# MANAGEMENT OF SOCIALIZATION OF ARTIFICIAL INSEMINATION (AI) FOR INCREASING COMMUNITY UNDERSTANDING IN PAKIJANGAN, WONOREJO, PASURUAN DISTRICT

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**Abstract:** The change in the paradigm of thinking from traditional to modern has changed people's way of life, especially those who make a living as breeders. Therefore, there is a need for research on Efforts to Increase Community Understanding of Adopting Artificial Insemination (AI) in Cattle in Pakijangan, Wonorejo, Pasuruan. This research was conducted in Pakijangan, Wonorejo, Pasuruan. The selection of research locations was deliberately considering the community's activeness in participating in various artificial insemination activities. The research began in August 2021. The data collection method used in this study included observation, documentation, and interviews with a questionnaire instrument with Slovin sampling of 92 respondents. Data analysis includes descriptive analysis and multiple linear regression analysis. The results showed that the role of the inseminator had a positive and significant impact on people's understanding of AI. Variable levels of education, work experience, access to information, the role of the inseminator, and technology guidance influence people's understanding of artificial insemination (AI). Management of Artificial Insemination to increase public understanding involves all parties, namely the inseminator and the community.

**Keywords:** Artificial insemination, breeder, and society understanding

## 1. Introduction

The change in the paradigm of thinking from traditional to modern has changed people's way of life, especially those who make a living as breeders. It is indicated by the adoption of artificial insemination (AI) technology in improving the genetic quality of livestock. According to Sayuti et al. (2011), AI technology used for genetic quality improvement programs, especially in large ruminants (cows and buffaloes), is a superior technology that will still be used in efforts to increase productivity. AI technology is the answer to procuring superior seeds and distribution at low cost, fast, and easy, in addition to increasing farmers' income. The use of AI technology in animal husbandry is supported by Sumadiasa et al. (2009), which state that the community accepts AI technology on considerations of economic value. Therefore, to realize and implement AI must be supported by adequate understanding from cattle breeders. Because most breeders in Indonesia are conventional, the adoption of technology such as artificial insemination still needs to grow. According to Hastuti (2008), artificial insemination is a method of increasing the biological productivity of local Indonesian livestock through breeding technology, the results of which are relatively fast and with good quality.

Artificial insemination or injecting mating is a method or technique for inserting thawed and pre-processed sperm or semen from male livestock into the female genital tract using a special method and tool called an insemination gun (Jurame et al. al., 2018). The human factor largely determines the success of artificial insemination. It is because the success rate of artificial insemination is largely determined by several things, including the selection of acceptor cattle, semen quality testing, the accuracy of lust detection by breeders, and inseminator skills (Hastuti, 2008). The four factors that become the center are humans, namely inseminators and breeders.

Several studies related to AI technology and the use of Structural Equation Modeling (SEM) analysis tools have been carried out by many previous researchers. This research reviews and tries to enter opportunities other researchers have not studied. Thus, this study is expected to enrich the body of knowledge. Research conducted by Iskandar and Hidayat (2020) in Kaligesing on goat livestock showed that the level of understanding of goat breeders regarding the application of AI reproductive technology was at a high level, while the level of lust was balanced between medium and low levels.

Dilla et al. (2017) examined the knowledge of breeders regarding the understanding of the association of estrus symptoms with the success of artificial insemination in cattle. In the same year, Editet and Jaswandi (2017) researched counseling methods for adopting AI in cattle farming. The following year, Jurame et al. (2018) examined the ability of breeders to detect heat (estrus) in Bali cattle, supporting the implementation of AI. Mulyani and Yusuf (2018) researched the factors that influence the adoption of AI innovation. Meanwhile, the application of early pregnancy detection technology in beef cattle has been studied by Syaiful et al. (2019). Meanwhile, Pello and Mahardika (2020) examined the influence and relationship between farmer behavior and the adoption rate of AI in beef cattle.

