

NUTRI-BIO PLUS

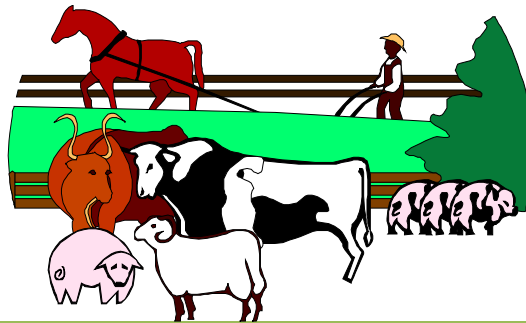
FERMENTATED MYCOTOXIN BINDING PROPERTIES



BIOLOGICALLY EFFETIVE FOR BETTER PRODUCTIVITY

OPTIMUM BLEND OF

- BRWERS' YEAST CELLWALL – BETA-GLUCAN & MANNAN OLIGOSACCHARIDE
- ENZYMES
- ORGANIC ACIDS
- ALUMINOSILICATE



AMECO-BIOS, INC.
P.O. BOX 660926 ARCADIA, CA 91006 U.S.A.
Email: amecobios@gmail.com

ACTIVE INGREDIENTS



- **Yeast Cellwall of mannan oligosaccharide & beta-glucan**
- **Yeast fermentation powder solubles**
- **Acid-Protease**
- **α -Amylase**
- **Aluminosilcate**

Mode of Action



- **NUTRI-BIO PLUS** when ingested and upon reaching the gastrointestinal tract, begins an exponential growth of lactic acid bacteria. The bacteria feed on the saccharides, grow rapidly and flood the digestive tract with these positive organisms. The lactic bacteria enhance the metabolic process allowing the animal to absorb more nutrients while reducing the interference of mycotoxins in the metabolic process.
- This complex mode of action is unique to **NUTRI-BIO PLUS** and makes it an important breakthrough product in the fight against mycotoxins.

Major Benefits



- Promotes lactic acid bacteria growth in the GI tract.
- Stimulates metabolism.
- Helps invigorate the immune system.
- Helps eliminate feed refusal
- Helps improve feed efficiency.
- Helps restore animal productivity to previous levels.
- Helps contribute to overall animal health.

Typical Analysis



- Acid Protease.. 300000UI per kg
- α -Amylase 300000UI per kg
- Beta-glucan 1%
- Mannan Oligosaccharide 3%



- **DIRECTIONS FOR USE**
 - **200g-500g per ton of feeds for Poultry, Swine and livestock animals**
 - **Recommended to use up to 2 kg per ton of feeds when heavy contaminated.**

- **PACKING Wt.: 20 Kg in a bag**

When NUTRI-BIO PLUS is added to poultry diets contaminated with mold producing mycotoxins, NUTRI-BIO PLUS will allow the animals to perform nearly as well as those fed Clean Feed



Negative Control	Clean	Clean Corn/Soy Control Diet
Positive Control	Control	Contaminated corn/soy control diet
Treatment # 1	T-1	Contaminated corn/soy diet with flow bond added at 4 Lbs/ton
Treatment # 2	T-2	Contaminated corn/soy diets with mold inhibitor + NUTRI-BIO PLUS added at 2 Lbs/Ton
Treatment # 3	T-3	Contaminated corn/soy diets with NUTRI-BIO PLUS concentrate added at 1 Lb/Ton

*Mold Inhibitor is manufactured by Ameco-Bios and composed of organic/inorganic acids with carrier.

MYCOTOXINS ASSAY

Each value represents a single analysis

Treatment	Symbol	Vomitoxins(ppm)	Zearlenone(ppb)
Negative control	Clean	0.4	20.0
Positive control	Control	2.9	40.0
Treatment #3	T-1	2.3	30.0
Treatment #2	T-2	1.9	10.0
Treatment #1	T-2	2.2	20.0

THE EFFECT OF NUTRI-BIO PLUS ON PERFORMANCE OF JERSEY DAIRY COWS FED VOMITOXIN CONTAMINATED FORAGE



TRIAL-1

- A 180 head lactating Jersey herd was used to evaluate efficacy of NUTRI-BIO PLUS (mycotoxin absorbent fermentation product) product in lactating performance. The cow were fed a base ration consisting of 35.4% corn silage, 2.3% orchard grass
- And 62.3% concentrate mix(on Dry Matter base). The corn silage was contaminated with mycotoxins(Vomitoxin 6 ppm, Zearalenone 400 ppb and T-2 6- ppb on fresh weight). A switch back experimental design was used in this trial. The cows were fed this ration for one month and in the subsequent month they were supplemented with M/A. The levels of NUTRI-BIO PLUS supplementation in the base diet were 4, 2 and 1 lb per ton of TMR for the week 1, 2 and 3 to 4 in the test period. The animal performance was recorded and analyzed by the local Lab. The results are summarized in the Table 1. The cows supplemented with NUTRI-BIO PLUS produced 49.8 lb of milk per head per day compared to the 46.7 lb/head/day without M/A supplementation.
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- The contents of milk fat and protein were similar. From this trial, it is concluded that supplementing NUTRI-BIO PLUS to high vomitoxin diet fed to Jersey dairy cows improved milk production.

