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REPODUCTIVE PERFORMANCE OF FEMALE HORSE AT PRAIBOKUL TANARARA VILLAGE WEST MATAWAI LA PAWU OF SUMBA TIMUR REGENCY

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Abstract

The aim of this study was conducted to investigate the reproductive performances of working mare at Praibokul Tanarara Village Sub District Matawai La Pawu Of Sumba Timur Regency. The material used as the acceptors were 78 young female horse. The young female horses were used in the study belonged 50 respondens who lived in the Praibokul Tanarara village. The parameters used to observed the first mating age of young female horses were the service per conception (S/C) and foaling interval (FI). The data collected were analyzed descriptively. It analyzed and described the process of service per conception and foaling interval of the female horses. The result in this research showed that the average value of first mating age of horse female aged 2,5 years of S/C was 3 times and FI was 17 months. In otherwords, the the foaling of interval of young female horses took almost 17 months of their age. The conclucion of this research was that the young female horses at Praibokul Tanarara Village West Matawai La Pawu Of Sumba Timur Regency was generally less than the normal performance ofreproductive of horses in common . The young female horses actually need to have more normal performance in reproduction in this young age.
Keywords: *female horses; reproduction performances*

Abstrak

Penelitian ini dilaksanakan untuk mengetahui Performans Reproduksi Kuda Betina Di Desa Praibokul Tanarara Kecamatan Matawai La Pawu Kabupaten Sumba Timur. Materi penelitian ini adalah induk kuda betina sebanyak 78 ekor diperoleh dari 50 orang responden peternak kuda. Metode yang digunakan adalah studi kasus. Penentuan lokasi dan sampel penelitian secara *purposive sampling*. Variabel yang diamati pada penelitian ini adalah umur pertama kawin, *service per conception* (*S/C)* dan *foaling interval (FI)*. Data dianalisis secara deskrptif. Hasil penelitian menunjukkan bahwa rat-rata umur pertama kawin adalah 2,5 tahun, sedangkan rata- rata S/C dan FI secara berturut-turut adalah 3 kali dan 17 bulan. Disimpulkan bahwa performans reproduksi Kuda Betina Di Desa Praibokul Tanarara Kecamatan Matawai La Pawu Kabupaten Sumba Timur, secara umum masih di bawah standar reproduksi normal.
Kata Kunci:: kuda betina; penampilan reproduksi

I. INTRODUCTION

Commercial horse farming in NTT is growing and there is an opportunity for small-scale horse breeders to become more involved with culture and markets in order to improve the welfare of the community. East Sumba Regency in particular, horses are used

as a means of transportation, entertainment, pets and sports facilities. In addition, horse meat is used as food to meet the animal protein needs of the community.

Until 2003, in Indonesia there were 11 types of local horses, namely kudagayo, batak horse, javanese horse, priangan horse, sulawesi horse, lombok horse, horse, sumbawa horse, sandalwood horse, flores horse and timor horse (Sudarjat, 2003). However, the horse population in East Sumba Regency continues to decline which is allegedly related to the high supply rate to various other regions which reached 11,216 heads (5,307 cows, buffalo 1,772 heads and horses 4,137 heads) and livestock theft driven by economic difficulties of farmers and low birth rates (Disnak, 2012). In addition, the decrease in the number of horse births is due to the lack of horse breeding sites that meet the standards, and the lack of knowledge of horse breeders about the horse reproductive cycle. This causes horse breeders to not be able to determine the right mating period or mating season for horses so that the number of horse births does not reach the optimal point.

Information on the reproductive performance of female horses in East Sumba Regency is still limited. Observations on the first age of mating, service per conception (S/C) and foaling interval (FI) are needed to obtain a high level of reproductive efficiency in order to obtain a high rate of mating success. For this reason, it is necessary to identify reproductive traits in order to determine the reproductive appearance of horses.

II. RESEARCH METHOD

This research was carried out in Praibokul Tanarara Village, Matawai La Pawu District, East Sumba Regency which lasted for three months from December 2016 to April 2017.

2.1 Research Materials

The research material used in this study was 78 female horses. Reproductive performance data was taken from the results of interviews with farmers by submitting questionnaires. The criteria for livestock studies are farms that have a mother of female horses who have given birth.