The community's understanding, especially breeders, in adopting AI must receive support from the government through the role of livestock extension workers. Increasing public understanding is not easy because breeders come from different levels of education. It can be seen from history that the introduction of AI to Indonesia, was introduced by Prof. B. Seit from Denmark at the Bogor Faculty of Veterinary Medicine and the Bogor Animal Husbandry Research Institute in the early 1950s. It means that even though AI has been introduced for a long time, due to limited services with limited facilities and a limited number of acceptors, AI adoption has needed to be faster. Therefore, the government is making efforts so all breeders can carry out AI independently.

Government efforts have been carried out starting in 2017 through a special effort program (Upsus) for Compulsory Pregnancy (SIWAB) Cows. Upsus Siwab aims to accelerate the increase in cattle and buffalo populations through artificial insemination (AI) mating system. Breeders across Indonesia welcomed the launch of the Upsus Siwab program. The East Java provincial government, especially Pasuruan Regency, also welcomed these programs. Its implementation, although insemination in Pasuruan Regency has problems, where in 2019, the target set by the central government was only 93% completed (Radar Bromo, 2019) due to delays in reporting when the cow enters heat.

Therefore, there is a need for research on Efforts to Increase Community Understanding of Adopting Artificial Insemination (AI) in Cattle in Tambaksari Village, Wonorejo, Pasuruan. This study aims to describe people's understanding of adopting AI technology and determine the effect of education level, experience, access to information, the role of inseminators, and technological guidance in increasing people's understanding of AI in cattle Pakijangan Village, Wonorejo, Pasuruan.

Thus, the formulation of the problems in this study are:

1. What does the public understand about adopting artificial insemination (AI) technology in cattle?
2. How is the management of the socialization of Artificial Insemination (AI) to increase public understanding in Pakijangan, Wonorejo, Pasuruan?

## 2. Method

### 2.1 Location and Time of Research

This research was conducted in Pakijangan Village, Wonorejo, Pasuruan. The selection of research locations was deliberately taking into account the activeness of the community in participating in various activities regarding artificial insemination. Research time starts in August 2021.

### 2.2 Sampling Technique

The population in this study includes breeders who live in Pakijangan Village. The samples in this study were 120 cattle breeders in Pakijangan Village. The determination of the research sample uses the Slovin sampling technique so that the number of samples is drawn using the following formula:

n=N/(1+N(e)^2 )
n=120/(1+120 (0,05)^2 )
n=120/(1+0,3)=120/1,3=92,31

Based on calculations using the Slovin formula, the research sample is 92 farmer respondents. The sample studied used a non-probability sampling technique, which means a sampling technique that does not provide equal opportunities or opportunities for each member of the population to be selected as a sample (Sugiyono, 2014).

### 2.3 Observation and Data Collection

Sources of data used as references throughout this study are as Primary Data and Secondary Data. Primary Data taken in this study were collected from cattle breeders using a questionnaire instrument. Secondary Data in this study were obtained from Village and District Government documents, as well as other reliable sources. Data collection methods used in this study include observation, documentation, and interviews with the help of a questionnaire instrument.

a. Questionnaire
This data was obtained by distributing questionnaires directly to Pakijangan Village, Wonorejo District cattle breeders.

b. Observation
According to Sugiyono (2014), observation is a complex process composed of various biological and psychological processes. Two of the most important are the processes of observation and memory.

c. Documentation
According to Sugiyono (2011), documents are records of past events. Documents can be in writing, pictures, or monumental works of a person.

### 2.4 Data Analysis

**Descriptive Analysis**

The descriptive analysis used in this study calculates the respondents' overall answers to each question item using the Likert calculation method. The stages in the descriptive analysis are as follows:

1) Calculating the Ideal Score

Calculation of the ideal score is based on the number of samples, namely, 92 respondents, as follows:

**Table 1. Ideal Score**

| Scale | Number of Respondent | Ideal Score | Rating Interval |
|---|---|---|---|
| 5 | 92 | 460 | Understand well |
| 4 | 92 | 368 | Understand |
| 3 | 92 | 276 | Neutral |

| | | | |
|---|---|---|---|
| 2 | 92 | 184 | Do not really understand |
| 1 | 92 | 92 | Do not understand |

