

Biolex MB40



Effects of Biolex® MB40 on the performance and the immune system of broilers

A well balanced intestinal flora and a viable intestinal immune system are prerequisites for reducing the use of antibiotics in broiler farming. **Biolex® MB40** consists entirely of cell walls of brewers' yeast (isolated from *Saccharomyces cerevisiae*), thus classified as mannanoligosaccharides. Mannanoligosaccharides (MOS) are considered as prebiotics, i.e. their principal effects are promoting the growth of the positive intestinal flora and of strengthening the balance of the intestinal microflora. It has been known for some time that mannanoligosaccharides may have positive effects on the state of health of various animal species. The trial described below was designed to assess the impact of **Biolex® MB40** on the performance and the immune system of broilers.

Trial design:

The trial was performed on a research farm near Russellville, USA. Test group and control group each consisted of 2000 broilers. There were three phases of feeding: the first from day 1-13, the second from day 14-28, and the third from day 29-38. The broilers in the test group received the same diet as the control group but with additional supplementation of 2kg **Biolex® MB40** per ton feed weight. At the end of the trial, each animal was weighed separately and blood samples were taken from 20 animals of each group.

Results and discussion:

Administration of **Biolex® MB40** resulted in significantly higher final body weight. The increase was also visible in daily weight gains. Besides the daily weight gain, the mortality rate and the feed conversion ratio were improved slightly by **Biolex® MB40** (Table 1).

In order to assess the effects of **Biolex® MB40** on the immune system, various immune parameters were determined in the blood of the animals. As figure 1 shows, there was a positive influence on the immune system. While the white blood cell count showed a tendency to be increased with $p < 0.10$, the monocyte cell count was significantly increased due to the addition of **Biolex® MB40** to the feed. These data indicate an effective immune defense against intracellular pathogens. The increased lysozyme rate also shows a stimulation of the unspecified immune system. Likewise, the percentage of T-cells and the percentage of $\alpha\beta$ -TCR + T-cells were significantly increased after administration of **Biolex® MB40**.

The results of the blood assays confirm that administration of **Biolex® MB40** is not only associated with benefits for the unspecified immune system, and correspondingly an improved

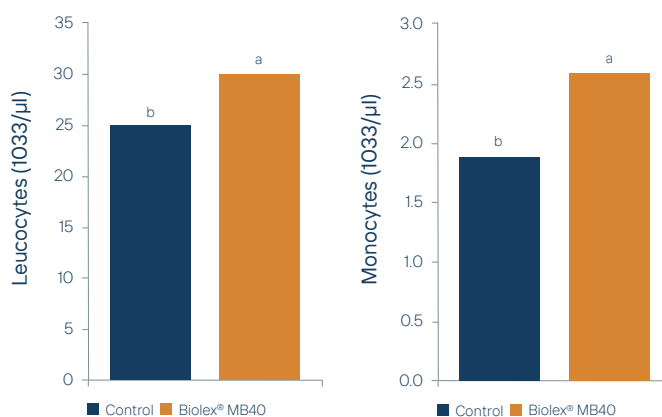
general state of health of the animals, but also with continued stimulation and improvement of the specific immune competence of the animals.

Table 1: Effects of Biolex® MB40 on the performance of broilers

	Control	Biolex® MB40
Number (n)	2000	2000
Repetitions	10	10
Mean weight on day 38 (kg)	2.05 ^b	2.10 ^b
Improvement	100	102.4
Daily weight gain (g)	53.9	55.3
Feed conversion ratio (1:)	1.68	1.67
Mortality (%)	2.95	2.89

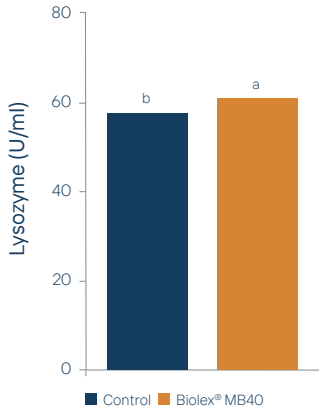
^{a,b} significant difference between data with different letters (P < 0.05)

Figure 1: Effects of Biolex® MB40 on blood immune parameters in broilers*



*n=20

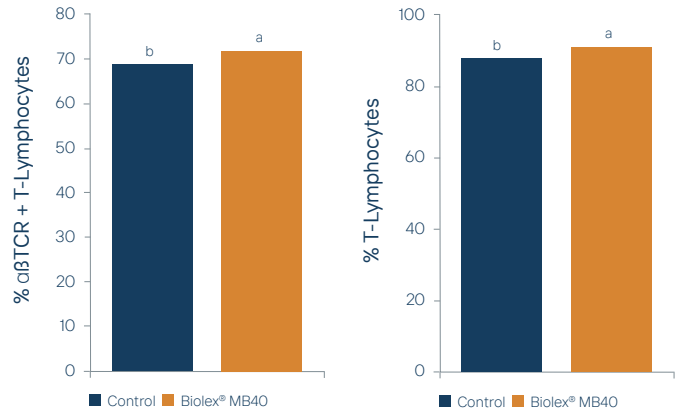
^{a,b} significant difference between data with different letters (P < 0.05)



*n=20

^{a,b} significant difference between data with different letters (P < 0.05)

Figure 2: Effects of Biolex® MB40 on T-Lymphocytes in the blood of broilers*



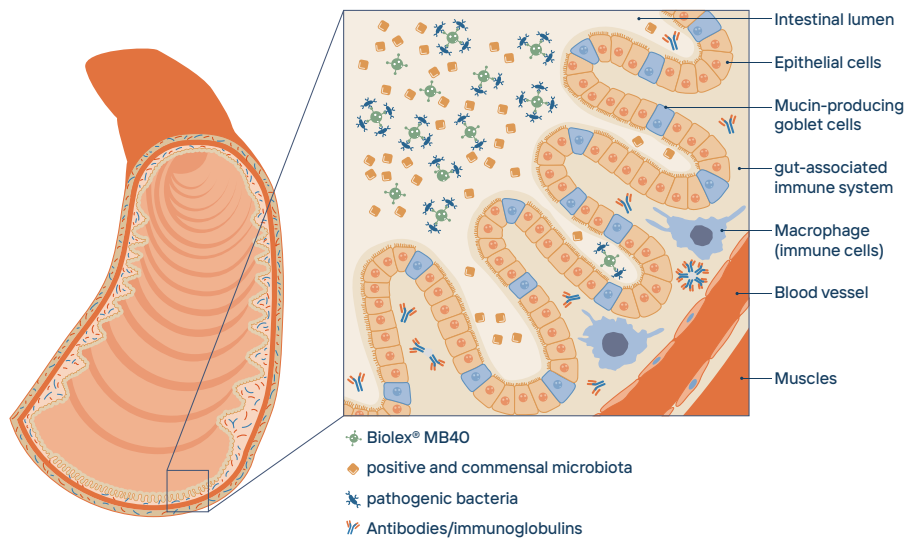
*n=20

^{a,b} significant difference between data with different letters (P < 0.05)

Conclusion Biolex® MB40:

- Increases the weight gain of fattening broilers by 2.4%.
- Prebiotic properties of Biolex® MB40 promote the equilibrium of the intestinal flora resulting in positive effects on broilers performance.
- Stimulates the immune system and effectively boosts the general state of health of broilers.

Mode of action Biolex® MB40:



Reference : TYSON FOODS – INC. RESEARCH FARM – RUSSELLVILLE



We have been upcycling at world-market level since 1954 and keeping the environment and climate in mind.



Leiber
Excellence in Yeast