

# The Value of Quail Day Production, Income Over Feed Cost and Break Even Point of Mrs. Anami's Quail Business During the Covid-19 Pandemic

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## ABSTRACT

This study aims to determine the value of Quail Day Production (QDP), Income Over Feed Cost (IOFC), and Break-Even Point (BEP) of Mrs. Anami's Quail Business During the Covid-19 Pandemic. The material used in this study was 2,800 female quails aged 4-14 months. The method used is a survey with data obtained from interviews with farmers and documentation. The data obtained were analyzed descriptively. The variables observed were the values of QDP, IOFC, and BEP for 5 months of maintenance (November 2020 to March 2021). The results showed that the average QDP value was 62.20%, the IOFC average was Rp. 2,686,400, and reached a production BEP of 2,289 Kg with an egg price of Rp. 20,053/Kg. Based on the results of the study, it can be concluded that QDP and IOFC on Mrs. Anami's quail farm are still in standard conditions and can reach the BEP value during the Covid-19 pandemic.

**Keywords:** egg production rate, income over feed cost, the break-even point

## 1. INTRODUCTION

Quail is one type of laying poultry that has the potential to be developed. This bird is well known by the people of Indonesia. The size of the quail is relatively small, cannot fly, and has short legs. This bird is used for its meat and eggs. Quail in a year can produce approximately 250-300 eggs [1]. Eggs produced by quail have a very high nutritional value, so the price is also competitive with the price of other poultry eggs. The feed needed by a quail is also relatively small, which is 20 g/day so it benefits farmers in terms of the need for feed.

Quail business has the potential to be developed in Indonesia because it is relatively easy to maintain, does not require a large area of land, has relatively stable egg prices, and can be a source of additional income. Apart from selling their meat and eggs, solid waste from quail farming can also generate income for farmers. Quail is the second-largest egg-producing poultry species after laying hens. These small birds start laying eggs at the

age of 45 days and will continue to lay eggs for about 18 months [2]. At the age of about six weeks, the quail begins to produce, the capital used is not too large, the maintenance method is easy and does not require a large area of land. Quail livestock has several advantages like other poultry, including quail meat which has a protein content of 13.1% then a fat content of 11.1% so it can be said to be better than poultry such as laying hens and ducks [3].

At the beginning of 2020, Indonesia experienced the Covid-19 pandemic which is currently on going. This pandemic affects all aspects including livestock. Some of the things that affect the world of animal husbandry are the increasing price of concentrate feed, egg production that is not high is not matched by the purchasing power of consumers so egg prices are very low. This creates uncertainty and various restrictions resulting in a weakening of the economy which has an impact on household consumption of various products or commodities [4]. This also affects Mrs Anami's livestock business where quail farming is still dependent

on a feed from the factory so that when the price of feed increases it causes a decrease in profits. This incident was not only experienced by Indonesia, but also in poultry farms in other countries such as India which were also affected by the COVID-19 pandemic, namely reduction in demand of different commodities, wastage of the product due to the closure of transport and market chains, distress sale of the produce, and labour shortage and revival strategies taken by the government and associated enterprises [5].

Based on the description above, research is conducted on the amount of production, income over feed cost, and break-even point. The purpose of this study was to determine quail day production, income over feed cost, and the break-even point in Anami's mother's quail farming business during the covid-19 pandemic.

**2. MATERIALS AND METHODS**

This research was conducted on Mrs. Anami's farm in Tegalsari Village, Kepanjen District, Malang Regency. The population of quail is 2.800 with varying ages from 4 months to 14 months. The research method used is a survey. Data were obtained through interviews with farmers using questionnaires and documentation. The variables observed were the value of Quail Day Production (QDP), Income Over Feed Cost (IOFC), and Break-Even Point (BEP) for 5 months of maintenance (November 2020 to March 2021). The data obtained

were analyzed using descriptive analysis.