2.2 Research Methods

The research method used is the case study method. The case study method is a detailed assessment of the research objective, and examined in depth as a totality in accordance with the research objectives.

2.3 Population

The population used in this study is female horse breeders in Praibokul Tanarara Village, Matawai La Pawu District, East Sumba Regency. The total population is 50 farmers in the village.

2.4 Sample

The sampling technique of this study uses the purposive sampling technique where the selection of subjects is based on certain characteristics or traits that have been known beforehand, namely the number of female stock horses as samples, namely 78 heads.

2.5 Data Collection Techniques and Data Types

Data Collection Techniques

Data collection in this study was carried out by:

a) The survey of the research site is the initial stage carried out to determine the location of the research.

b) Interviews were conducted to obtain data and information regarding maintenance management. To obtain this data, interviews were conducted with farmers directly. The interview is conducted by asking questions. The types of data collected in the study consist of 2 types, namely:

- ❖ Primary data was obtained from direct observation through surveys and interviews with farmers (respondents) using questionnaires.
- ❖ Secondary data were obtained from the agencies involved in this study including physical conditions (location, area, topography, soil and climate) and socio-economic conditions of the community (population, occupation, education and socio-economic infrastructure as well as population structure).

c) Field observation is carried out through observation and recording of variables that are estimated to affect the results of the research. The observation was carried out to obtain data on the reproductive performance of female equines in Praibokul Tanarara Village, Matawai La Pawu District, East Sumba Regency.

2.6 Types of Data Used in Research

The types of data used in this study are:

a) *Quantitative data is data in the form of numbers which includes data on marriage age, service per conception (S/C) and foaling interval (FI).*

b) Qualitative data is data in the form of sentences, words or responses obtained from the study of documents from agencies including the general state of location and so on.

2.7 Data Analysis

The data that has been collected, grouped and tabulated using quantitative analysis tools with a descriptive statistical approach. This descriptive analysis is in the form of data obtained from respondents to describe the reproductive performance of female horses in Praibokul Tanarara Village, Matawai La Pawu District, East Sumba Regency. The variables observed in this study are as follows:

a) The first age of mating is the first age of a female horse to be mated.
b) Service Per Conception (S/C) is the number of marriages that result in a pregnancy
c) Foaling Interval (FI) is the distance between the last birth and the next birth.

III. RESEARCH RESULT AND DISCUSSION

3.1 Reproductive Performance of Female Equines

Reproductive performance is an overview of the success of a business in the field of animal husbandry. Understanding reproductive performance is very important in horse rearing in determining reproductive management so that livestock populations can be increased. Currently, information about the reproductive performance of female horses in Praibokul Tanarara Village, Matawai La Pawu District, East Sumba Regency is very minimal. The clearest information is only known to the difference in the handling of stallions and stallions. Stallions are generally well kept starting from cage, feed, health and so on, while for female horses they are usually only released in the pasture with makeshift feed not only that but sometimes the mating desire of the female is not known for sure. Usually, pregnant females are only left in the pasture with the usual handling of pregnancy.

The results of the study show that the mating system of female horses is still carried out naturally and inbreeding occurs which has an impact on the decline of genetic quality which is characterized by low reproductive performance. Horse reproductive performance is influenced by several factors, including genetic factors (nation), feed and environment. Environmental factors that can affect the reproductive performance of horses are the height of the place, because the height of this place is very closely related to temperature and humidity (Hafez, 2000).

3.2 First Age of Marriage

Research and observation of reproductive performance (first mating age, service per conception, and foaling interval) are needed to achieve a high level of reproductive efficiency in order to obtain a high rate of reproductive success. The results of the study show that the average mating age of female horses is 2.5 years (table 1). This age is the

same as the first age of mating which is used as a reference in determining the first age of mating of a female mating. According to Blakely and David (1991) states that female horses will reach puberty or sexual maturity at the age of 12 to 15 months, but it is better not to mate before reaching the age of 2 years or even better after reaching the age of 3 years. The results of this study are not much different from the results of the research of Setyobudi et. AL (2012) stated that the average age of first marriage is 2.62 years, and is still in the normal range. The results of the above research are different from Henry et. Al (2012) stated that the range of first mating age for horses of Thoroghbred breeds is 3.11-5.33 years, while the research of Moningka et. Al (2016) stated that the age of first marriage was 5.72 years.