Source: Processed Data, 2023

2) Rating Intervals

The results of calculating the ideal score are used to create rating intervals (rating scales) based on respondents' answers to the questionnaires that have been circulated, namely:

**Table 2. Rating Interval**

| Interval | Description |
|---|---|
| 0-92 | Understand well |
| 93-184 | Understand |
| 185-276 | Neutral |
| 277-368 | Do not really understand |
| 369-460 | Do not understand |

Source: Processed Data, 2023

3) Calculating Percentages

Calculation of the percentage of agreement on the number of respondents' answers based on a distributed questionnaire, using the formula:

$$P = \frac{f}{n} x\ 100$$

P is the percentage (%), f is the number of answers for each item, and n is the highest ideal score.
The criteria for withdrawing the percentage of approval of answers are as follows:

**Table 3. Percentage of Assessment**

| Interpretation Criteria | Description |
|---|---|
| 0% | None |
| 1%-25% | A liitle bit |
| 26%-49% | Almost half |
| 50% | Half |
| 51%-75% | Mostly |
| 76%-99% | Almost entirely |
| 100% | Entirely |

Source: Arikunto (2010)

**Multiple Regression Analysis**

The data analysis technique used in this research is quantitative data analysis using the SPSS computer program.

1) Research Instrument Test
a) Data Validity Test

The validity test was carried out to see the extent to which the questionnaire used actually measured what was to be measured (Sugiyono, 2011). Test the validity of the existing statement items, carried out by testing the

questionnaire that has been prepared for prospective respondents. The test results were then analyzed by correlating the answer scores obtained for each item with the total score of all items. This validity test uses the Pearson Product Moment formula. For this study, an item is considered to be valid if: 1) the value of r count is greater (>) than the r table at level α = 0.05; or 2) Sig value (2-tailed) <0.05 at level α = 0.05.

b) Reliability test

The reliability test can be carried out only on items declared valid. An instrument can be considered reliable if it can be used to measure a symptom at different times, always showing the same (consistent) results. According to Arikunto (2010), reliability refers to the notion that the instrument can be trusted to be used as a data collection tool because the instrument is good. Reliability is an index that shows the extent to which the instrument can be trusted and relied upon. This reliability test uses Cronbach's Alpha formula. The reliability test criteria are as follows;

**Table 4. Percentage of Assessment**

| Cronbach Alpha | Criteria |
|---|---|
| > 0,8 | Reliable |
| 0,7 – 0,8 | Good |
| 0,6 – 0,7 | Acceptable |
| < 0,6 | Unreliable |

Source: Sekaran (2009)

**Classic Assumption Test**

**Data Normality Test**

The normality test aims to test whether, in the regression model, the confounding or residual variables have a normal distribution, as it is known that the t and f tests assume that the residual values follow a normal distribution. If this assumption is violated, the statistical test becomes invalid for a small sample size. There are two ways to detect whether the residuals are normally distributed, namely by graphical analysis and statistical tests. To test whether the data is normally distributed or not, the Kolmogorov-Smirnov test was carried out. Data is normally distributed if it has a significance value > 0.05 (Ghozali, 2011).

**Multicollinearity Test**

According to Ghozali (2011), the multicollinearity test aims to test whether the regression model found a correlation between independent (independent) variables. The criteria for assessing the multicollinearity test are the VIF (Variance Inflation Factor) and tolerance values for each independent variable. The expected VIF value is <10, and the tolerance value is close to 1, so the independent variables do not occur in multicollinearity.

**Heteroscedasticity Test**

The heteroscedasticity test aims to test whether, in the regression model, there is an inequality of variance from one residual observation to another. Tests in this study used Graph Plots between the predicted value of the dependent variable, namely ZPRED, and the residual SRESID. Heteroscedasticity does not occur if there is no clear pattern and the dots spread above and below the number 0 on the Y axis (Ghozali, 2011).

