

HUMAC® Natur AFM with a high content of **natural humic acids (+65%)** is a natural feed material intended for all types of animals. The product is mixed into the feed as a preventive measure, which supports the reproductive indicators of animals, improves their production health and ensures the production of animal products without residues of foreign substances. It is also used to prevent and support the treatment of diarrheal diseases, dyspepsia and various intoxications. The natural humic acids in the product have the ability to bind various types of toxins, while simultaneously supplying minerals and trace elements in a chelated form that is easily usable in the animal's body. **The high efficiency of the product is ensured by the activation of the raw material** - humic substances by our own technological procedure. The product prepared in this way shows better biological effectiveness in the animal organism.



Activated natural humic acids play a key role in the detoxification of feed and the body of laying hens thanks to their high adsorption capacity. They can bind toxic substances in the animal's digestive system (toxins, heavy metals, PCB substances, etc.) to their structure, which are then excreted in the feces. They support the immune system, activate metabolism and have an antiseptic effect. They stabilize the pH in the entire digestive system of animals, optimize digestive processes and support the reproduction and activity of symbiotic microflora. They extend the laying curve by 20-30% and have a significant impact on increasing egg production as well as improving their quality.

In 2016, the influence of humic acids in combination with probiotics on the production and quality parameters of laying eggs was tested (Arpášová et al., 2016). Layers (Lohman Brown Lite) were fed a diet containing 0.5% HUMAC® Natur AFM for 21 weeks. The results show that supplementation of the feed mixture with **humic acids increased egg production**. The values of the average laying intensity in the control group were at the level of 90.3%, while the group with HUMAC® Natur AFM application reached a value of 92.4% (see table 1). **The addition of humic acid statistically significantly increased the albumin index and Haugh units**, which are important indicators of egg quality

Table 1. Comparison of production parameters without application and after application of HUMAC® Natur AFM

Parameter	Control	HUMAC® Natur AFM	Unit	Change
Egg production per hen	135,5	138,6	ks	+ 2,29 %
Average egg weight	57,36	58,19	g	+ 1,45 %

The effects of humic substances on production parameters, immune status and intestinal microflora of laying hens were also tested in 2021. (Mudroňová et al., 2021) The experiment used 60 laying hens (Lohman Brown classic hybrid), which were divided into two groups at the age of 17 weeks.

The animals were fed standard diet with an addition of HUMAC® Natur AFM which was mixed into the experimental group's feed at a concentration of 0.5%. From the results, it can be concluded that the **addition of 0.5% HUMAC® Natur AFM** into feed for laying hens **had a positive effect on laying, daily egg weight, egg weight, feed conversion** (improvement by 20%) **and eggshell quality** (higher concentration of minerals, especially phosphorus, copper, calcium, manganese and zinc) (see table 2). The results also showed that the application of the preparation had an **immunostimulating effect** manifested by an **increased activity of phagocytes and an immune response of B cells**.

Table 2. Comparison of production parameters without application and after application of HUMAC® Natur AFM

Parameter	Control	HUMAC® Natur AFM	Unit	Change
Bearing	84,29	95,91	%	+ 13,79 %
Daily weight of eggs	47,50	57,06	g/chicken/day	+ 20,13 %
Average egg weight	56,36	59,50	g	+ 5,57 %

Recommended dosage of HUMAC® Natur AFM for poultry

0,4 - 0,7 % into feed



The activated natural humic acids in the product are mixed into any feed that can be fed immediately. They are indigestible and after ingestion pass through the digestive tract, where they have a positive effect on many processes in the body. We recommend applying the product year-round, as it has a preventive effect, especially on diarrheal diseases, and improves the animals' immunity and welfare in the long term. For health problems (diarrhea, etc.), increase the daily recommended amount by 2-3 times for at least 5 days. The preparation has no known side effects or contraindications, however we recommend keeping a two-hour interval between administration of the veterinary medicine. The product has no shelf life.



Natural feed material with activated humic acids

Product application in laying hens

Economics of HUMAC[®] Natur AFM product in laying hens	An increase in daily gains (by 8%), better feed conversion (by 7%) and a reduction in deaths (by 50%) will ensure a return on the cost of purchasing the product. The overall improvement in health will reduce the need for veterinary drugs.
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HUMAC[®] Natur AFM is suitable for use in organic agriculture for the production of organic food

HUMAC



HUMAC[®] - Natural humic acids activated for a healthy life

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