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POULTRY NUTRITION NEWSLETTER



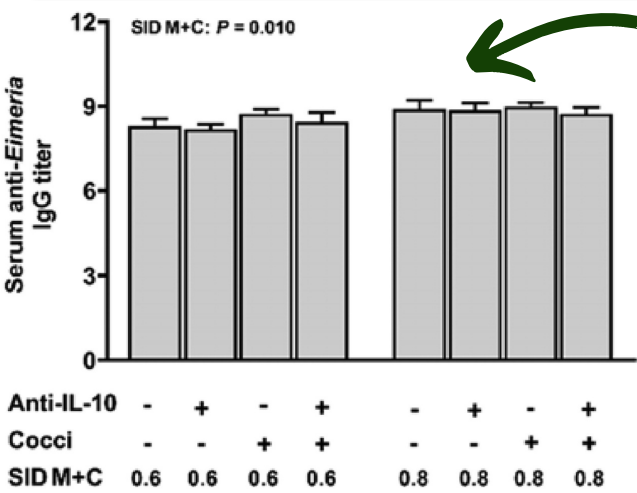
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NUTRIBINS

LATEST NUTRITION RESEARCH AT A GLANCE

In broilers and weaning piglets, feeding a **microbial-derived alkaline phosphatase** up to 200,000 U/kg had no negative effects and is safe to use for improving gut health (intended inclusion rate is 12,000 U/kg feed)

Elanco/ [Link](#)



In *Eimeria*-infected broilers, **anti-interleukin-10 antibody** increased intestinal luminal IFN- γ and body weight gain only at **0.8% SID M+C** but not 0.6%; this underscores the importance of providing sufficient essential nutrients to support the anti-IL-10 induced immunity against coccidiosis.

Northwest A&F University, China/ [Link](#)

In 300-day-old laying hens, supplementing 1 and 2% **Shudi Erzi San** improved egg production and egg quality and alleviated ovarian aging.

Hebei Agricultural University, China/ [Link](#)

Fig: Growth performance of broilers in control conditions or infected with *Eimeria*.

In broilers, ***Bacillus amyloliquefaciens* CU33** showed the best degradation rate for feather and keratinase activity out of 36 bacteria strains, and dietary supplementation with 5% **CU33-fermented feather meal-soybean meal** product promoted growth of broilers by improving duodenum morphology, and can achieve the feeding effect of high-quality fish meal.

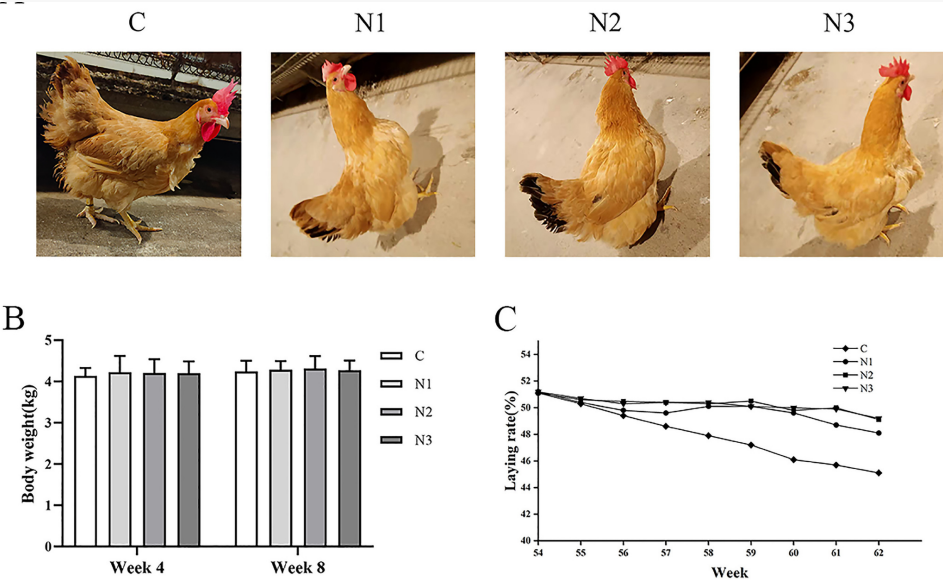
National Chiayi University/ [Link](#)

In laying ducks (21 wks), supplementing **cassava starch extraction residue meal** up to 15% did not negatively affect laying rate, egg quality, or oxidative status, while it increased yolk content of total saturated fatty acids.

Guangdong Key Laboratory of Animal Breeding and Nutrition, China/ [Link](#)

In laying hens (51 weeks), supplementing **coated sodium butyrate** for 12 weeks improved production, yolk color, gut morphology, and microbial composition; an inclusion level of 800 mg/kg is recommended.

Sichuan Agricultural University, China/ [Link](#)



In Three-Yellow breeder hens during the late laying period, supplementing 0.2% and 0.4% **naringin** could improve laying rate, and ovarian and serum anti-oxidant capacity.

Guangxi University, China/ [Link](#)

Figure. Appearance, body weight and laying rate of Three-Yellow breeder hens.