**Hypothesis Test**

This study uses multiple linear regression analysis. The use of multiple linear regression analysis is to find out how much influence X variables, such as education level, experience, access to information, the role of inseminators, and technological guidance, have on variable Y, namely people's understanding of adopting AI. The multiple linear regression model equation is as follows:

Y= a + bX1 + bX2 + bX3 + bX4 + bX5 + e

Where:

Y = Understanding of the community in adopting AI
a = Intercept
b = Regression coefficient
X1 = Education level
X2 = Experience
X3 = Information Access
X4 = Inseminator Role
X5 = Technology guidance

The research model used in the study is shown in Figure 1.

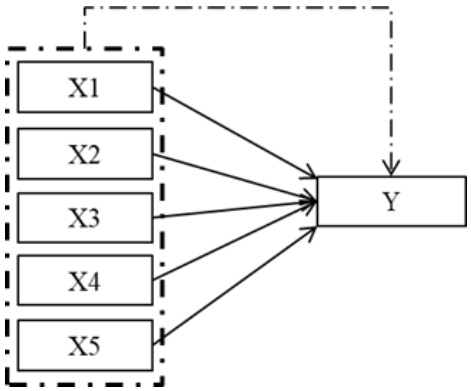


**Figure 1. Research model**

Hypothesis testing uses the t-test (partial test) and f-test (simultaneous test).

**T-test (Partial Test)**

This test aims to test how the partial influence of the independent variable on the dependent variable by comparing t-table and t-count. Each t-count of this calculation is then compared with the t-table obtained using a significance level of 0.05. The criteria for concluding the comparison between t-count and t-table are as follows:

i. If t-count > t-table at α = 5%, it means that variable X influences variable Y.
ii. If t-count < t-table α = 5%, variable X does not affect variable Y.
The results of the regression equation can be interpreted as follows:

a) A constant value of 2.115 means that the community's understanding of AI is 2.115 without input from the variables of education level, work experience, access to information, the role of inseminators, and technology guidance.
b) The coefficient of education level is 0.065, meaning that each additional level of public education will increase people's understanding of AI) by 0.065.
c) The coefficient of work experience is 0.031, meaning that every year the length of service increases will increase people's understanding of AI by 0.031.
d) Information access coefficient of -0.061, meaning that any information obtained will reduce people's understanding of AI by 0.061.
e) The coefficient of the role of the inseminator is 0.561, meaning that encouraging the role of the inseminator will increase people's understanding of AI by 0.561.

f) The technology guidance coefficient is 0.179, meaning that any technical guidance provided will increase people's understanding of AI by 0.179.

**F-test (Simultaneous test)**

The F test (simultaneous test) is to see whether the independent variables jointly (simultaneously) significantly affect the dependent variable. The f-test criteria include the following:

I. If F-count > F table, it means that there is a significant effect
II. If F-count > F table, it means there is no effect
III. If significance > 0.05, it means that there is no significant effect of the independent variable on the dependent variable
IV. If the significance <0.05 means that the independent variable has a significant influence on the dependent variable.

## 3. Result

### 3.1 Overview of Pasuruan

Pasuruan Regency is one of the regencies in East Java Province. Geographically, Pasuruan Regency has an area of 1,474.015 km2. Pasuruan Regency is divided into 24 sub-districts, and administratively, Pasuruan Regency has the following boundaries.

North : Pasuruan, Madura Strait, and Sidoarjo
South : Malang
West : Mojokerto and Batu
East : Probolinggo

