



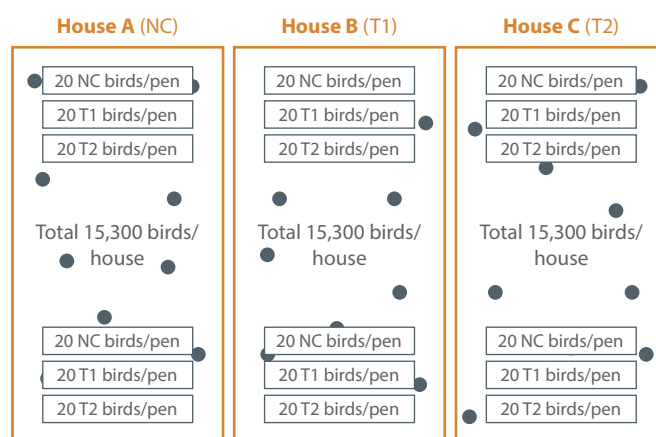
## REDUCTION OF ANTIBIOTIC GROWTH PROMOTERS BY USING BIOLEX® MB40 WITH CONSISTENT PERFORMANCE AND IMPROVED MEAT QUALITY

Reducing the usage of antibiotics in broiler farming is a relevant topic in poultry nutrition sector. Prebiotics can maintain animal's health by playing an important role in balancing the intestinal flora and the intestinal immune system's function. Yeast cells have an effect on the sustenance of the gut-associated lymphoid tissue and they are useful for an optimal responsiveness of the GALT as a barrier and line of the first defense in a body. **Biolex® MB40** consists entirely of cell walls of pure brewer's yeast (isolated from *Saccharomyces cerevisiae*) classified as mannan oligosaccharides (MOS). MOS are considered as prebiotics due to their main benefit on growing out a positive intestinal flora and strengthening the balance of the intestinal microflora proved by several scientific reports. In this trial should be shown the influence of **Biolex® MB40** in comparison to an antibiotic growth promoter (AGP) on performance parameters and chicken processing response.

### Trial design:

The trial was performed on a commercial research farm located in the United States. Three houses have been chosen with each house containing 15,300 Hubbard x Cobb birds. Additionally, three pens in two locations were set up within in each house and twenty birds from each group were randomly placed in one pen at each location to avoid a housing effect (figure 1). There were four phases of feeding: a commercial starter, grower and finisher 1 and 2. The test groups only had differences in the feed supplementation: group 1: 0.05% AGP and group 2: 0.2% **Biolex® MB40**. The trial animals, which have been housed in the separate pens were weighed at 14, 28, 40 and 53 days of age. In addition, 100 further birds (50 males and 50 females) from each house have been randomly selected for analyzing weight of carcasses without giblets (WOG), wing, skin, breast and tender. These birds were located in the house but outside of the separated pens and had an age of 53 days.

Figure 1: Housing diagram



- Broiler weight and FCR measured from pens
- Parts weight measured from outside of the pens

NC: Feed only; T1: 0.05% AGP; T2: 0.2% Biolex® MB40

## Results and discussion:

Adding 0.2% **Biolex® MB40** to the feed of broilers showed a more improved final weight at the end of the trial. The group with the prebiotic in their feed performed better than the group without tested additives and the group with AGP as supplement (table 1). These data show that **Biolex® MB40** as a prebiotic can be used as an AGP replacement with benefits.

With the results of the slaughtered animals from 100 randomly picked broilers the positive effect from **Biolex® MB40** gets more pronounced and is evident from carcass yield. In comparison with the control group and the group receiving AGP, various carcass parts show better results with **Biolex® MB40**. Overall, the **Biolex® MB40** group is significant better in white meat yield than the control group and the AGP group (table 2).

The data shown before point out that **Biolex® MB40** can reduce the usage of AGP or that it can replace it with consistent performance and better meat quality. The white meat yield increased significant in contrast to the control group and the AGP group. Only healthy animals are able to perform better and to improve the standard in broiler fattening. **Biolex® MB40** is a natural alternative to reduce the frequently prescribed reduction of antibiotic growth promoters.

### Conclusion Biolex® MB40:

- | increases the weight gain
- | increases the valuable meat content (breast meat and white meat)
- | natural alternative for AGP

**Table 1: Broiler body weight and FCR responses in broilers**

		Treatments		
		NC Feed only	T1 (AGP)	T2 (Biolex® MB40)
Bird weight (g)	Age (day)			
	14	680 ± 9.07	675 ± 0.00	675 ± 4.54
	28	1601 ± 9.07	1560 ± 18.14	1573 ± 13.61
	40	2654 ± 9.07	2612 ± 18.14	2635 ± 18.41
	53	3706 ± 31.8	3696 ± 72.57	3846 ± 68.04
FCR	28	1.51 ± 0.01	1.53 ± 0.02	1.56 ± 0.03
	40	1.80 ± 0.01	1.81 ± 0.01	1.90 ± 0.07
	53	1.74 ± 0.03	1.66 ± 0.02	1.74 ± 0.04
	53 (Mort Adj) <sup>1</sup>	1.69 ± 0.01	1.66 ± 0.02	1.68 ± 0.02

<sup>1</sup> Mort Adj includes total mortality weight in FCR calculation.

**Table 2: Chicken processing responses**

		Treatments		
		NC Feed only n = 91	T1 (AGP) n = 96	T2 (Biolex® MB40) n = 97
Parts (g)	WOG	3238 ± 390.09	3338 ± 340.19	3342 ± 408.23
	Wing	317 ± 45.36	317 ± 45.36	317 ± 45.36
	Skin	145 ± 27.21	149 ± 22.68	149 ± 27.21
	Breast	734 ± 104.32	748 ± 86.18	775 ± 104.32
	Tender	149 ± 18.14	154 ± 13.61	158 ± 18.14
White meat yield (%)		24.36 ± 0.18 <sup>b</sup>	24.36 ± 0.17 <sup>b</sup>	25.15 ± 0.17 <sup>a</sup>

Different superscript letters indicate significant difference.

Reference : Steven C. Ricke, Department of Food Science, University of Arkansas, 2013



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