The difference in the results of this study is due to age, feed, environment, genetics (nation), and maintenance management. This has an impact on the decline in genetic quality which is characterized by the length of the mating life. The longer the age of the first marriage, the more it will have an impact on population decline. As stated by Jainudeen and Hafez (2000), the length of pregnancy is influenced by the breed of horse, sex and number of children conceived, age of the mother, season and geographical location. According to Pirlo et al., (2000) stated that the factors that cause the delay in the first mating age are late marriage, errors in the detection of birahi, lack of body weight, and environmental factors.

3.3 Service Per Conception *(S/C)*

One way to assess the reproductive success of a female horse is to find out the pregnancy experienced by the female. Pregnancy is an indicator of the success of the mating system expected from the breeding of the female horse. Research on horse pregnancy in Praibokul Tanarara Village, Matawai La Pawu District, East Sumba Regency showed that the average length of horse pregnancy was 333 days, this result was higher than Henry et. al (2012) stated that the average length of pregnancy between local horses is 323 days while Thoroughbred horses are 324 days, and the average length of pregnancy for a female horse is 335 days with a range of 315 to 350 days.

Table 1 Average First Marriage Age, Service Per Conception and Foaling Interval

No.	Observation Results	Flattening
1	First Age of Marriage (thn)	2,5
2	*Service Per Conception* (S/C) (kali)	3
3	*Foaling Interval* (FI) (bln)	17

Source : Data Processing Results 2017

Pregnancy can occur if the mating system of female horses is carried out properly and one of them is by means of Service per conception (S/C). The number of marriages that result in pregnancy is called S/C. Table 1 above shows that the S/C value obtained is 3 times, this result is higher than Moningka et. al (2016) and Setyobudi et. al (2009) is 1.65 times and 2.85 times, respectively. According to Hardjopranjoto (1995), the ideal S/C value is 1-2 times. The S/C value if it is below 2 times which means that the horse can still give birth once every 1 year, if the S/C value is above 2 times, it will cause the ideal breeding distance to not be achieved and show less efficient horse reproduction which makes the breeding distance long, so that it can be detrimental to the breeder.

The cause of the high S/C value is generally due to the slow detection of birahi, abnormalities in the reproductive organs. In addition, the S/C value of horses that is higher than the ideal value is suspected to be due to the excessive use of males to mate with female horses, different types of horses (Set-yobudi et. al, 2009). The high and low S/C value is inversely proportional to the fertility of livestock. The higher the S/C value, the lower the fertility rate of the female and vice versa, the lower the S/C value, the higher the fertility value of the female horse.

3.4 Foaling Interval *(FI)*

Not only pregnancy plays an important role in the success of female horse reproduction, but there are also other factors that also affect such as knowing a good foaling interval (FI). The distance between the last birth and the next birth is called the foaling interval (FI). Some of the factors that affect FI are bisexual after childbirth, remarriage after childbirth, S/C, and accuracy during mating (Salisbury and Van Denmark, 1985). The results of the study showed that the FI obtained was 17 months or 512 days (table 1). This result is higher than Taveira and Mota (2007) stating that the average FI is 490.18 days and lower than that of Singh et. al (2002) which states that the average FI is 535-567 days. For FI horses, it ranges from approximately 15 months or 450 days (Blakely and Blade, 1991).

The distance between the last birth and the next birth (FI) is affected by the amount of open days or the period of time for calving until conception occurs, so that FI can be corrected by improving the open days of the livestock. Days open is the length of time that is empty after the horse gives birth until it is re-mated due to the delay in fertility.

So the solution that must be done is to pay attention to the nutritional balance of feed so that the body weight when mated is according to the standards and planning the

marriage (age when to be mated, gestational age and calving age), the right sexual detex, environmental factors (hygiene and climate) and the treatment (tretment) of the newly born horse, because a horse that has just given birth will have an infection in its reproductive organs, namely uterine infolation as a result of the contraction of the uterine wall for push the calf out. The treatment process is carried out for at least 60-85 days and then remarried (Chaniago, 1993).

IV. CONCLUSSIONS

Based on the results of this study, it was concluded that the reproductive performance of female equines raised in Praibokul Tanarara Village, Matawai La Pawu District, East Sumba Regency had an average age of 2.5 years of first mating, S/C of 3 times, and FI of 17 months. In general, it is still below normal reproductive standards.

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