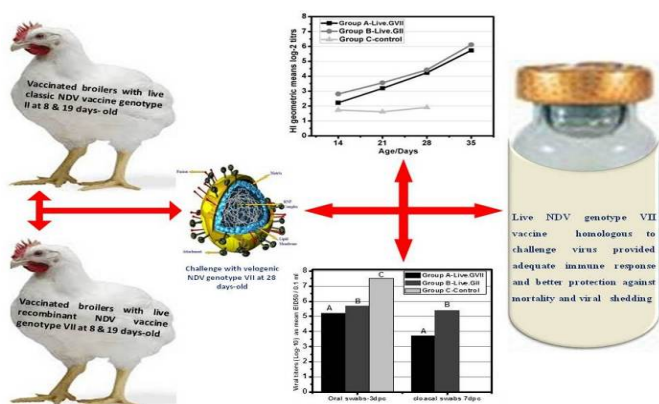


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Volume 9 (3); September 25, 2019 [[Booklet](#)]



To cite this paper: Amer SAM, Ali MA, Kandeil AM and Kutkat MA (2019). Advancement in Vaccination of Broiler Chickens with Genotype-Matched Vaccines to Currently Epidemic Newcastle Disease Virus Genotype VII in Egypt. *J. World Poult. Res.*, 9 (3): 117-123.

Research Paper

Advancement in Vaccination of Broiler Chickens with Genotype-Matched Vaccines to Currently Epidemic Newcastle Disease Virus Genotype VII in Egypt.

Amer SAM, Ali MA, Kandeil AM and Kutkat MA.

J. World Poult. Res. 9(3): 117-123, 2019; pii: S2322455X1900015-9

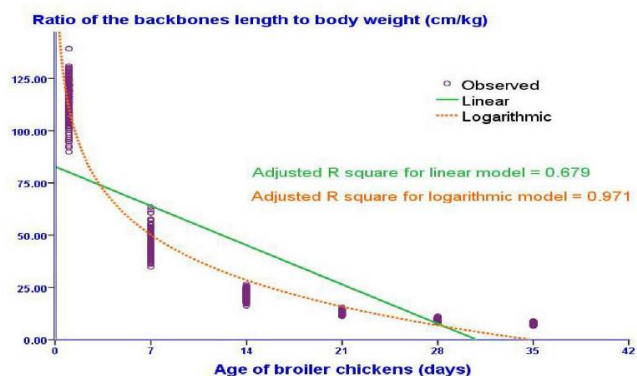
DOI: <https://dx.doi.org/10.36380/jwpr.2019.14>

ABSTRACT:

Newcastle disease virus (NDV) outbreaks still occur frequently in Egypt in spite of the heavy implementation of classic NDV vaccines for a long time ago, where NDV genotype VII has become the dominant genotype in Egypt from 2012 until now. Many previous studies have recommended using genotype-matched NDV vaccines against the epidemic virus for providing better protection and minimizing virus shedding. Therefore, the present study evaluated the efficacy of two available live NDV vaccines in Cobb 500 broilers. The group A and B (20 birds each) were vaccinated with live attenuated NDV vaccines genotype VII and II, respectively with double doses at 5 and 19 days of age. Also, group C consisting of 20 unvaccinated birds was studied as a control group. The efficacy of live vaccines was determined using virus challenge test. Hence, all groups were challenged with velogenic NDV genotype VII_d at a dose equivalent to $10^{6.0}$ 50 percent Embryo Infective Dose (EID₅₀) via the intramuscular route at 28 days-old. Serum antibodies level was assessed by hemagglutination inhibition test. Moreover, virus shedding was measured by EID₅₀. The obtained results indicated that vaccinated birds had similar haemagglutination titers with no significant difference prior challenge. Meanwhile, group A showed significant protection against mortality, as well as a significant reduction in virus shedding 7 days post-challenge compared to Group B. We concluded that live recombinant-genotype VII vaccine homologous to challenge virus could improve the protective efficiency in chicken against NDV compared to live classic genotype II vaccine. It is suggested that the implementation of genotype-matched NDV vaccines confer better protection in commercial broilers vaccination programs.

Keywords: Broilers, Genotype-matched vaccine, Genotype VII, Newcastle disease virus

[Full text- [PDF](#)] [[XML](#)] [[Crossref Metadata](#)]



Citation: Kongpechr S, Sohsuebgarm D and Sukon P (2019). Model Estimation for Longitudinal Bone Growth Based on Age in Male and Female Commercial Broiler Chickens. *J. World Poult. Res.*, 9 (3):124-132.

Research Paper

Model Estimation for Longitudinal Bone Growth Based on Age in Male and Female Commercial Broiler Chickens.

Kongpechr S, Sohsuebgarm D and Sukon P.

