

Economic evaluation of broiler supplemented with fermented Mansanitas (*Muntingia calabura*) leaves



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INTRODUCTION

- ❖ Plant extracts have been widely used as alternative for synthetic antibiotic growth promoters and have been found cost-efficient (Paul et al, 2020)
- Muntingia calabura Linn as indigenous plant specie in Southeast Asia like Indonesia, Malaysia and the Philippines (Mahmood et al, 2014) contains antibacterial (Sibi et al, 2012) and antioxidant properties (Mardikasari et al, 2020) which can be potential source natural growth promoter.
- Fermented plant leaves as natural growth promoters have recently gaining popularity (Sugiharto, 2021)
- Cost-efficiency in broiler production has been the primary objective.
- ❖ Thus, this study was carried out to provide economic analysis of broiler supplemented with Fermented Muntingia calabura leaves.

MATERIALS AND METHODS

The Experiment

- Conducted from October to November 2019 at Camiguin Polytechnic State College, Catarman, Camiguin, Philippines
- Employed Completely Randomized Design (CRD)
- 60 day-old chicks
- ❖ 4 treatments x 3 replications x 5 chicks per treatment

Table 1. Treatments employed to broiler diet

T1 Control (1.5 g Antibiotic/ L of water)

T2 10 mL FML/ L of water

T3 20 mL FML/ L of water

T4 30 mL FML/ L of water

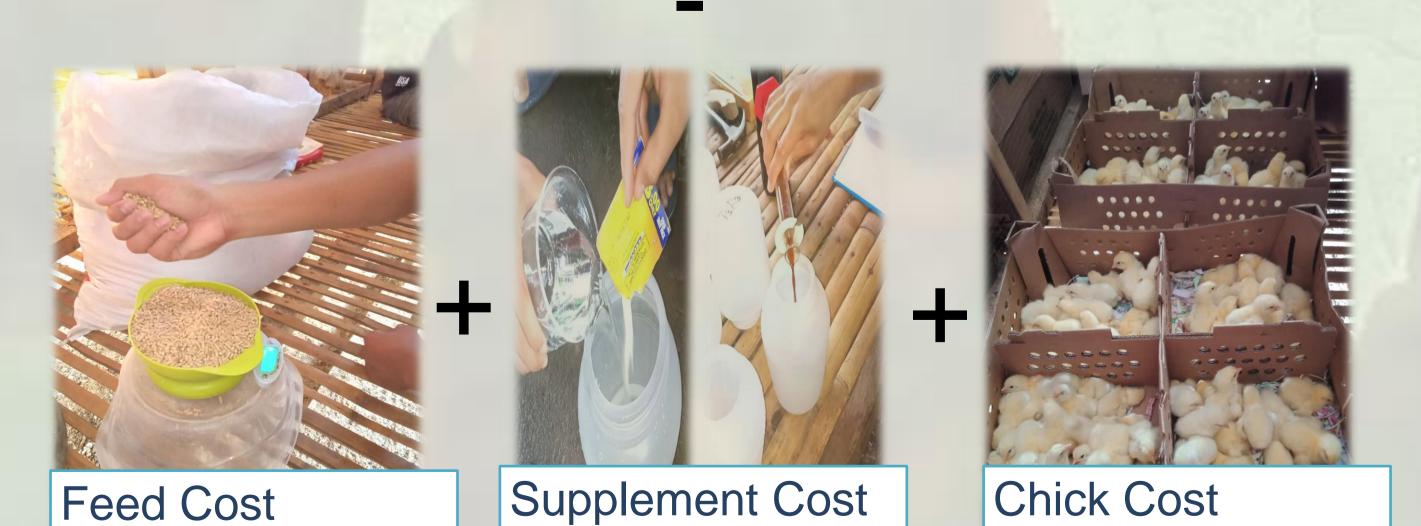
Calculation of Gross margin per unit

GM/unit = TR - TOC

TR/ unit = Sales of dressed chicken/ unit
TOC/ unit = Cost of Feeds, Supplement and Chick/ unit
where: GM/ unit – Gross Margin per unit; TR – Total
Revenue; TOC – Total Operating Cost

GROSS MARGIN





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RESULTS AND DISCUSSION

Supplement Cost

❖ Findings revealed that chicks on T2, T3 and T4 supplement of Fermented *M. calabura* leaves (FML) had similar supplement cost but significantly (p>0.01) lower supplement cost than those of the control (T1).

Gross Margin per unit

- Results showed that chicks on T2 and T3 supplement of FML leaves had similar gross margin per unit but significantly (p>0.01) higher than T4 and control (T1).
- ❖ The benefit of FML supplement outweighs extra cost in supplement cost as it yielded higher gross margin as compared to the control. This extra cost can be associated with improved cost/benefit ratio(Esam Shanin et al, 2020).

Table 2. Economic evaluation of treatments employed

Economic Indicators	Treatments				F-test	cv (%)
	T1	T2	T3	T4		
Total Revenue (PhP)	181	194	193	182	ns	4.6
Feed Cost (PhP)	78.3	77.7	77	73.8	ns	4.0
Supplement Cost (PhP)	15 ^b	11.4 ^a	11.3 ^a	11.8 ^a	***	15
Chick Cost (PhP)	35	35	35	35	ns	0
Gross Margin/ unit (PhP)	52.3 ^a	69.3 ^b	70 ^b	61.7ab	***	13.4

^{*** - (}p>0.01)

CONCLUSIONS

- ❖ The current study provided surprising results of fermented M. calabura leaves (FML) in terms of supplement cost and gross margin per unit.
- It is concluded that 20 mL of FML as supplement yields best results in supplement costs and gross margin per unit parameters.
- This suggests a good and cheaper alternative of antibiotic in broiler diet. Hence, this supplement can be economical to use for broiler growers.

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ns – not significant

cv (%) – coefficient of variation PhP – Philippine peso