Probioist

(Aspergillus Niger and its cultures ⩾5×10⁸CFU/g)

Excellent Fungal Synbiotics preparation

Anti-microbial, AGPs alternative, Natural performance enhancer

Aspergillus Niger and its directed cultures : ⩾5.0 x 10^8 CFU/g
(Prebiotic as carrier)

1. Highly effective against :

① **EHP** (*Enterohepatic Sporozoites*) in shrimp.

② **White feces syndrome** (WFS) in shrimp and against aquatic pathogens (*Vibro paraheamolyticus, Vibro harveyi, Ameromonas hydrophila*).

③ **SARA** (subacute ruminal acidosis) in sheep, beef and dariy cattle (alternative to CTC; monensin).

④ Aniaml intestinal disorders (*E. coli,Salmonella ,SD , C. perf . . .*).

2. Natural performance enhancer.

(Alternative to AGPs.)

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Insighter®
Solutions Of Gut Problems

1.Main bioactive components

Aspergillus Niger (≥5.0×10^8 CFU/g) , its directional cultures (including live fungus, inactivated fungus and their metabolites) and prebiotics carrier.

2.Mechanisms of action

① Bioactive substances secreted by live *Aspergillus Niger*, such as Safety antibacterial substance, enzymes, acids, etc.

② Potent mixed prebiotics included in inactivated fungus.

③ Combination effects from various bioactive metabolites and prebiotics carrier, such as antimicrobial agents, immunopotentiator etc.

3.Characteristics

① The unique strains and antimicrobial direction fermentation process.

② Highly effective against animal intestinal disorders, such as diarrhea, watery stools, blood dysentery, ileitis, necrotic enteritis.

③ Highly effective to white feces syndrome (WFS) and against aquatic pathogens, such as *Vibrio parahaemolyticus*, *Vibrio harveyi*, *Aeromonas hydrophila*.

④ Highly effective against diarrhea in calves and lambs, preventing SARA and hepatic cyst in ruminant.

⑤ Strong resistant to heat, acid and feed processing.

⑥ High compatibility to other additives and materials.

⑦ Generally Recognized as Safe (GRAS).

4.Customer benefits

① Efficiently replace all AGPs, such as Calcium oxytetracycline, Enramycin, Avilamycin, CTC, monensin etc.

② Efficiently replace all probiotics, prebiotics and synbiotics, such as Yeast, Bacillus, lactic acid bacteria etc.

③ NO antibiotic resistance, NO residue, NO withdrawal time.

④ Widely use for all animal species and promote animal performance.

5.Application effects

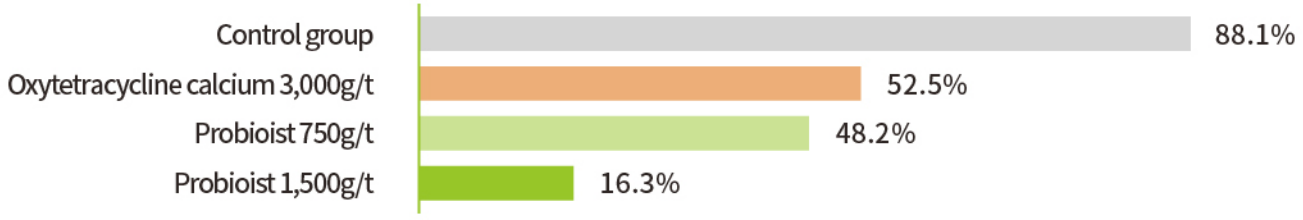

Figure 1. Therapeutic effects of Probioist on diarrhea in weaned piglets

Note: Weaned piglet were fed with low zinc, low copper, no AGPs diets. After 5 days of feeding, 80 diarrhea piglets were selected and randomly divided into 4 treatment groups. The therapeutic effects were compared after 7 days.

Table 1. Preventive effects of Probioist on dysentery and ileitis in grower-finisher pigs

Items	Negative Control	Probioist 1	Probioist 2
Number	368	316	315
Dosage (g/t)	-	100	300
Positive rate of dysentery in the beginning (%)	32.6	24.1	28.3
Positive rate of dysentery at the end (%)	86.1	19.0	6.8
Positive rate of ileitis in the beginning (%)	31.8	34.8	31.1
Positive rate of ileitis at the end (%)	50.5	22.0	5.1
Incidence of dysentery (%)	7.6	0	0
Rate of diarrhea and soft stool (%)	14.2	6.8	3.7

Note: The trial was conducted in a pig farm of Hong Kong supplier. No antibiotics were added in all groups.
Trial: 135-day-old pigs, for 1 month. The positive rates of dysentery and ileitis were determined by PCR.