J. World Poult. Res. 9(3): 124-132, 2019; pii: S2322455X1900016-9

DOI: <https://dx.doi.org/10.36380/jwpr.2019.15>

ABSTRACT:

Longitudinal bone growth is essential to support rapid body growth in commercial broiler chickens. The present study aimed to determine which simple mathematic model is best

suitable for explaining the absolute and the relative bone growth in length (expressed as a ratio of bone length to body weight) as a function of age in male and female commercial broiler chickens over the first 35 days of age. A total of 1,800 broiler chickens (900 males and 900 females) of Cobb 500, Ross 308, and Arbor Acres raised in standard commercial broiler houses were randomly selected for this study. Body weight and the lengths of backbones, third toe, shank bone, and keel bone were individually measured in all chickens at 1, 7, 14, 21, 28, and 35 days of age. Regression analysis (with 4 simple mathematical models including linear, logarithmic, inverse, and exponential) was used to find a suitable model for estimating the absolute and the relative bone growth in length. In addition, an adjusted R2 was used to assess the model fitting. The results indicated that the absolute bone growth in length linearly increased with age. The adjusted R2 values for the linear model were 0.973, 0.937, 0.950, and 0.974 for the lengths of the backbones, third toe, shank bone, and keel bone, respectively. However, the relative bone growth in length logarithmically decreased with age. The adjusted R2 values of the logarithmic model were 0.971, 0.952, 0.957, and 0.905 for the relative length of the backbones, third toe, shank bone, and keel bone, respectively. The present investigation suggests that a linear model is a suitable model for estimating the absolute bone growth in length, but a logarithmic model is a proper model for estimating the relative bone growth in length of commercial broiler chickens.

Keywords: Age, Bone growth, Broiler chickens, Mathematical model, Regression

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Comparison and the correlation between mean of protection and ELISA titer afforded by single and booster fowl cholera vaccination

Results	No of tested batches	Single dose vaccination				Booster dose vaccination			
		Protection Mean	ELISA Mean Titer		Protection Mean	ELISA Mean Titer			
			Kit 1	Kit 2		Kit 1	Kit 2		
Satisfactory	32	43.7	309	843	76.2	387	1053		
Unsatisfactory	5	29	194	495	50	242	619		



Citation: Salama SS, Gadallah FM, Gamal Abo-Elkhir FE-Z, Khedr AA and Ali MA (2019). Uses of Single Dose Dependent and Relative Potency Assays for Evaluation of Inactivated Fowl Cholera Vaccine. *J. World Poultry Res.*, 9 (3): 133-138. <http://jwpr.science-line.com/>

Research Paper

Uses of Single Dose Dependent and Relative Potency Assays for Evaluation of Inactivated Fowl Cholera Vaccine.

Salama SS, Gadallah FM, Gamal Abo-Elkhir FE-Z, Khedr AA and Ali MA.

J. World Poult. Res. 9(3): 133-138, 2019; pii: S2322455X1900017-9

DOI: <https://dx.doi.org/10.36380/jwpr.2019.16>

ABSTRACT:

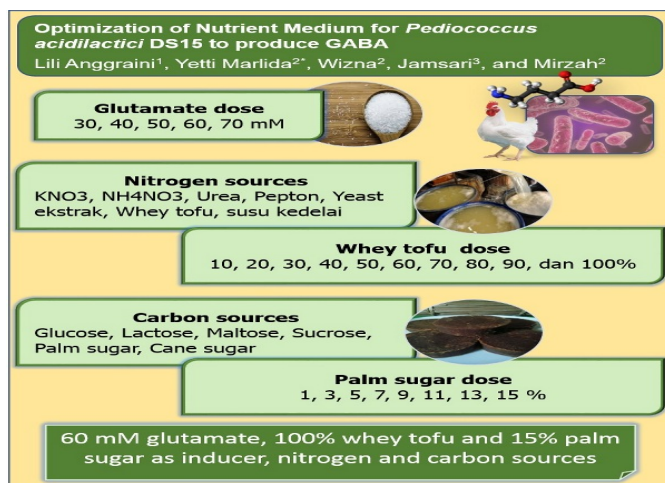
Fowl cholera is a septicemic respiratory complex caused by *Pasteurella multocida*, widely distributed in poultry and other avian species and of major economic importance. A total of 37 different inactivated

Pasteurella multocida

vaccines from different sources either locally prepared or imported from different sources were comparatively tested for relative potency following both single dose and booster dose vaccination assays. The study objective was to minimize the time factor exhausted in the evaluation processes of the inactivated fowl cholera vaccines. So it is planned to compare between single and booster dose vaccinations and their related potency. Correlation between protection associated with the single dose and booster dose vaccination were evaluated and average requirement for protection was 43.7% in single dose vaccination assay compared to 76.2 % associated with booster dose vaccination assay. In the same concern, the correlation between both assays for the seroconversion was estimated using ELISA and the minimum requirement was 1.8× cut off value in the single dose vaccination assay compared to 2.25× cut off value in the booster dose vaccination assay. In conclusion, single dose vaccination assay could be valuable in the evaluation of inactivated fowl cholera vaccines through determination of protection indices and/or estimation of humoral immune response if the above mentioned data is considered.

