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ANALYSIS OF THE USE OF FACTORS OF PRODUCTION IN BROILER COMMERCIAL FINAL STOCK BUSINESS IN THE CONDITIONS OF SEMARANG CITY

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ABSTRACT
One of the poultry commodities that have a very good prospect to be developed is broiler chicken, because it is supported by the characteristics of its products that can be accepted by all circles of Indonesian society. This study aims to analyze the rights and obligations of the parties (independent and partnership) in the implementation of livestock business, the influence of production factors (seedlings, feed, medicine, labor, technology, independent and partnership business patterns, and land area) on production, and the technical efficiency and economic efficiency of the use of production factors in broiler farming in partnership pattern. The research location is in Semarang City. The research method used survey method, purposive sampling with the number of samples determined as many as 100 respondents taken in each sub-district that has a population of independent and partnership broiler farms in Gunung Pati District, Ngaliyan District and Mijen District. Using mixed method analysis, which is a combination of descriptive qualitative analysis methods and quantitative analysis methods with multiple linear regression transformed into the Cobb Douglas model production function. The data used is primary data collected through interviews to broiler farmers as respondents based on questionnaires, while secondary data as supporting research. The results of this study are the rights and obligations of the parties have been implemented and mutually beneficial. Then, for the factors that affect texturally on production results, namely the amount of labor, the amount of feed, the number of chicken seeds, the quantity of drugs and vitamins, and the status of the farming pattern, while the variables of technology and cage areas have no significant effect. Then, economically, all variables have not significantly influenced in increasing production yields in broiler livestock businesses in Semarang City.

KEY WORDS
Production, factors, broiler, chicken, partnership.

The efficiency of poultry farming is very important so that the quality of poultry products can compete in the free market, and efforts must be made, among others, to substitute feed ingredients, improve product quality, increase livestock productivity, develop human resources and form independent cooperatives (Urip Santoso, 2008). One of the poultry commodities that has a very good prospect to be developed is broiler farming because it is supported by the characteristics of its products that can be accepted by all Indonesian people. Poultry business (broiler) in Indonesia has become an industry that has complete components from upstream to downstream sectors where the development of this business makes a real contribution to agricultural development and has strategic value, especially in efforts to fulfill domestic animal protein needs and has a role in utilizing employment opportunities (Yunus, 2009).

According to the Regulation of the Minister of Agriculture of the Republic of Indonesia No. 31 / MOA / OT.140/2/2014, broilers are one of the poultry commodities that have an important role in producing meat to support the availability of animal protein, feathers, and manure that can be used as industrial materials and organic fertilizers. Semarang City is one of the centers of broiler commodity development. In Semarang City, there are several sub-districts that are allowed to breed broiler chickens, which are Gunungpati, Mijen and

Ngaliyan with the current business pattern based on independent pattern and partnership pattern. This is the location where the researcher conducted the study.

METHODS OF RESEARCH

The sample size in this study was determined by purposive sampling, namely 100 farmer respondents. According to Hair (1995), that in multivariate research with maximum likelihood estimation the sample size is five to ten times the indicator variable. The data collected is processed with a mix method, which will be processed qualitatively and quantitatively. to analyze the data from this study using analysis from interviews to analyze the rights and obligations of the partner breeders and the core company. Then to analyze the effect of the use of production factors (Labor (X_1), feed and production (X_2), DOC chicken seeds (X_3), drugs and vitamins (X_4), technology (X_5), business patterns (X_6), and land area (X_7)) on the production of broiler livestock business (Y) will be analyzed using multiple linear regression using SPSS, using the production function approach analysis method, namely the Cobb Douglas production function model, a model commonly used in economic research (Tasman, 2006).