Table 2. Effects of Probioist on growth performance of Ross 708 broiler

Items	Negative Control	BMD	Probioist	*P*-value
Initial BW, g	39.3±0.98	39.3±0.87	39.1±0.83	0.766
Final BW, g	2558.90±77.83^{a}	2659.92±116.44^{b}	2617.64±86.95^{ab}	0.045
ADG, g	60.93±1.85^{a}	63.33±2.77^{b}	62.32±2.07^{ab}	0.045
ADFI, g	99.54±2.62^{a}	103.91±4.21^{b}	100.66±4.44^{ab}	0.024
Unadjusted FCR	1.67±0.03	1.67±0.05	1.65±0.43	0.326
Mortality Adjusted FCR	1.50±0.03^{a}	1.49±0.04^{a}	1.46±0.03^{b}	0.060

Note: Virginia Technology & Blue Needle Nutrition, Dec 2022;
A total of 1332 birds, 3 treatments X 12 replicates X 37 birds;
Control: basal diet (NRC1994);
BMD: basal diet + 50 ppm BMD;
Probioist: basal diet +400 ppm (1-14 days) or 300ppm (15-28 days) or 200 ppm (29-42 days) of probioist;
Mortality Adjusted FCR = (Feed Consumption) / (weight of live birds + weight of dead birds); Unadjusted FCR = (Feed consumption) /(weight of live birds);
Different superscript in the same row means significant differences ($P < 0.05$).

Table 3. Effect of probioist on performance of laying hens

	Treatment [1]	Control	BMD	Probioist	SEM	*P*-Value
Laying rate, %	Week 1–3	86.51^{b}	82.35^{b}	91.74^{a}	1.62	0.0009
	Week 4–6	90.21^{a}	79.89^{b}	90.48^{a}	2.41	0.0028
	Week 7–10	89.12	89.06	90.08	1.79	0.9002
Egg weight, g	Week 1–3	63.8	62.19	63.75	1.17	0.553
	Week 4–6	63.89	63.31	65.83	1.37	0.418
	Week 7–10	64.35	63.49	67.24	1.19	0.097
ADFI, g	Week 1–3	119.2	117.7	119.8	2.34	0.814
	Week 4–6	110.9	106.1	110	5.02	0.775
	Week 7–10	116.4^{a}	103.4^{b}	113.1^{a}	2.94	0.023
FCR	Week 1–3	2.00	2.14	1.98	0.07	0.282
	Week 4–6	1.48	1.61	1.53	0.06	0.334
	Week 7–10	1.59	1.59	1.59	0.14	1.000

Note: University of Georgia, Athens, USA.
A total of 72 commercial Hy-Line W-36 white laying hens from a 45-week flock.
Control: corn and soybean meal diet; BMD: control +495 mg/kg bacitracin methylene disalicylate (BMD); Probioist: control + 220 mg/kg Probioist.
a-b values within columns not sharing superscripts are significantly different at $P < 0.05$.

Table 4. Dietary supplementation of Probioist on the growth performance in Cherry Valley Ducks (*JAAS*, 2021)

Items	Negative Control	CTC	Probioist
ADFI, g	171.66±1.15	173.64±1.30	174.42±1.16
ADG, g	96.67±0.56^{c}	99.56±0.60^{b}	102.56±0.80^{a}
Final Body Weight, Kg	4.01±0.02^{c}	4.13±0.02^{b}	4.26±0.03^{a}
F : G	1.82±0.02^{a}	1.77±0.01^{b}	1.71±0.02^{c}
Survival Rate, %	96.21±2.17	98.48±0.96	96.97±1.52

Note: Jiangsu Academy of Agricultural Sciences, December 1st 2021 -January 11th 2022.
3 treatments × 6 replicates × 22 birds, 42 days of trail.
Control: commercial no AGPs diet; CTC: control + 50mg/kg aureomycin; Probiost: control+400mg/kg Probiost (1-21 days) or 200mg/kg Probiost (22-42days).
Different superscript in the same row means significant differences ($P < 0.05$).