Keywords: Challenge and chicken, ELISA, Inactivated vaccine, *Pasteurella multocida*, Single dose

[Full text- [PDF](#)] [XML] [[Crossref Metadata](#)]



Research Paper

Optimization of Nutrient Medium for *Pediococcus acidilactici* DS15 to Produce GABA.

Anggraini L, Marlida Y, Wizna W, Jamsari J and Mirzah M.

J. World Poult. Res. 9(3): 139-146, 2019; pii: S2322455X1900018-9

DOI: <https://dx.doi.org/10.36380/jwpr.2019.17>

ABSTRACT:

Nutrition is an essential factor for microorganisms to grow and survive. Carbon and nitrogen sources are used in producing primary and secondary metabolites. Gamma-Aminobutyric acid (GABA), a non-coded amino acid, is a secondary metabolite which acts as an inhibitory neurotransmitter of the central nervous system. *Pediococcus acidilactici* DS15 is a bacterium belonging to the order of Lactic Acid Bacteria. This study aimed to determine the effects of nutrients including glutamate, nitrogen and carbon sources on GABA production by *Pediococcus acidilactici*

DS15. The tests were carried out using a range of 30 mM, 40 mM, 50 mM, 60 mM, and 70 mM glutamate as inducer and carbon sources in the form of peptone, yeast extract, skim milk, NH

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, whey tofu and soy milk as nitrogen sources, and then glucose, lactose, maltosa, sucrose, palm, and cane sugar as carbon sources. The best sources of both will be tested with levels 10, 20, 30, 40, 50, 60, 70, 80, 90 and 100% for nitrogen and 1, 3, 5, 7, 9, 11, 13 and 15% for carbon. The results of this investigation revealed that the addition of 60 mM glutamate caused the higher amount of GABA production and the best source of nitrogen and carbon for

Pediococcus acidilactici

DS15 were 100% whey tofu and 15% palm sugar, respectively. Production rate of GABA by *Pediococcus acidilactici*

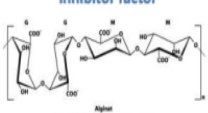
DS15 could reach up to 311,485 mg / L.

Keywords: Carbon, GABA, Glutamate, Nitrogen, *Pediococcus acidilactici* DS15

[Full text- [PDF](#)] [XML] [[Crossref Metadata](#)]


Fermentation of *Sargassum binderi* Seaweed for Lowering Alginate Content for Feed of Laying Hens

Inhibitor factor




Alginate 35,57

Biological fermentation with *Bacillus megaterium* S245



Sargassum binderi




Nutrient content of *Sargassum binderi*

Crack protein	6,56 %
Crack lipid	1,04 %
Crack fiber	1,76 %
Energy metabolizable	1025,524
Ca	0,73
P	0,29 %

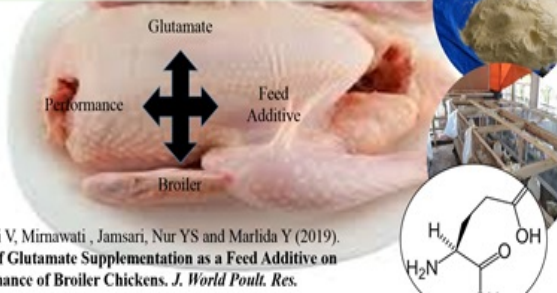
Function

Bi o active compound	Function
Alginate	Reduce cholesterol and lipid of meat in broiler (Mahata et al., 2013) Reduce blood serum cholesterol (Suzuki et al., 1995; Niu et al., 1994; Wilgaitis, 2001; Aritawan, 2005) Increase HDL (Bae et al., 1994; Hong et al., 1995) Reduce level of glucose (Wikarta et al., 2002 dan 2003)
Fucoidan	Reduce cholesterol (Yuan, 2008 dan Casca, 2009)
Fucoxanthin	Decrease cholesterol in yolk egg and triglycerida in blood plasma (Al-Harthi dan El-Cheik, 2012)
PUFA	Decrease cholesterol and increase HDL level in blood (Wahid dan Borjak, 2009) Modification of fatty acid composition on egg (Walsh



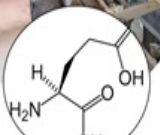
Effect of Glutamate Supplementation as a Feed Additive on Performance of Broiler Chickens

Glutamate



Performance ↔ Feed Additive

Broiler



Maslami V, Mirawati, Jamsari, Nur YS and Marlida Y (2019). Effect of Glutamate Supplementation as a Feed Additive on Performance of Broiler Chickens. *J. World Poult. Res.*