

## Reproduction characteristics of Gayo Buffalo in Wih Pesam District of Bener Meriah Regency

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**Abstract.** The purpose of this study was to identify the Gayo buffalo reproductive characteristics in Wih Pesam district of Bener Meriah Regency. This research used survey method in four villages within Wih Pesam district, namely: Blang Paku, Wonosobo, Blang Benara, and Karang Rejo. Forty respondents of buffalo breeders were selected based on purposive sampling methods, with the minimum requirement of breeder keep two productive buffalos which have been given birth twice and breeder have experience more than one year. Data collection done by interview and discussion techniques. The collected data was analysed descriptively using frequency tables and percentage. Excel sheet is used to process the data. The parameters observed were: (a) the age of Gayo buffalo puberty; (b) the age the first mated of Gayo buffalo; (c) conception period; (d) the age of Gayo buffalo gave birth to the first child; and (e) calving intervals. The results showed that the female buffalo reproductive characteristics in Wih Pesam district of Bener Meriah Regency in Provinve Aceh was good enough. The age of Gayo buffalo puberty was 25.75 months, with the first mated age of 33.0 months. The average age of Gayo buffalo gave birth to the first child was 43.73 months, the conception period was 318.62 days, while the average calving interval was 15.32 months. The sex ratio of male and female buffaloes is 1:6 with the percentage of male 71.35% and female buffalo 11.35%

### 1. Introduction

Buffalo are one of the important domestic animals in Indonesia. They are also regarded as excellent meat producers. Gayo buffalo is swamp buffalo type (*Bubalus bubalis*), and is one of animal genetic resources of Aceh Province [8]. Swamp buffalo has a color ranging from white or albinoid, striped, light gray to dark gray. Gayo buffalo skin color is generally grayish. Horns, nails and hair are usually the same color as the skin but tend to be dark or commonly described as a dark gray. The major reproductive problems affecting buffaloes are mainly as late maturity, long postpartum anoestrous intervals, poor expression of oestrus, poor conception rates (CR) and long calving intervals. The buffalo has been traditionally regarded as a poor breeder due to having poor fertility in the majority of conditions under which they are raised [2]. However, studies in Pakistan [13] show that fertility can be highly acceptable, provided genotypes are matched to the environment and the animals are managed and fed properly. Reproduction data of Gayo buffalo in Wih Pesam district is not yet available and is not well documented. Although Gayo buffaloes have been stated as animal genetic resources from Aceh Province. Based on these facts, therefore this reseacrh was conducted in an effort to preserve the existence of Gayo buffalo through study on the characteristics of reproductive of Gayo buffalo.

## 2. Materials and Methods

The research method used was survey method through direct interview with buffalo owner based on questionnaire. The selection of the location of this study was done purposively (purposive sampling) with consideration of districts that have the largest buffalo population in Wih Pesam district. Parameters observed were: (a) the age of Gayo buffalo puberty; (b) the age the first mated of Gayo buffalo; (c) the age of Gayo buffalo gave birth to the first child; (d) conception period, and (e) calving intervals. The collected data is analyzed by using frequency table and percentage. The data obtained is processed and calculated averaged and then descended and described descriptively.

## 3. Results and Discussion

### 3.1. The age of puberty

Puberty is a period when functional sexual organs have developed. Puberty in wild buffalo is characterized by first ovulation [3]. The average age of Gayo buffalo puberty is shown in Table 1.

Tabel 1. The average age Gayo Buffalo puberty

No.	Village	Buffalo	The age of puberty (months)
1	Blang Paku	34	26.4
2	Wonosobo	83	25.6
3	Blang Benara	31	25.9
4	Karang Rejo	37	25.1
Total		185	103
Average			25.75

The results showed that the average age of Gayo buffalo puberty is 25.75 months, while in Sumbawa buffalo is 29 months. This shows that Gayo buffalo owned by farmer in four villages in Wih Pesam district is relatively fast in puberty, while Gayo buffalo in Linge district is 27.9 months [9].

### 3.2. The age of the first mated

The first mated age of Gayo buffalo is 33.0 months. These results indicate that Gayo buffalo are still young to be mated. This happens because the maintenance system is herded together. [4] recommended that female buffaloes be mated at the age of 3.76 years to get a healthy offspring.

### 3.3. Conception period

Conception period in Gayo buffaloes in Wih Pesam district is 318.62 days or 10.8 months. [11] state that swamp buffaloes in Indonesia have a conception period between 310-315 days and buffalo in India for 314 days. [6] state that the conception period of the swamp buffalo in Sapala village is 12 months. Conception period can be caused by management, feed and environmental climate. The results of this study are different from [10] who state that conception period swamp buffalo in South Kalimantan is 11-12 months while [1] state that the conception period of buffaloes is 10.5 months.

### 3.4. The age of buffalo have a first child

Table 2. shows the age of Gayo buffalo have the first child in Wih Pesam district. The average age of the Gayo buffalo have a first child is 43.73 months. The age of Gayo buffalo have a first child in Wih Pesam district is 43.73 months, this result is greater than the age of buffalo have the first child in Malang and Kampar regency ( 3.5 or 42 months) [14]. According to [12] the age of buffalo have a first child in Philippines is 3.6 years.

Tabel 2. The age of Gayo buffalo have the first child

No.	Village	Buffalo	The age of buffalo have the first child (moths)
1	Blang Paku	34	43.6
2	Wonosobo	83	43.8
3	Blang Benara	31	43.7
4	Karang Rejo	37	43.8
Total		185	174.9
Average			43.73

### 3.5. Calving Interval

Calving interval is the distance between the birth of a child and the next birth. The first lust after giving birth and the conception period in buffalo is the thing that determines the calving interval. Calving interval of Gayo buffalo in Wih Pesam district is in Table 3.

Tabel 3. Calving Interval of Gayo Buffalo

No.	Village	Buffalo	Calving interval (moths)
1	Blang Paku	34	15.1
2	Wonosobo	83	15.4
3	Blang Benara	31	15.2
4	Karang Rejo	37	15.6
Total		185	61.3
Average			15.32

Gayo buffaloes in Wih Pesam district have calving interval 15.32 months. This result less than [6], whereas [5] reported that calving interval in swamp buffalo ranged from 21.3 months.

## 4. Conclusions

Characteristics of Gayo buffalo reproduction in Wih Pesam District, Bener Meriah Regency in Aceh Province is good. The average age of Gayo buffalo puberty is 25.75 months, while the first mated age of Gayo buffalo is 33.0 months with conception period 10.8 months. The age of the buffalo have the first child at the age of 43.73 months, with calving interval 15.32 months. To improve the knowledge of breeders about the reproduction of buffaloes in Wih Pesam district in Bener Meriah Regency, the government should provide counseling to buffalo breeders and provide buffalo superior to improve the genetic quality of buffalo in Wih Pesam district in Bener Meriah Regency in Aceh Province.

## 5. References

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