Table 5. Dietary supplementation of Probioist on performance of Pacific White Shrimp (*Litopenaeus vannamei*)

	Negative control	1.5‰ Probioist	3‰ Probioist
Animal Numbers	~50,000	~50,000	~50,000
Description	Commercial diet	Negative control + 1.5 kg/metric ton of probioist	Negative control + 3 kg/metric ton of probioist

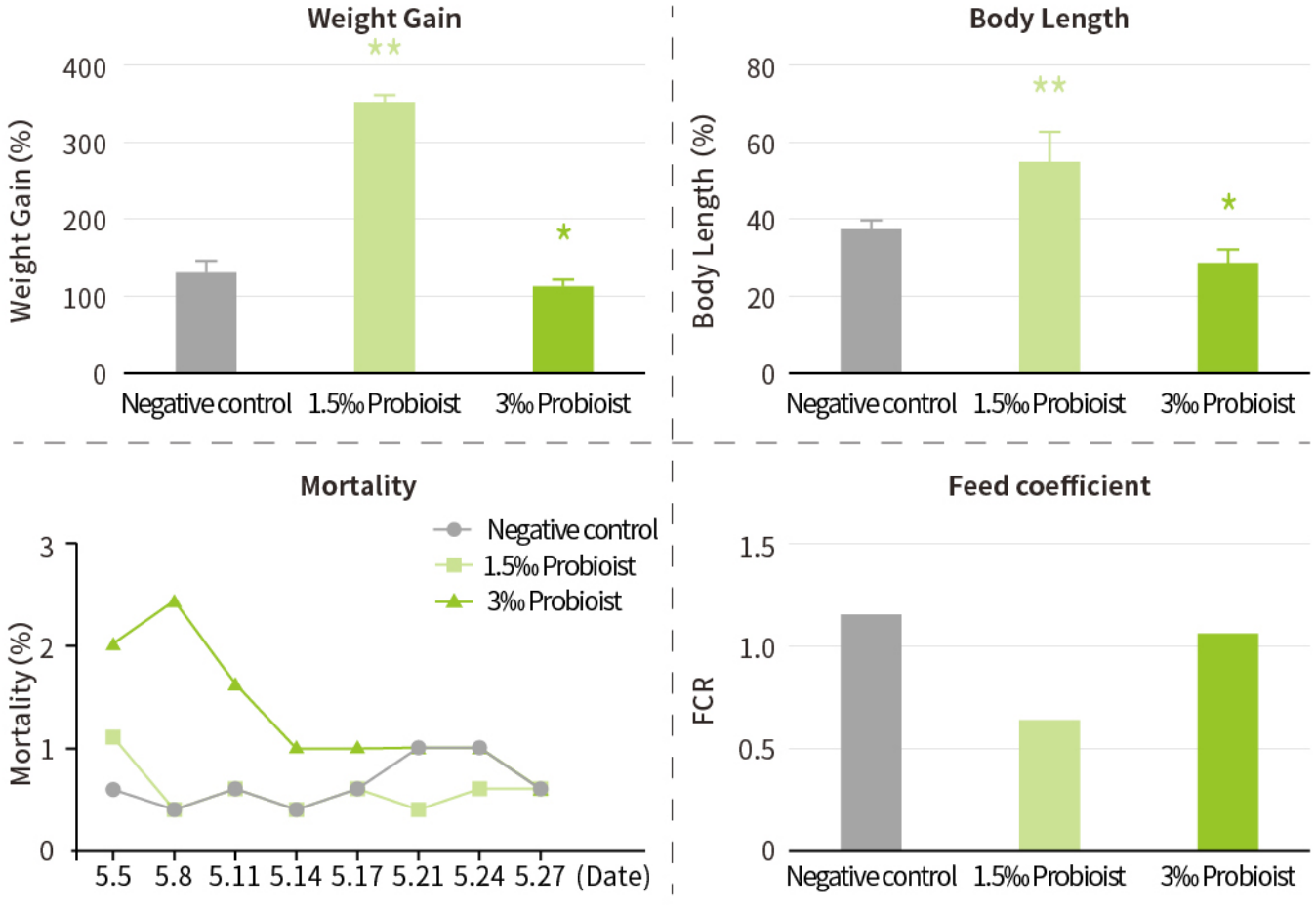

Table 6. Effect of Probioist on growth performance of white shrimp

Parameters	Experimental diets			
	Negative Control	P500	P1000	P1500
Survival (%)	81.3±4.6[a]	83.3±8[a]	86.7±4.4[a]	80.4±3.6[a]
Final weight (g)	5.64±0.49[b]	6.77±0.29[a]	6.85±0.12[a]	7.37±0.48[a]
Weight gain (%)	307.5±35.3[b]	389.2±21.1[a]	395.3±9[a]	432.8±35[a]
Feed efficiency	0.61±0.04[a]	0.67±0.04[a]	0.73±0.04[a]	0.67±0.07[a]