**3. RESULTS AND DISCUSSION**

**3.1. Quail Day Production**

Quail day production is one way to determine the amount of daily egg production. In table 1 above, it can be seen that the QDP level from November to March has increased. The average quail day production on Mrs Anami's farm for 5 months is 62.20%. The results of this study are not much different from the research conducted by where the daily egg production is 60.35% - 61.07% [6]. Furthermore it is stated that quail in the layer phase had a quail of the production value range of 48.41% - 64.44% [7]. Quail day production was influenced by genetics, age of livestock, and type of feed, temperature, cage density, and stress factors. The ages of the quails on Mrs Anamila's farm vary from the layer phase to approaching rejection. It can also affect the amount of egg production. Quail at the age of 2.5 months produces a quail of production of 72.83% because that age is the peak of quail production [8]. Quail can produce 250-300 eggs in a year with an average weight of 10-15 g per egg [9]. On Mrs Anami's farm, with an average monthly egg production of 104,504 eggs with a QDP of 62.20%, it is still on the standard.

**Table 1.** Quail Day Production for 5 months

Month	Egg Production (egg/month)	QDP (%)
November	45,600	54,29
December	46,560	55.43
January	55,100	65.60
February	57,000	67.86
March	57,000	67.86
<b>Average</b>	<b>104,504</b>	<b>62.20</b>

**Table 2.** Income Over Feed Cost for 5 months

Month	IOFC (Rp.)
November	2,500,800
December	(859,200)
January	3,412,000
February	3,912,000
March	3,912,000

**Table 3.** Break-Even Point

Number of quail (bird)	Egg production for 5 months (Kg)	Average selling price (Rp)	BEP production (Kg)	BEP price (Rp)
2,800	2,740	24,000	2,289	20,053

### 3.2. Income Over Feed Cost

Income over feed cost is a calculation of the income from the cost of the ration which is the income of the livestock business compared to the ration business. The figure obtained is still in the form of gross income because it only considers the cost of feed [10]. The cost of rations is the total cost incurred by farmers to produce livestock products. IOFC is an assessment tool to see how much income can be obtained by farmers against the cost of feed which is the largest cost in the livestock business [11]

Based on table 2 above, the value of IOFC in December suffered a loss of Rp. 859,200 which is because the selling price of eggs is very low at Rp. 19,000/Kg. In quail farming, one of the most important things is the use of complete feed that meets the nutritional needs of quail [12]. Mrs Anami's farm uses 100% commercial feed so that the price of feed cannot be suppressed. The biggest production cost on Mrs Anami's farm is the expenditure on feed purchases of 69.3%. The biggest cost in the livestock business lies in the cost of feed incurred. IOFC experienced an increase in January to March because the selling price of eggs increased compared to December. In December 2020 there are regional restrictions due to the COVID-19 pandemic so access to outside the area is very limited.

### 3.3. Break-Even Point (BEP)

Break-even point is a condition where the company does not experience a loss or profit (break-even). The break-even point is the condition of the sales volume where the total revenue and total expenses are the same; there is no profit or loss [13]. The BEP calculation is used to determine the minimum production limit and selling price on Mrs Anami's quail farm. To determine the value of BEP, it is necessary to know the value of production costs on Mrs Anami's quail farm. Production costs that have been issued by Mrs Anami for 5 months of maintenance are in the costs for feed, labour, electricity & water, medicines & vitamins. In addition, there is also a calculation of depreciation costs for the equipment and cages used by Mrs Anami.

In table 3 above, the BEP value for production is 2.289 Kg with an egg price of Rp. 20,053/Kg. During 5 months of rearing, Mrs Anami has an average selling price of Rp. 24,000/kg with a total egg production of 2,740 Kg. If you look at the BEP figures for products and prices, Mrs Anami's quail farm is profitable. But unfortunately, Mrs Anami sold all her quail and equipment in early April 2021. This was done by Mrs Anami because the price of feed in April experienced a significant increase which made Mrs Anami worried about experiencing losses like in December 2020. This was also experienced by laying hens farmers in the Special Region of Yogyakarta where the impact of the

COVID-19 pandemic is disruption of market absorption, distribution, decreasing egg prices, and increasing feed prices [14]. In addition, Mrs Anami does not have sufficient knowledge to make substitute feed for commercial feed. Each farm has a different amount of production and income in achieving BEP, when the operational costs incurred are greater, the amount of production targeted must also be greater [15]. The government should assist smallholder farmers so that they can continue their livestock business.

## 4. CONCLUSION

Quail Day Production and Income Over Feed Cost on Mrs. Anami's quail farm are still in standard conditions with a Break-Even Point Production value of 2,289 Kg for Rp. 20,053/Kg during the Covid-19 pandemic.

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