RESULTS AND DISCUSSION

Based on the results of the interview, the author can conclude that there are 3 important factors, namely feed, temperature, and vitamins apart from 4 other factors that influence. Then the implementation of the contract is also a factor outside the dependent factors that affect the production of broiler chickens at each period when harvesting and when marketed. According to Sirajudin's research, the obligations of partner farmers are carrying out cultivation paying sapronak selling production results (Sirajudin, 2015). and for the rights of core breeders, among others: receiving production results (broilers), guaranteeing the quality of production according to the agreement, receiving payment for sales of production products, supervising and monitoring during the cultivation process until the harvest process (Ulfa, 2020). Human resources also affect the welfare of plasma farmers, because good human resources will increase the production of broiler chickens as well, which is certainly followed by the obligation of farmers to humanize their workers.

The results indicate that the analysis of factors affecting broiler production, using SPSS version 16, showed a significance value (2-tailed) of 0.82 for the data processed from 7 variables, indicating that (P>0.05). From all data tested using normality, it shows that the independent and dependent variables with a significance greater than 0.05, which means that the normal distribution has a normal distribution.

Table 1 – Normality Test Results Using the Kolmogoriv-Smirnov Method on broiler livestock business 7 variables

N	One Sample Kolmogorov Smirnov Results (Asymp. Sig. (2-tailed))
100	0,82

Source: Statistic Indonesia, 2024.

To ensure that the residuals are normally distributed, the Normal Probability Plot test should be examined. Where based on the normal probability plot test results, it can be seen that the plotting points contained in the Normal P-P plot of regression Standardized Residual image always follow and approach the dialoginal line, which can be concluded that there is no problem in data normality. According to Priyatno (2009), the normality test with a plot has criteria: If the data spreads around the diagonal line and follows the diagonal direction, the regression model fulfills the assumption of normality and if the data spreads far from the diagonal line or does not follow the diagonal direction, the regression model does not fulfill the assumption of normality.

Then the results of data processing show that there is no multicollinearity problem in X1 and X4, which has a VIF value above 0.01 and below 10.

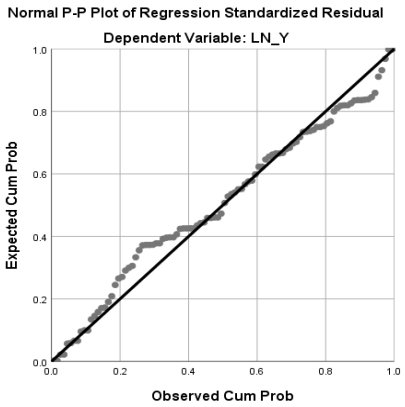

Figure 1 – Normality Testing Using Kolmogorov Smirnov and Normal P-P Plot Graphs
(Source: Statistic Indonesia, 2024)

Table 2 – Multicollinearity Test Results Table

Variable	VIF
LnX1	1.09
LnX2	5.00
LnX3	9.36
LnX4	3.91
LnX5	3.25
LnX6	1.04
LnX7	2.27

Source: Statistic Indonesia, 2024.

The LnX1 variable, namely the amount of labor, produces a VIF value of 1.093. Then LnX2, namely the amount of feed, produces a VIF value of 5.008. LnX3, the amount of medicine and vitamins produces a VIF value of 9.368. LnX4, Technology produces a VIF value of 3.912. LnX5, Business Pattern Status resulted in a VIF value of 3.253. LnX6, Business cage area produces a VIF value of 1.046. LnX7, the size of the business cage produces a VIF value of 2.275.

