

# Service Per Conception in Beef Cattle with Artificial Insemination in Kapuas Basarang District of Central Kalimantan

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## Abstract

The purpose of this study was to compare the relative efficiency of the process of reproduction among individuals fertile female cattle, so that breeding have good yield as well as to improve the beef cattle farm in Kapuas Basarang district. The method used in this research is a survey (observations) directly to farmers and data collection was done by interviewing the farmers and participate directly in productive activities of pregnancy examination. Service per conception (S/C) in the A working area is 1.70; the B working area is 3; and the A and B working areas 2.07. The best S/C is in the A working area 1.70. Conception rate (CR) in the A working area is 55.76%; the B working area 23.67%; and the A and B working areas 42.69%. From interviews, the livestock population is getting less due to lack of interest of the public, especially the youth to do business with serious beef cattle farms. Lack of understanding of the cattle breeders in estrous, causing delays in reporting and dropping liquid N<sub>2</sub> and distribution of straw to the inseminator should be done in response to any report so that artificial insemination services by inseminator always fulfilled in every farmer report. The need for additional personnel and additional knowledge inseminator through insemination training, so inseminator has more skill. Need to do counseling and training to farmers about heat detection.

**Keywords** : service per conception, artificial insemination

## Introduction

### 1.1. Background

Development of livestock sub-sector as part of the national development received considerable attention from the Government, prior to meeting the food and nutrition through the development of beef cattle business, it is to meet the need of animal protein, especially meat. To achieve these objectives will be pursued business development and application of appropriate technology: (1) Increase the quantity and quality of livestock (2) Maintenance of health, (3) Counseling, (4) Development and provision of infrastructure, (5) Utilization of livestock waste.

In implementing development livestock, attention needs to be given to the development particularly farm people who constitute the bulk of farmers in Indonesia, increasing the role of cooperatives and the participation of private business.

One that can be taken to increase the production of meat and calves or calves is to increase the number of beef cattle ownership and genetic quality of livestock. This can be done by applying Artificial Insemination (AI) in cattle, since semen is used to AI comes from bulls that have good genetic and numbers Service Per Conception on average smaller than natural mating.

AI is a form of reproductive biotechnology in efforts to increase production and beef cattle productivity with the ultimate target to increase the farmers' income in breeders. AI needs to be improved through intensive efforts, continuous with emphasis on aspects of quality improvement and expansion of the range of AI services in the form of Artificial Insemination Services Unit (SPIB) to realize the AI excellence service and socialized.

### 1.2. Objective

The objective of this study is to compare the relative efficiency of the process of reproduction among individuals female cattle which are fertile, so that is expected to produce a good breed.

## Materials and Method

### 2.1. Materials

This study used 89 female cattle and artificial insemination equipment.

### 2.2. Methods

The method used in this study is a survey (observations) directly to farmers and data collection was done by interviewing the farmers and participate directly in productive activities of pregnancy examination. Pregnancy examination were performed after AI 60 days ago, then that is collecting data on the cows that have been had AI and grouped based on first AI, second AI and third AI. Then grouped pregnancy that resulted from first AI, second AI and third AI. Service per Conception and Conception rate is obtained.

## Result and Discussion

Based on this study in the field Service Per Conception in beef cattle with artificial insemination on pregnancy value can be seen in A region and B region.

**Table 1. Observations data in January-September 2014**

Region	AI			Pregnancy		
	I	II	III	I	II	III
A	42	9	1	29	7	1
B	32	5	1	9	5	1
Total A & B	74	14	2	38	12	2

Specification :

Region A : Work region of A inseminator

Region B : Work region of B inseminator

### 3.1. Service Per Conception

From observations at region A, there were 52 fertile female cattle which inseminate with fertile semen. After pregnancy examination from 52 fertile female cattle, there were 37 pregnant cows is obtained. S/C in region A is 1.70, which means that from a group of females in A region had high fertility level.

Observation in region B, there were 38 fertile female cattle which inseminate with fertile semen. After pregnancy examination from 38 fertile female cattle, there were only 15 pregnant cows is obtained. S/C in Region B is 3, which means that the level of fertility of a group of females in this region is very low.

While the observations resulted in region A and B, there were 89 fertile female cattle population which produce 52 pregnant cattle and S/C value is 2.0. but fertility rate in region B is less than in region A.

Based on the results of observational data from January to September 2014 over the working region A look at the value of S/C was higher than region B. In accordance with Feradis (2010) who argued the value of S/C the normal range is between 1.6 to 2.0. In region A also shows the normal value of 1.70 which means that the lower the value, the higher the fertility of the females in the group. And conversely the higher the value S/C, the lower the value of a group of female fertility.

If we compared it with the data S/C in 2011 of Veterinary Office Kapuas District found that the value of S/C of 2.8 are the highest in the region A. While the S/C in Region B is 6. In 2011 and 2012 S/C in region A is 1.17 and region B is 3.

When viewed from S/C in 2012 and 2013 fertility group of female cattle tend to normal. However, from the cattle population data from year to year become decreased. From the interviewed this is due to lack of interest of the public, especially the youth to do business with serious beef cattle farms. So we could not based on the S/C data from the previous year. This may be caused by four things: 1). S/C depends on proper estrus detection of livestock farmers, from interviews found still a lack of understanding of the cattle in heat or estrus, so there is a delay in reporting; 2). Inseminator readiness in terms of the provision of straw, and the availability of straw used at any time; 3). Need to pay attention to the liquid N<sub>2</sub> used in the container for the storage of straw, a refill to depleted liquid N<sub>2</sub> approximately a month usage; and 4) inseminator skills.

### 3.2. Conception Rate

The study resulted that conception rate (CR) in region A is 55.76%, in region B is 23.67%, and the region A and B 42.69%. It appears that the value of conception rate in region A is higher than in region B. It figures that CR is still low and needs to added the knowledge of estrus detection, good AI, improve the personnel skill of AI, and rapid respond of inseminator.

The value of the CR depends on inseminator efficiency job, male cattle fertility, female cattle fertility when insemination and the ability to received fetus in the womb until the time of birth (Feradis, 2010).

## Conclusion

S/C in beef cattle with AI in Kapuas Basarang District is 2.0 that is still in normal range, but the CR value is still low and needs to added the knowledge of estrus detection, good AI, improve the personnel skill of AI, and rapid respond of inseminator.

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