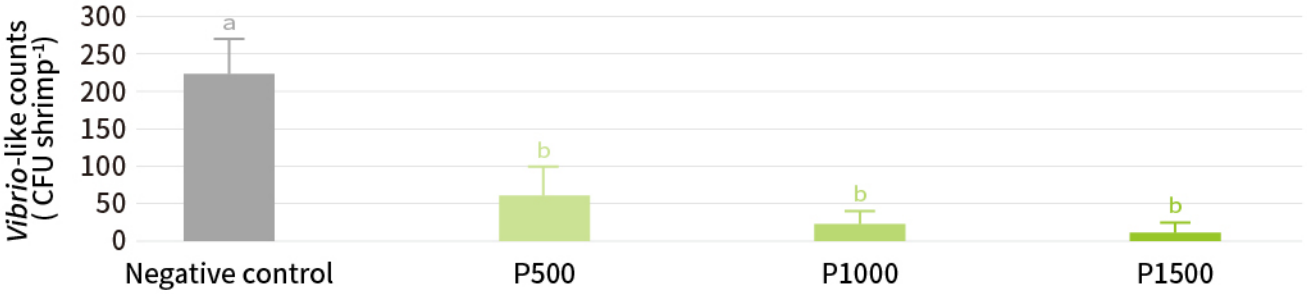

Figure 2. Effect of Probioist on *Vibrio-like* counts in the gut of white shrimp

Note: National Pingtung University of Science and Technology.
White shrimp were reared in 12 12-ton cement tanks (6 × 2 × 1.3 m) with 10 tons of 25‰ saltwater,for 56 days trail.
Control diet was prepared without probiotics, with 37% protein and 7% lipid.
Treatment diets were supplemented with 0.5g/kg, 1g/kg and 1.5g/kg of Probioist and were designated as P500, P1000 and P1500, respectively.

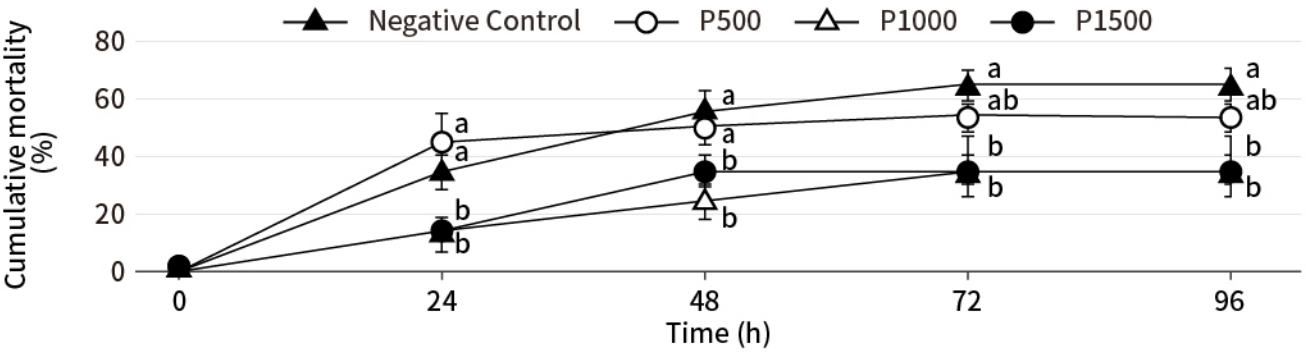

Figure 3. Cumulative mortality of shrimp subsequently orally challenged with *Vibrio parahaemolyticus* after 56 days of feeding trail with Probioist

Note: Each shrimp received 6.5×10^{5} cfu pathogen $(g\ shrimp)^{-1}$.

6.Recommended dosage

Species	Stage	Dose (g/t)	Species	Stage	Dose (g/t)
Swine 	Weaned	500 - 1,200	Chicken 	Starter	100 - 300
	Nursery	500 - 1,000		Grower	100 - 200
	Grower	300 - 500		Finisher	100 - 200
	Finisher	200 - 400		Layer	100 - 300
Ruminant (Replace CTC, Monensin)	Calf and lamb	500 - 1,500		Breeder	100 - 300
	Grower-finisher	1,000	Duck 	Meat duck & Layer	100 - 300
	Lactating cow	1,000		Breeder	100 - 300
	Fattening	1,000 - 2,000	Fish		250 - 500
Shrimp (Prevent EHP, *Vibro. spp*)	0#	2,000 - 3,000			
	1#	2,000			
	2# & 3#	1,000			

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