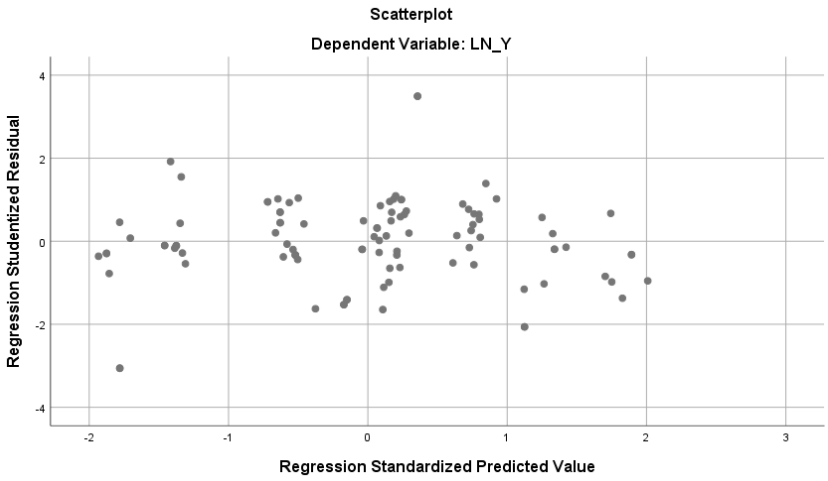

Figure 2 – Normality Testing Using Kolmogorov Smirnov and Normal P-P Plot Graphs
(Source: Statistic Indonesia, 2024)

Based on the results of data processing through the Scatterplot Graph, it is found that the results of data processing show that the points spread randomly both above and below around the number 0, the distribution of data points does not form a wave pattern widening then narrowing and widening small. It can be concluded that there is no heteroscedasticity problem.

Table 3 – Table of Multicollinearity Test Results

Input Variable	Presumptive Value	Standard Error	t-count
Constant (α)	-1,647	0.994	-1,656
Amount of labor (β_1)	0,002	0,133	0,161
Quantity of feed (β_2)	0,282	0,128	2,197**
Quantity of chicken seeds (β_3)	0,875	0,237	3,688**
Amount of medicine and vitamins (β_4)	0,071	0,053	1,340
Technology (β_5)	-0,067	0,076	-0,888
Cultivation pattern status (β_6)	0,007	0,005	1,268
Cage area (β_7)	-0,048	0,002	1,620
Adjusted R^2	0,957		
Siqma Square	0,002	0,002	1,257
Gamma (ɣ)	0,800	0,101	0,787

*Notes: ** significant at α = 0.05 (5%), or >DF = 1.986086.*
Source: Statistic Indonesia, 2024.

The t value of the variable count of feed, number of chicken seedlings is greater than the t table value = 1.98608 so that it has a real effect at the 95% confidence level.

The R2 value is 0.957, which means that the variation of the independent variables included in the equation model can explain the variation of the dependent variable by 95.7 percent. A total of 4.3 percent of the variation in the dependent variable is explained by other variables that are not included in the equation model.

The value of ɣ of the Stochastic Frontier production function in broiler farming is 0.787, which means that 7.87 percent of the error in the production function is due to technical inefficiency, the remaining 92.13 percent is due to random variables that cannot be controlled by farmers. Rita Yunus (2009) said that the use of production factors is not technically efficient due to differences in age levels, land location, and differences in experience levels in the research area.

For the LR results obtained from the stochastic frontier function, which is 3.866, it is greater than the palm code value, which is palm code = 2.736 for 1 error in the degree of error df 95 %. Hypothesis 0 is rejected and H1 is accepted, in this research model there is a case of inefficiency. Gamma value has a significant effect T count 0.787 is smaller than t table which is 1.98608.

Table 4 – ANOVA Analysis Table

Df	99
F	317.435
Sig.	.000[b]

Source: Statistic Indonesia, 2024.

From the results of the Anova analysis, it is found that the calculated F value is 317.435, namely the calculated F value is greater than the F table, which is 2.10. Then the significance value in table 4.18 is 0.00 or smaller than 0.05 so it is concluded that H0 is rejected H1 is accepted or it can be concluded that simultaneously the variable number of labor (x1), the amount of feed (x2), the number of chicken seeds (x3), the area of the cage (x4), the amount of drugs and vitamins (x5), the status of the pattern of exploitation (x6) and the area of the cage (x7) simultaneously has a significant effect on the production of broiler patterns of independent and partnership in Gunung Pati, Ngaliyan and Mijen districts. This can be observed from the significance value and the comparison of the calculated F-value with the F-table. Thus, this study has met the requirements of the coefficient of determination in multiple linear analysis.

