

It only makes sense to use lactobacteria with a high settlement activity in the small intestine of the bird. Therefore the applied lactobacterium has to fit perfectly in order to occupy the receptors (= bacteria adhesion sites) in the small intestine. Here in contrast to „human strains“ (e.g. lactobacteria in yoghurts) the biological balance of the small intestine is positively affected for a long time.

A high concentration of lactobacteria is necessary to achieve the displacement of pathogenic non-beneficial germs.

The PT-12 product represents all these features. Highest effectivity is guaranteed by high manufacturing security because PT-12 is produced using the highest european quality standard (GMP).

PT-12 lactobacteria support the physiological flora of the small intestine during antibiotic medication.

PT-12 lactobacteria displace and inhibit pathogenic non-beneficial Enterobacteriaceae (e.g. *E.coli*, salmonellae), mildews, yeasts, Streptococcus and Staphylococcus. PT-12 has proved itself even during prevention and medication of Megabacteria-infected birds.

PT-12 lactobacteria reduce the physical stress of immune reactions. Therefore many substances/metabolites are now available for other physiological functions and reactions. So PT-12 lactobacteria are indirectly responsible for optimization of the immune defense, the reproduction activity (e.g. the fertilization), growth and the plumage of the birds.

The PT-12 product offers:

- an optimum application of lyophilized *Lactobacillus salivarius* bacteria in a single bag
- a high manufacturing security through storage under deep-freeze conditions

Panta-20 is a highly effective product for pet birds. It contains the most important **amino acids** (in total 17 different) for the metabolism of the bird in high concentration.

A well-balanced application of amino acids is fundamental for an adequate conditioning of the birds.

Panta-20 even contains the important **B vitamins**. These vitamins are absolutely essential for the protein and carbohydrate metabolism.

The **inosit** and **L-carnithin** in Panta-20 are relevant for the transport and metabolism of lipids and fatty acids having a positive effect on the liver.

Panta-20 conditions pet animals during the whole year, especially during breed and mould or before and after exhibitions. After antibiotic medication Panta-20 is considered to optimize and strengthen the physical fitness.

Even after longer application of the high concentrated product no over-reaction of the birds have been observed until now. In contrast: competent breeders declared that their birds seemed to be more harmonious and self-balanced.

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