The Pasuruan Regency area has the following elevations:

a. Altitude 0–12.5 masl covering an area of 18,819.04 Ha or 12.77%, has the potential for developing fishery and aquaculture businesses, namely in parts of Gempol, Beji, Bangil, Rembang, Kraton, Pohjentrek, Gondangwetan, Rejoso, Winongan, Grati, Lekok, and Nguling.
b. Altitude 12.5–500 meters above sea level with an area of 50,384.02 Ha or 34% has the potential for agricultural, residential, and industrial development in parts of all districts except Tosari area.
c. Altitude of 500–1000 meters above sea level with an area of 21,877.17 Ha or 14.84%, has the potential for cultivating annuals perennials and as a buffer for soil and water protection areas as well as for agricultural land for food crops with a siring terrace system, namely in parts of Lumbang, Gempol, Purwodadi, Tutur, Tosari, Pasrepan, Puspo, Purwosari, and Prigen.
d. Altitude of 1,000–2,000 meters above sea level with an area of 18,615.08 Ha or 12.63%, serves as a buffer area for soil and water protection, namely in parts of Purwodadi, Tutur, Tosari, Lumbang, Puspo, Purwosari, and Prigen.
e. Altitude > 2000 meters above sea level covering an area of 7,920.77 Ha or around 5.37% of the area, with designation as a protected forest that functions to protect its subordinate areas, namely in parts of Purwodadi, Tutur, Tosari, Lumbang, Puspo, Purwosari, and Prigen.

The population of Pasuruan Regency in 2019 was 1,876,881 people consisting of 949,048 men and 927,797 women. The population is dominated by the age group 15-64 years, with 1,347,037 people, followed by residents aged 0-14, with 372,888 people, and residents aged ≥65 years, with 156,956 people (Department of Population and Civil Registry, 2020).

The agricultural potential in Pasuruan is very promising. The food commodity with the highest production is rice. Most Pasuruan Regency areas can be planted with rice except in Tosari, Tutur, and Puspo areas. In addition, Pasuruan Regency is also known as a beef cattle and dairy cattle producing area. It shows that dairy cattle production is also maintained because it is a regional program to produce high-quality milk.

There are three dairy cow monuments which show that dairy cows are an icon of Pasuruan, each at the three entrances to the Pasuruan Regency, namely from Malang (south side) located in Purwodadi, from Probolinggo (eastern side) located in Nguling and from the direction Surabaya is located in Pandaan. The specialty of Dairy Cattle living in Pasuruan is being able to adapt to lowland areas with optimal milk production capabilities, especially those living in the Grati area, which often called as Grati dairy cows.

The development of the dairy cattle population in Pasuruan Regency has increased from year to year. In 2017, the cattle population was 90,817 heads. This figure has exceeded the target set in the 2013–2018 Pasuruan District RPJMD of 88,992 heads or 2.05%. When compared to the achievement of the 2016 population realization of 86,847 head, dairy cattle production in 2017 was recorded to have increased by 4.57%. This is directly proportional to the quantity of milk production for dairy cows which has also increased. Until now, fresh milk production from Pasuruan Regency can meet the demand for milk in East Java.

One of the reasons for this increase in the dairy cattle population is the increased performance of Artificial Insemination (AI) with the SIWAB program,

**Table 5. Respondents' Responses Based on Research Variables**

| Variable | Ideal Total Score | Description |
|---|---|---|
| Level of Education (X1) | 1.361 | Understand |
| Work Experience (X2) | 1.494 | Understand well |
| Information Access (X3) | 1.423 | Understand |
| Role of Inseminators (X4) | 1.616 | Understand well |
| Technology Guidance (X5) | 1.269 | Understand |
| Understanding of AI (X6) | 1.377 | Understand well |

Based on Table 5, it is explained that breeders understand how vital education is in increasing understanding of artificial insemination. This result is supported by the assessment of breeders who assess understanding. Farmers also stated that they were very familiar with work experience variables in increasing their understanding of artificial insemination. Understanding of artificial insemination can be increased through a variety of good information obtained from inseminators to independent access through social media.

In the access to information variable, farmers stated that they understood that information continuously obtained from various sources could increase their understanding of artificial insemination. The support and role of inseminators in encouraging breeders to implement artificial insemination received very understanding responses from breeders. The presence of an inseminator can provide an example for breeders to detect heat in cattle. The presence of an inseminator will provide control over livestock expenditure between regions and prohibit the slaughter of productive female livestock in accordance with existing regulations.