The total labor variable has a t-statistic of 0.161 which is smaller than the t-table of 1.98608 so that H0 is accepted and H1 is rejected, which means that the total labor variable has no significant effect on the total production of broiler chickens. The coefficient value of positive 0.161 means that every additional amount of labor will increase the amount of broiler production by 0.161 percent. The results of this study are in line with Wahyuningsih's (2018) research which states that excessive use of labor and inappropriate production methods will

reduce the amount of production. This shows that increasing the use of labor will actually reduce production.

Feed is a factor that has a considerable influence in increasing the production of broiler livestock business, meaning that the more feed, the body weight of chickens will increase so that broiler production will also increase. The feed variable has a t count of 2.197 greater than the t table of 1.98608 so that H0 is rejected and H1 is accepted, which means that the feed variable has a significant effect on the amount of broiler production. The coefficient value of positive 0.282 means that every additional amount of feed will increase the amount of broiler production by 0.282 percent. This condition is strongly influenced by the quality of feed and feed storage. The feed obtained from the core is used for the beginning of raising chickens until the harvest period, so that the storage of feed must be in the right place so as not to reduce the quality of feed which will have an impact on chicken growth, relatively high temperature and humidity and greatly affect the durability of feed and accelerate the process of rancidity, thereby ultimately reducing the nutrition of feed. This is in line with some of the results of Fadilah's research (2006). The construction of a feed warehouse is important in livestock business because with a good storage place, the quality of feed can be maintained. Mulyantini (2010) livestock growth is determined by the quantity and quality of feed. Dira et al (2017) suggested that feed has a real and positive effect on production. Weight gain is also an interaction between genetic potential and environmental factors. If everything interacts well, then the growth of livestock raised will be optimal.

DOC or Seeds is a production factor that also has an influence in the production of broiler livestock. Hypothetically, the DOC variable coefficient is positive, meaning that the more DOC increases, the more broiler production will increase. The DOC chicken seed variable has a t count of 3.688 greater than the t table of 1.98608 so that H0 is rejected and H1 is accepted, which means that the feed variable has a real effect on the amount of broiler production. The coefficient value of positive 0.875 means that every additional amount of labor will increase the amount of broiler production by 0.875 percent. This means that the more seeds used, the broiler production output is expected to increase as well. This is in line with the research of Pakage et al. (2014) states that the number of DOC is the most influential factor on broiler production and this is also in line with the research of Dira et, al (2017) that DOC or seeds are variables that greatly affect the production of broiler livestock businesses.

The DOC drugs and vitamins variable has a t-statistic of 1.340 which is smaller than the t-table of 1.98608 so that H0 is accepted and H1 is rejected, which means that the drugs and vitamins variable has no significant effect on the amount of broiler production. The coefficient value of positive 0.071 means that every additional amount of labor will increase the amount of broiler production by 0.071 percent. Basically, vaccines are only used as disease prevention at the beginning of their growth period, but if vaccines are not carried out and chickens have been infected and spread, it will cause mass deaths while drugs are given when there are signs of disease in broiler livestock. There are several factors that cause treatment failure, namely: (1). wrong diagnosis, (2). wrong drug selection, (3). improper dosage and application, (4). insensitive bacteria due to resistance, (5). poor feed quality and management.

The technology variable has a t-statistic of -0.0888 which is smaller than the t-table of 1.98608 so that H0 is accepted and H1 is rejected, which means that the technology variable has no significant effect on the amount of broiler production. The coefficient value of negative -0.067 means that every additional amount of labor will reduce the amount of broiler production by 0.067 percent.

The function of technology is used as lighting and warming the body of broilers at night when the air is cold and also the dynamo drive for water. Technology requires electricity as well as one of the supports for increasing the productivity of livestock businesses, the amount of costs depends on monthly usage.

The broiler farming pattern status variable has a t-statistic of 1.268 which is smaller than the t-table of 1.98608 so that H0 is accepted and H1 is rejected, which means that the drugs and vitamins variable has no significant effect on the amount of broiler production. The

coefficient value of positive 0.007 means that every additional amount of labor, will increase the amount of broiler production by 0.007 percent. Basically, in chicken farming which is divided into two patterns, namely independent and partnership patterns, it definitely requires a cage environment with adequate equipment and air ventilation. The density of partnership pattern cages is generally in the range of 7-9 chickens with an average harvest age of 36-37 days. According to Mulyantini (2011), in cages with a good environment with air ventilation and cooling, density can be increased.