TABLE 1. Performance of Jersey Cows Supplemented with NUTRI-BIO PLUS

Treatment	Milk lb/day	Adjusted 150 days Milk(lb/d)	Fat(%)	Protein(%)	SCC
CONTROL	46.7	47.7	4.7	3.7	3.4
NUTRI-BIO PLUS	49.8	51.1	4.5	3.5	3.6

TRIAL-2

A demonstration trial using a 160-head dairy herd was conducted in North Carolina to evaluate efficacy of NUTRI-BIO PLUS product. The cows were fed a ration containing of 37.5% corn silage, 13.5% cotton seeds, 7.6% dried corn distillers grains and 41.4% bunk mix (Table 1). The corn silage contained high vomitoxin (16.6 ppm on DM basis). The cows were fed this ration for one month and in the subsequent month they were supplemented with NUTRI-BIO PLUS at the rate of 1lb per ton of Total Mixed Ration. The milk production was recorded. The result showed that cows fed diet without NUTRI-BIO PLUS supplementation produced 57.4 lb of milk per head per day and yielded 58.6 lbs when they were supplemented with NUTRI-BIO PLUS. When the milk production was adjusted for days-in-milk, a larger increase in milk production by supplementation of NUTRI-BIO PLUS was noticed (68.0 vs 72.7 lb/d: TABLE 2). From this trial, it is concluded that supplementing NUTRI-BIO PLUS to high vomitoxin diet fed to dairy cows improved animal performance.

Composition of the BUNK MIX

INGREDIENTS	% OF DM	INGREDIENTS	% OF DM
Corn Ground	25.33	Limestone	3.15
Soybean meal 47%	23.10	Biofos	1.55
Soyplus	7.35	Salt	0.59
Soyhulls	31.54	Sodium Bicarbonate	1.18
Molasses	1.68	Diabond	1.55
Energy Booster 100	1.93	Mineral and Vitamin	1.05

Performance of Dairy Cows Supplemented with NUTRI-BIO PLUS

Treatment	Milk lb/day	Adjusted 150 days Milk (lb/d)	Fat(%)	Protein(%)	SCC
CONTROL	57.4	68.0	4.0	3.3	3.4
NUTRI-BIO PLUS	58.6	72.7	3.9	3.2	3.6

TRIALS 3 – FEEDING EXPERIMENT IN FEMALE BROILERS

Two levels of NUTRI-BIO PLUS was compared to a control in a total of three groups of 200 female birds each.

Trial conducted on Feb. 13, 2007 – April 11, 2007, in a windowless chicken house with heated floor.

Parameter measured included:

- Body weight increase
- Feed conversion
- Health status
- Total meat yields

GROUP One (1): Control
GROUP Two (2): 500g NUTRI-BIO PLUS
GROUP Three (3): 1000g NUTRI-BIO PLUS

Table-1: Body Weight (g)

Group	0	1	2	3	5	6	8 weeks
1	41	193	485	870	1815	2213	3150
2	41	202	489	870	1787	2169	3093
3	41	212	508	900	1847	2249	3160

Table-2: Body Weight Increase

GROUP	0 -3 WEEKS	3-8 WEEKS	0-8 WEEKS
1	829	2280	3109
2	829	2223	3052
3	829	2261	3119

Table-3: STASTICAL ANALYSIS OF TABLE-2

FACTOR	Df	8 wks BW	0-3 wks	3-8 wks	0-8 wks
T-Test	2	5277	1210	3325	5277
Deviation	9	5881	427	4445	5881



TABLE-4: FEED INTAKE (FI) and FEED CONVERSION (FC)

GROUP	FEED INTAKE			FEED CONVERSION		
	0-3 WKS	3-8 WKS	0-8 WKS	0-3 WKS	3-8 WKS	0-8 WKS
1	1154	5578	6731		1.39	2.17
2	1143	5379	6521	1.38	2.42	2.14
3	1131	5599	6730	1.32	2.48	2.16

TABLE-5: STASTICAL ANALYSIS OF TABLE-4 DATA

FACTOR	df	0-8 wks Feed Intake	0-8 wks Feed Conversion
T-Test	2	58383	0.00091
Deviation	9	24146	0.00078

TABLE-6: HEALTH STATUS

GROUP	REARING RATE	MORTALITY	INDEX(TOTAL)	INDEX (EXCL. HEAT)
1	99.0	Heat 1, SDS 1*	257.2	258.4
2	98.5	Heat 1, SDS2	254.6	255.9
3	96.5	Heat 3, SDS2(Leg 2.)	252.6	256.4

TRIAL-7: Two commercial broiler operations in Quebec, Canada:

- 17000 Broiler were fed **NUTRI-BIO PLUS** at the rate of **1.0 Kg per MT of feed**
- Birds started April 29, 2007 and were processed June 5, 2007
- Control Lot-34000 Broiler Pullets
- Birds Started May 13, 2007 and were processed June 20, 2007.

	(17000 Broilers)	Control(34000 Broilers)
DAY	36	37
MORTALITY	0	0.54
Weight/Bird in gram	1792	1742
Feed Conversion	1.8	1.9
Condemnation %	0.84	1.49
Daily Gain	49 gram	47 gram

TRIAL-8:

- 14000 Male Broilers were fed **NUTRI-BIO PLUS** at the rate of 1.0 Kg per MT of feed
- Birds started June 25, 2006 and were processed August 5, 2006
- Control Lot - 14000 male Broiler
- Birds started June 25, 2006 and were processed August 5, 2006 in a same housing, same feeds

	NUTRI-BIO PLUS (14000 Broilers)	Control (14000 Broilers)
DAY	40	40
Mortality	0.15	1.07
Weight/Bird in gram	2315	2197
Feed Conversion	1.72	1.84
Condemnation	0.90	1.41
Daily Gain	57 gram	54 gram