Some of these factors are also applied to beef cattle. The area for distributing and developing dairy cows covers the sub-districts of Tutur, Grati, Purwodadi, Purwosari, Puspo, and Prigen. The presence of breeders is supported by dairy cooperatives that are ready to accommodate milk for further distribution to the milk processing industry.

### 3.2 Society Understanding About Artificial Insemination

#### Classic Assumption Test

The community's understanding, especially breeders, in adopting AI must receive support from the government through the role of livestock extension workers. Increasing public understanding is not easy because breeders come from different levels of education. Therefore, it is necessary to know the factors that play a role in increasing public understanding. The variables studied in assessing community understanding of AI consist of educational level, work experience, access to information, the role of the inseminator, and technology guidance. The data used is secondary data obtained from distributing questionnaires. The collected data is then subjected to classical assumption tests.

#### Data Normality Test

The data normality test in this study used two (2) approaches, namely the Normal Probability Plot and residual value testing using the One-Sample Kolmogorov-Smirnov Z (K-S) Test method. First, the normal probability plot visualization on the normality test results shows that the data moves closer to and follows the diagonal line so that the data is declared normal. Second, testing the residual value using the One-Sample Kolmogorov-Smirnov Z (K-S) Test method shows that the K-S Z is 0.933 with a probability (significance) value of 0.349. The results of the K-S Z test probability value of 0.349 is greater than 0.05 (5%). These results can be concluded that the research data is normally distributed.

#### Multicollinearity Test

The multicollinearity test determines whether there is a correlation between independent variables in the model used. The results of the multicollinearity test are presented in Table 6 below.

**Table 6. Multicollinearity Test Results**

| Variable | Tolerance | VIF | Description |
|---|---|---|---|
| Level of Education | 0,877 | 1,141 | Multicollinearity does not occur |
| Work Experience | 0,906 | 1,103 | Multicollinearity does not occur |
| Information Access | 0,869 | 1,151 | Multicollinearity does not occur |
| Role of Inseminators | 0,820 | 1,220 | Multicollinearity does not occur |
| Technology Guidance | 0,941 | 1,063 | Multicollinearity does not occur |

Source: Processed Data, 2022

Table 6 shows that the tolerance value of the research variables is between 0.820 and 0.941, and the VIF value is between 1.063 and 1.220. The tolerance value for each variable is greater than 0.10, and the VIF value for each variable is less than 10. It means that the variables studied do not have multicollinearity in the regression model. Therefore, the regression model used in this study is good.

#### Heteroscedasticity Test

Visualization of the scatterplot variables of education level, work experience, access to information, the role of the inseminator, and technology guidance shows that the distribution points of the residual variations form a diagonal line and spread above and below the number zero (0) on the Y axis so that the data can be explained that there is no heteroscedasticity on the regression model used so that the regression model is feasible to use to predict the

level of public understanding of artificial insemination (AI) based on the input variables of education level, work experience, access to information, the role of inseminators, and technology guidance.

**Hypothesis test**

Several factors, such as level of education, work experience, access to information, the role of inseminators, and technological guidance, can drive community understanding of artificial insemination (AI) in cattle. The hypothesis testing used in this study is the goodness of fit test. This study's goodness of fit test consisted of a partial test (t-test) and a simultaneous test (F test).

1. Partial test (t)

A partial test is used to assess the effect of each variable in increasing public understanding. The variables used include education level, work experience, access to information, the role of the inseminator, and technology guidance. The partial test results are presented in Table 7.