The variable status of cage area/land area in this study has a t count of 1.620 smaller than the t table of 1.98608 so that H0 is accepted and H1 is rejected, which means that the variable of cage area has no significant effect on the amount of broiler production. The coefficient value of negative -0.048 means that every additional cage area will reduce the amount of broiler production by 0.048 percent. Abdulrahman et al (2018) stated that land area has a significant effect on broiler production. This means that the level of cage area has exceeded the optimum use. The use of cage area will achieve efficiency if it reduces the allocation of production factors of cage area or increases the volume of DOC production.

Table 5 – Table of Production Efficiency (EP) values in partnership broiler farming in Mijen, Gunung Pati and Ngaliyan districts

Input Variable	Regression Coefficient	Note
Amount of labor (X_1)	0,002**	Efficient
Quantity of feed (X_2)	0,282**	Efficient
Quantity of chicken seeds (X_3)	0,875**	Efficient
Amount of medicine and vitamins (X_4)	0,071**	Efficient
Technology (X_5)	-0,067	Not Efficient
Cultivation pattern status (X_6)	0,007**	Efficient
Cage area (X_7)	-0,048	Not Efficient

Source: Statistic Indonesia, 2024.

Technical efficiency measures the production output that can be achieved from a certain set of inputs. The amount of production explains the state of technical knowledge and fixed models controlled by producers (Nugroho, 2015).

The elasticity value of the production factor of labor is at a value of 0.002, indicating that the use of feed production factors has been at the rational stage or reached technical efficiency. The production elasticity value of 0.002 indicates that if feed is increased by 1 percent under ceteris paribus conditions, production will increase by 0.002 percent. The positive EP value of more than one indicates that the Marginal Product (MP) is greater than the Average Product (AP). With the results of this study, it can be said that an increase in the number of labor inputs will increase the acceptance of breeders' production.

The elasticity value of the production factor of feed amount is at a value of 0.282, indicating that the use of feed production factors is at the rational stage. The production elasticity value of 0.282 indicates that if feed is increased by 1 percent under ceteris paribus conditions, production will increase by 0.282 percent. The positive EP value of more than one indicates that the Marginal Product (MP) is greater than the Average Product (AP). With the results of this study it can be said that an increase in the amount of feed input will increase the acceptance of farmers' production.

The elasticity value of the production factor of feed amount is at a value of 0.282, indicating that the use of feed production factors is at the rational stage. The production elasticity value of 0.282 indicates that if feed is increased by 1 percent under ceteris paribus conditions, production will increase by 0.282 percent. The positive EP value of more than one indicates that the Marginal Product (MP) is greater than the Average Product (AP). With the results of this study it can be said that an increase in the amount of feed input will increase the acceptance of farmers' production.

The elasticity value of the production factor of the number of DOC chicken seeds is at a value of 0.875, indicating that the use of feed production factors is at the rational stage. The production elasticity value of 0.875 indicates that if feed is increased by 1 percent under ceteris paribus conditions, production will increase by 0.875 percent. The positive EP value

of more than one indicates that the Marginal Product (MP) is greater than the Average Product (AP). With the results of this study, it can be said that increasing the input of the number of bibita yam DOC will increase the acceptance of farmers' production.

The elasticity value of the production factor of the quantity of drugs and vitamins / OVK is at zero and one value of 0.071, indicating that the use of production factors of drugs and vitamins is at the rational stage. The production elasticity value of 0.071 indicates that if OVK is increased by 1 percent under ceteris paribus conditions, production will increase by 0.071 percent. The positive value of EP is less than one indicating that the Marginal Product (MP) is smaller than the Average Product (AP) so it is concluded that production activities are at a rational stage. Increased production can still be obtained through increased use of OVK inputs, although the increase in production has a smaller proportion than the increase in the use of OVK inputs. An increase in OVK input will increase farmer revenue.

