

BiOWiSH® MultiBio 3P

Broiler Chickens Virginia Diversified Research Corp. (2016)

BiOWiSH® MultiBio 3P improves weight gain and feed efficiency in diets containing wheat, milo, and soybean meal

Background

BiOWiSH Technologies has established collaborations with universities and independent research firms to investigate the benefits of BiOWiSH® in a wide range of commercial poultry production settings.

These research studies highlight superior performance benefits with the addition of BiOWiSH® direct-fed microbials (DFMs) to various diet compositions, feed types, and application methods such as through drinking water systems. Moreover, our body of research, including a collection of commercial field trials, illustrates the benefits of improved litter quality, reduced ammonia levels, and reduced odor complaints as additional outcomes of BiOWiSH® supplementation in poultry production. All studies can be found online at biowishtech.com.

In the current study, the effects of BiOWiSH® MultiBio 3P were studied when added to wheat based feed and given to broiler chickens. This is the first study in this series of studies done on wheat based diets to show consistency of results. BiOWiSH Technologies partnered with Michael D. Sims, president of Virginia Diversified Research Corp. (VDRC), to demonstrate the benefits of adding BiOWiSH® MultiBio 3P to broiler diets. The study was conducted over the span of 42 days in Harrisonburg, Virginia.

Objectives

The objective of this study was to determine the benefits of BiOWiSH® MultiBio 3P broiler weight gain and feed efficiency when added to typical Australian commercial broiler diets.

Solution

BiOWiSH® MultiBio 3P is a DFM that is recommended for use at all growth stages in poultry operations. It can be added to pelleted and extruded feeds.

This study followed BiOWiSH recommended best management practices by beginning BiOWiSH® MultiBio 3P supplementation at the day of hatch and maintaining proper concentrations by adding more BiOWiSH® with each feed addition. Dosage was 500 grams per ton of feed, in accordance with the best management practices.

Please see the BiOWiSH® MultiBio 3P user guides, available online, for more information on recommended dosages, as they may vary by species and management practice.

Implementation Program

Straight-run broiler chicks (Ross 508) were obtained from a commercial hatchery on the day of hatch (day 0) and spray vaccinated for coccidiosis with Coccivac®-B. Chicks deemed healthy at this time were assigned to experimental treatment or control groups based on placement weight.

BiOWiSH® MultiBio 3P



All-natural direct-fed microbial (DFM) for pelleted and extruded feed manufacturing

Available Sizes

- 5kg/11lbs
- 10kg/22lbs
- 25kg/55lbs

Two treatment groups were arranged as shown in Table 1.

Treatment group	Feed type	Product dose (kg/ton)	Replicate pens	Birds per pen	Total
Control	pellet	-	12	27	324
BiOWiSH® MultiBio 3P	pellet	0.5	12	27	324
Total animals per trial					648

Table 1: Treatment group distribution

Broiler rations were formulated according to current best management specifications (i.e. starter, grower, finisher). Feed was composed of wheat, milo, and soybean meal, in accordance with typical Australian commercial broiler diets. Control animals were fed this diet. BiOWiSH® treatment animals were fed this diet with the addition of BiOWiSH® MultiBio 3P. The DFM was added to each basal diet at 500 grams per metric ton of feed, mixed for three minutes, and pelleted at temperatures between 77 and 82°C with three to seven seconds of steam exposure.

For the duration of the study, broilers were housed in a metal and cinder block structure with a clay floor partitioned into four foot by five foot pens each containing 1 tube feeder, 1 bell water fountain, and new wood shavings. Animals were provided free access to fresh water and the assigned treatment feed throughout the study. Used litter was introduced to each pen in equal amounts on day seven to provide a mild environmental challenge of low levels of coccidian, *E. coli*, *Salmonella*, and *Clostridia*. Lighting, temperature, and ventilation conditions were monitored daily.

Results & Discussion

BiOWiSH® MultiBio 3P treatment elicited significant improvements in body weight gain and feed efficiency, as measured by FCR, when compared with the control diet.

Broilers fed BiOWiSH® MultiBio 3P showed a 3.7% improvement in weight gain and a 6.6% improvement in FCR at 42 days than birds on the control pellet diet. Results are summarized in Table 2.

Treatment group	Day 42 body weight (kg)	Day 42 FCR* (weight/weight)
Control	2.205	2.138
BiOWiSH® MultiBio 3P	2.287	1.996

Table 2: Body weight and FCR at the conclusion of the study

*FCR is adjusted by weight and mortality.

Day 42 body weight represents the average weight per bird.

Improved FCR with the addition of BiOWiSH® MultiBio 3P indicates improved feed efficiency.

Overall, BiOWiSH® MultiBio 3P improved weight gain and feed efficiency when added to the typical Australian commercial broiler pelleted diet. This is consistent with results across BiOWiSH's library of studies on the addition of DFMs to broiler diets. When examined as part of a larger body of research, the results are consistently positive in different years, environments, diets, and application methods.



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Contact us:
animalag@biowishtech.com
+1 312 572 6700
biowishtech.com