**Table 7. Partial Test Result**

| Variable | B | t | Sig. |
|---|---|---|---|
| (Constant) | 2,115 | 0,638 | 0,525 |
| Level of Education | 0,065 | 0,765 | 0,446 |
| Work Experience | 0,031 | 0,288 | 0,774 |
| Information Access | -0,061 | -0,475 | 0,636 |
| Role of Inseminators | 0,561 | 4,229 | 0,00 |
| Technology Guidance | 0,179 | 1,164 | 0,248 |

Source: Processed Data, 2022

Table 7 is known for the interpretation of hypothesis testing as follows:

a. Effect of education level on people's understanding of artificial insemination (AI).
b) The test results show that the t value in Table 7 is 0.765, with a significant value of 0.446 greater than 0.05. These results concluded that the level of education had a positive but insignificant effect on people's understanding of AI. This result is not in accordance with the hypothesis, so the hypothesis is rejected.
c) The influence of work experience on people's understanding of AI.
d) The test results obtained the t value in Table 7 of 0.288 with a significant value of 0.774 greater than 0.05. These results conclude that work experience has a positive and insignificant effect on people's understanding of AI. This result is not in accordance with the hypothesis, so the hypothesis is rejected.
e) Effect of access to information on public understanding of AI.
f) The test results show that the t value in Table 7 is -0.475, with a significant value of 0.636 greater than 0.05. These results conclude that access to information has a negative and insignificant effect on people's understanding of AI. This result is not in accordance with the hypothesis, so the hypothesis is rejected.
g) The influence of the role of the inseminator on the public's understanding of AI.
h) The test results show that the t value in Table 7 is 4.229, with a significant value of 0.000, which is less than 0.05. These results conclude that the role of the inseminator has a positive and significant effect on people's understanding of AI. This result is in accordance with the hypothesis, so the hypothesis is accepted.
i) The influence of technology guidance on the community's understanding of AI.
j) The test results show that the t value in Table 7 is 1.164, with a significant value of 0.248 greater than 0.05. These results conclude that technological guidance has a positive and insignificant effect on people's understanding of AI. This result is not in accordance with the hypothesis, so the hypothesis is rejected.

Table 7 obtained the multiple linear regression equation as follows:

Y = 2,115 + 0,065 + 0,031 + (-0,061) + 0,561 + 0,179.

2. Simultaneous Test (f)

The simultaneous test (f) variable results indicate the overall research on people's understanding of artificial insemination (AI). Simultaneous test results are presented in Table 8.

**Tabel 8. Simultaneous Test Results (f)**

| F-Test | | |
|---|---|---|
| **Model** | **F** | **Sig** |
| Regression | 5,406 | 0,000 |
| F-table value | 2,315 | |

Source: Processed Data, 2022

Table 8 shows that the results of the f test have a calculated f value of 5.406 which is greater than the f table value of 2.315 and a significant value of 0.000 <0.05. These results concluded that simultaneously the variables of education level, work experience, access to information, the role of the inseminator, and technological guidance influence people's understanding of artificial insemination (AI). This result is in accordance with the hypothesis, so the hypothesis is rejected.

## 4. Discussion

Various efforts have been made both by government and private agencies to educate the community, especially breeders. Things that have been done include providing material guidance through training. The efforts made by both the government and the private sector have received a positive response from breeders. It can be seen in the participation of farmers in various activities that have been held.

The farmers' education level does not affect their understanding of artificial insemination (AI) and its success. Therefore, it is necessary to have support from one's work experience. Work experience does not emphasize the length of time the breeders have been raising livestock but rather emphasizes skills. It means that the more active and focused a person is in doing their job, the higher the understanding and success they get.

Based on the test results, access to information did not significantly affect farmers' understanding of AI. It can be caused by information received from the inseminator. The information conveyed is correct; it's just that the use of language causes misunderstanding of breeders in understanding the content of the information, in line with what was conveyed by Hikmah et al. (2019).

Therefore, the information to be conveyed must be planned. So the choice between Indonesian and regional languages. The choice of language can increase information about AI to be understood by farmers. According to Satmoko and Astuti (2006); Maghfiroh et al. (2017), local language extension media has a better effect on the knowledge level of farmers.

## 5. Conclusion

Based on the research results, it can be concluded that:

1) The role of the inseminator has a positive and significant impact on people's understanding of AI.
2) Variable levels of education, work experience, access to information, the role of the inseminator, and technology guidance affect people's understanding of artificial insemination (AI).
3) Management of Artificial Insemination to increase public understanding involves all parties, namely Inseminators and the community.

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