The elasticity value of technology production factor is at a negative value of -0.067, indicating that the use of labor production factor is at the irrational stage. The production elasticity value of -0.067 indicates that if the amount of technology is increased by 1 percent, the production will decrease by 0.067 percent. A negative EP value of less than one indicates that the Marginal Product (MP) is smaller than the Average Product (AP). The use of labor input production factors is in a negative return condition so it is concluded that production activities are in the irrational stage. Where in this study there can be quite a lot of technology which is supported by the results of the study that it turns out that the addition of the amount of technology will reduce the amount of production, so that production activities are in the irrational stage.

The elasticity value of production factors of the independent/partnership pattern status is at a value of 0.07, indicating that the use of feed production factors is at the rational stage. The production elasticity value of 0.07 indicates that if the status of the independent/partnership pattern is increased by 1 percent under ceteris paribus conditions, production will increase by 0.07 percent. The positive EP value of more than one indicates that the Marginal Product (MP) is greater than the Average Product (AP). With the results of this study it can be said that the better the pattern used in the production of broiler chickens both independently and in partnership will increase the acceptance of farmers' production.

The elasticity value of the production factor of cage area is at a negative value of -0.048, indicating that the use of labor production factor is at the irrational stage. The production elasticity value of -0.048 indicates that if the cage area is increased by 1 percent, the production will decrease by 0.048 percent. A negative EP value of less than one indicates that the Marginal Product (MP) is smaller than the Average Product (AP). The use of labor input production factors is in a negative return condition so it is concluded that production activities are in the irrational stage. Where in this study there can be quite a lot of cage area which is supported by the results of the study that it turns out that the increase in the amount of cage area will reduce the amount of production, so that production activities are in the irrational stage.

Table 6 – Table Description of Absolute Technical Efficiency Achievements of Broiler Chicken Farming for Each Respondent in Gunung Pati, Ngaliyan, and Mijen Districts Based on the Frontier Function Model

No	Description	Achievement Value
1	Minimum technical efficiency	0.872
2	Maximum technical efficiency	0.991
3	Average technical efficiency	0.984
4	Significance of one sample t test	0,000

Source: Statistic Indonesia, 2024.

Based on the data that has been processed, the data is normally distributed with the significance value of the Shapiro-wilk normality test which is more than 0.05, namely with a value of 0.73. Then through the one sample t test is done by comparing the average value of technical efficiency of broiler livestock businesses in Gunung Pati, Ngaliyan and Mijen districts against the value of technical efficiency of 1. The results of the one sample t test with

a significance value of 0.000 or smaller than 0.05 which means that it has a real effect with the value of technical efficiency equal to one at a confidence level of 95 percent so it is concluded that broiler livestock businesses in Gunung Pati, Ngaliyan and Mijen districts are not technically efficient.

The use of production factors of the amount of feed and the quantity of drugs and vitamins has reached the level of efficiency in relative terms, but has not yet reached absolute technical efficiency. Farmers can still increase the value of technical efficiency to reach 100 percent by adding production factor inputs that are at a rational level. This condition is supported by the scale of business with increasing return to scale conditions, which means that the addition of the use of production inputs can provide additional output with a greater proportion.

Table 7 – Calculation of the economic efficiency of the use of factors of production in broiler farming in Gunung Pati, Ngaliyan and Mijen districts

Production factor Coefficient	Regression coefficient	Input Average	Marginal Product (PMxi)	Price Marginal Product value NPMxi	Price Input Pxi	NPMxi/Pxi
X_1	0,002	962,94	1,92588	0,0000975231	100000	0,000000000975231
X_2	0,282	68878,35	19423,6947	0,54808564	8897,27	0,0000616016
X_3	0,875	22575	19753,125	1,000262559	7501	0,000133351
X_4	0,071	48514,08	3444,49968	0,17442324	523,25	0,000333346
X_5	-0,067	235,03	-15,74701	-0,0007974	1352	-0,000000589793
X_6	0,007	232	1,624	0,0000822364	360000	0,000000000228435
X_7	-0,048	1366,71	-65,60208	-0,003321971	727,34	-0,00000456729
Average	-1,647	35439,16	-58368,29652	-2,955665073	19747,94	-0,00014967
Livestock price Py = 19.747,94						

Source: Statistic Indonesia, 2024.