Review #1

Immunomodulatory potential
of black soldier fly larvae

In addition to the ability to use these ingredients as a source of essential nutrition, more recent research has demonstrated the potential for immunomodulatory activity of various components of insect-derived ingredients... In particular, **BSFL derived ingredients** offer not only AMP activity but lauric acid that may provide additive or synergistic efficacy. For all insect species being commercialized to date, chitin and chitosan also represent value-added components of the insect-derived ingredients...

EnviroFlight | [Link](#)

Type	Bacteria	MIC	Unit	Source
Gram-positive	Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)	25	mg/mL	Park et al., 2014
	<i>Kocuria rhizophila</i>	25	mg/mL	
	<i>Mircococcus luteus</i>	25	mg/mL	
	<i>Bacillus subtilis</i>	12.5	mg/mL	
	<i>Staphylococcus aureus</i>	100	mg/mL	
Gram-negative	<i>Enterobacter aerogenes</i>	25	mg/mL	Harlystiarini et al., 2019
	<i>Pseudomonas aeruginosa</i>	12.5	mg/mL	
	<i>Escherichia coli</i>	12.5	mg/mL	
		4.67 ^{II}	mm	
		6.00 ^{III}	mm	
	<i>Salmonella</i> spp.	4.33 ^{II}	mm	
		6.33 ^{III}	mm	
	<i>Helicobacter pylori</i>	8.00 ^{IV}	mm	
	<i>Klesbiella pneumonia</i>	8.51	mm	
	<i>Neisseria gonorrhoeae</i>	10.46	mm	
Yeast	<i>Shigella sonnei</i>	12.35	mm	Alvarez et al., 2019
Yeast	<i>Candida albicans</i>	25	mg/mL	Choi et al., 2012

Table: Select reported microorganisms and corresponding AMP activity from methanol-extracted hemolymph of the BSFL.

Review # 2

The relationship among avian influenza, gut microbiota and chicken immunity

Gut microbiota, including different species of *Lactobacillus*, *Blautia* *Bifidobacterium*, *Faecalibacterium*, *Clostridium*, and members of Firmicutes, play a significant role in the prevention and control of AIV and other infections...

United Arab Emirates University | [Link](#)

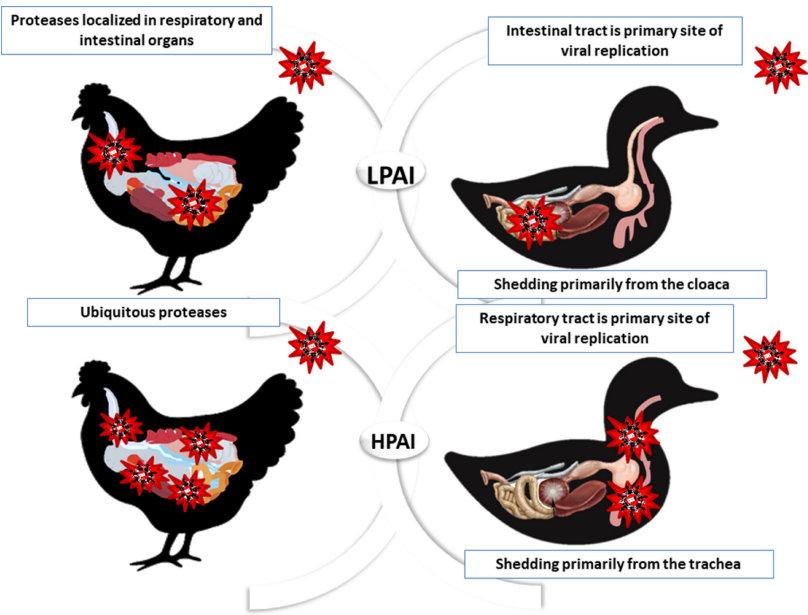


Fig: Localization of systemic highly pathogenic avian influenza (HPAI) infection versus low pathogenic avian influenza (LPAI) infection in chicken and duck.

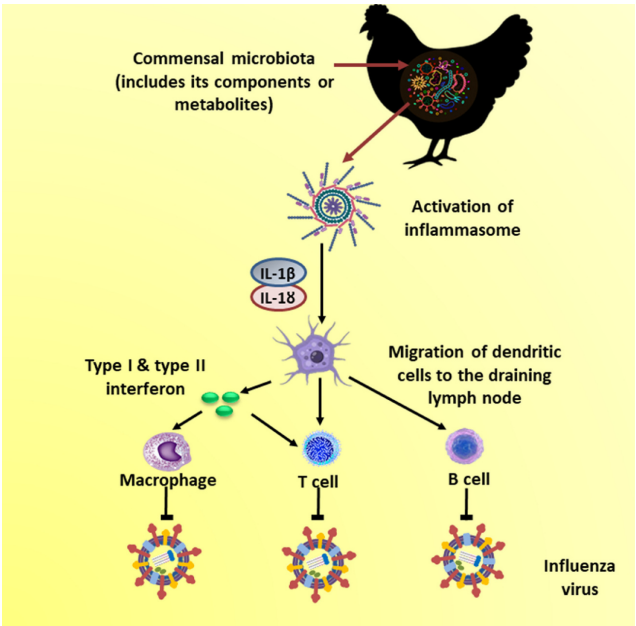


Fig: Mechanisms underlying the suppression of influenza virus infection by the commensal microbiota.