Table 8 – One Sample t Test Results of NPMx/Px Ratio Value, Broiler Cattle Business Partnership Pattern against NPMx/Px Ratio Value=1

Production Factor	Average NPMxi/ Pxi	Std error average	Significance
X1	0,000000000975231	0,005	0,000
X2	0,0000616016	0,208	0,000
X3	0,000133351	0,160	0,000
X4	0,000333346	0,121	0,000
X5	-0,000000589793	0,201	0,000
X6	0,000000000228435	0,760	0,000
X7	-0,00000456729	0,214	0,000

Source: Statistic Indonesia, 2024.

Testing through one sample t test to compare the average value of economic efficiency of labor production factor against the average value equal to one. The significance value of labor is obtained at 0.000 or smaller than 0.05 so it is concluded that the value of labor efficiency is not equal to one at the 95 percent confidence level. The ratio value of NPMx and input price of labor production factor is 0.000000000975231 or smaller than one which means that the use of labor production factor is not economically efficient. Economic efficiency is achieved when the amount of the Marginal Product Value of the labor production factor is equal to the amount of the labor input price. Farmers can achieve the level of economic efficiency through efforts to reduce the use of labor 962.94 /period at the price level of HOK Rp 100,000 or by improving labor by minimizing working hours or reducing labor.

Testing through a one sample t test to compare the average value of the economic efficiency of the production factor of the amount of feed against the average value equal to one. The significance value of feed is obtained at 0.000 or smaller than 0.05 so it is concluded that the value of feed efficiency is not equal to one at the 95 percent confidence level.

The NPM ratio of the production factor of the amount of feed to the kilogram purchase price is smaller than one (1), which is 0.0000616016. This means that economically the feed

production factor at the level of Rp. 8,897.27 kg per maintenance period is relatively economically inefficient, it is necessary to reduce the production of the amount of feed to maximize profits, this is in line with the research of Asri Yunus (2009) economic efficiency on inefficient feed is usually due to the optimum limit of feeding on the amount of feed.

Testing through one sample t test to compare the average value of economic efficiency of production factors of DOC chicken bibita against the average value equal to one. The significance value of DOC is 0.000 or smaller than 0.05, so it is concluded that the efficiency value of DOC is not equal to one at the 95 percent confidence level. The ratio value of NPMx and the price of DOC production factor inputs is 0.000133351 or smaller than one, which means that the use of DOC production factors has not yet reached economic efficiency. The NPMx of DOC inputs is still greater than the input price (Px), indicating that there is still profit from the use of DOC variables and the low price of DOC inputs used in livestock business. Farmers can still increase DOC to reach the economic efficiency level. The increase in DOC will minimize the ratio of Marginal Product Value and DOC input price so that the level of economic efficiency will increase. Economic efficiency is achieved when the marginal product value of the production factor DOC is equal to the price of DOC inputs. Farmers can reach the level of economic efficiency through efforts to increase the use of DOC 22575 heads at the DOC unit price level of Rp 7501 or by improving DOC by selecting seeds with the type of strain and maximum body weight.

Testing through one sample t test to compare the average value of economic efficiency of OVK production factors against the average value equal to one. The significance value of OVK is obtained at 0.000 or smaller than 0.05 so it is concluded that the efficiency value of OVK is not equal to one at the 95 percent confidence level. The value of the ratio of NPMx and the price of OVK production factor inputs is 0.000333346 or greater than one, which means that the use of OVK production factors has not yet reached economic efficiency. The NPMx value of OVK inputs is still greater than the input price (Px), indicating that there is still profit from the use of the OVK production sector. Farmers can still increase OVK to reach the level of economic efficiency. The addition of OVK input worth IDR 523.25 per/gram will provide additional revenue of IDR 0.174 per/gram for an average DOC of 22575 heads. This means that the OVK production factor still needs to be added economically.

Testing through one sample t test to compare the average value of economic efficiency of electricity production factors against the average value equal to one. The significance value of electricity is obtained at 0.000 or smaller than 0.05 so it is concluded that the value of electricity efficiency is not equal to one at the 95 percent confidence level. The value of the ratio of NPMx and the input price of the electricity production factor is -0.000000589793 or smaller than one, which means that the use of electricity production factors is not economically efficient. this means that economically the allocation of electricity production factors at the level of Rp. 1352 / period is relatively inefficient because the use of electricity exceeds the optimum usage level. thus efforts to increase the production of broiler breeders in the research location can be done by reducing the allocation of electricity use.

Testing through one sample t test to compare the average value of economic efficiency of production factors of business pattern to the average value equal to one. The significance value of electricity is obtained at 0.000 or smaller than 0.05 so it is concluded that the value of electricity efficiency is not equal to one at the 95 percent confidence level. The value of the ratio of NPMx and the input price of electricity production factors is 0.000000000228435 or smaller than one, which means that the use of electricity production factors is not economically efficient. This means that economically the allocation of partnership fees per period of Rp 360,000 per period is relatively inefficient to increase the production of broiler breeders.

Testing through a one sample t test to compare the average value of economic efficiency of the production factor of cage area to the average value equal to one. The significance value of the cage area was obtained at 0.000 or smaller than 0.05 so it was concluded that the efficiency value of the cage area was not equal to one at the 95 percent confidence level. The ratio value of NPMx and the input price of the production factor of the cage area is -0.00000456729 or smaller than one, which means that the use of the

production factor of the cage area is not economically efficient. This means that the level of cage area has exceeded the optimum use. The use of cage area will achieve efficiency if you reduce the allocation of production factors of cage area or increase the volume of DOC production.

CONCLUSION AND SUGGESTIONS

The results of interviews with researchers of business actors, found that, business actors in managing independent and partnership broiler farms in Gunung Pati, Ngaliyan and Mijen districts have carried out rights and obligations to the maximum extent and significantly to the production results. Where both parties carry out the rights and obligations according to the agreement that has been made, such as the management of DOC seeds, the preparation or provision of cages, the right and obligation to pay for inputs, the provision of quality drugs and vitamins, the means of supplying DOC, feeding and periodic mutual control that guarantees the quality of production in accordance with the agreement between the core and partners in the partnership business pattern. Similarly, the independent pattern, even without the intervention of any party, can carry out the management of processing properly so that production results are good and continue to increase. The variable factors that significantly affect production are the amount of labor, the amount of feed, the number of chicken seedlings, the quantity of drugs and vitamins, and the status of the business pattern.

While the variables of technology and cage area does not have a real effect. On average, the level of technical efficiency achieved by broiler farming in partnership pattern is quite high but efficient and it is still possible to increase the input variables to get optimal results. However, in economic efficiency, that all variables (seeds, feed, drugs, labor, technology, independent & partnership business patterns, and land area) have not had an economic and optimal effect in increasing broiler production.

In order to increase broiler production in independent and partnership patterns in Gunung Pati, Ngaliyan and Mijen districts, it is necessary to improve labor management and selection of quality drugs and vitamins so that production results can increase in the future. Then there are several things that need to be improved in addition to labor maintenance management, namely also the selection of drugs and vitamins.

The business entities and partners should receive technical guidance in alignment with the core obligations of the partnership, including aspects such as cage management, resource management, and the provision of higher quality drugs and vitamins to prevent chicken diseases. to achieve economic efficiency and optimal profit, it is essential to consider all production factors, including the amount of labor, feed, chicken seedlings, drugs and vitamins, farming patterns, technology, and cage area, which should be improved in accordance with existing literature.

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