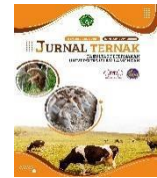


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Thoroughbred Mare Reproduction in Eclipse Stud and Stable Boyolali

Alma Shabrina^a, Tetty Barunawati Siagian^b

^a Eclipse Stud and Stable, Boyolali, Indonesia

^b Veterinary Paramedic Study Program, IPB University, Bogor, Indonesia

Corresponding author : ^aalmashabrina1@gmail.com, ^btettybarunawatisiagian@apps.ipb.ac.id

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ABSTRACT

Thoroughbred is a type of horse that is widely used for racing. Breeding *Thoroughbred* aims to produce *Thoroughbred* offspring that have superiority and better performance than their parents. The selection of *Thoroughbred* females for breeding breed is based on achievement and pedigree. In order to do so, basic information about the reproduction of female *Thoroughbred* horses is needed. Observation was conducted to provide information about the reproductive data of *Thoroughbred* mares in Eclipse Stud and Stable Boyolali. The observation focused on 19 female horses that were still productive. Parameters observed for reproduction of *Thoroughbred mares* in Eclipse Stud and Stable Boyolali were the average age at first mating, first estrus, length of estrus, estrus cycle, estrus symptoms, and post parturition estrus. The results of observations of reproduction of *Thoroughbred mares* in Eclipse Stud and Stable Boyolali were; first mating was at the age of 3 years, the first estrus was at the age of 15 months, the length of estrus was 4 days, the estrus cycle lasted for 21 days, the duration of gestation was ± 11 months and Ultrasound pregnancy detection was performed on day 18.

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1. Introduction

Riding *Thoroughbred* including horse into a light (light horses) with the characteristics of a long-shaped legs, the bone is small, $\pm 450-600$ kg body weight, and height $\pm 173-146$ cm [1]. *Thoroughbred* horses also have a good level of intelligence [2]. *Thoroughbred* horses are the result of crosses between Gondolphin Barb, Byerley Turk, and Arabian horses [3]. *Thoroughbred* horse breeding requires the selection of superior female sires other than males. The conditions for selecting the superior female are that the breeder must be healthy, have no congenital disease, good performance and a clear family tree. Selection of a good parent will have a huge impact on the achievement of the child to be born, if the female parent has superior seeds, it is likely that her child will have superior seeds [4].

Selection of female *Thoroughbred* horses for breeding requires information about the reproductive condition of the mare. Factors that can affect the female horse's reproductive system are sexual maturity (puberty), mating season, lust cycle, activities carried out after giving birth, and the age or aging of the horse [5]. According to [6] the adult body of a mare is a condition where the mare is ready to become pregnant and give birth to children. There is not much information about female reproduction in *Thoroughbred* horses, so data on this matter is needed.

2. Method

Observations were made on 19 *thoroughbred mares* that were still productive with an average age of 3-11 years. The tools and materials used were paper and ballpoint pens used to record the data that has been obtained. The method used was the observation of female horse reproduction. Data collection methods are divided into two, namely secondary and primary data collection. Primary data is in the form of observation and recording of female reproductive data, and interviews with keeper related to breeding in horses at Eclipse Stud and Stable Boyolali. Secondary data is in the form of scientific journals, books, and theses. The primary data obtained were analyzed qualitatively. Qualitative analysis was carried out descriptively on the results of Thoroughbred mare reproduction observations and supported by literature studies.

3. Results and Discussion

Eclipse Stud and Stable Boyolali has 22 *Thoroughbred mares* consisting of 19 active mares and 3 inactive mares. The average age of a mare is 3-11 years. Observations were made on 19 female horses that were still actively reproducing. Parameter observations reproduction mare *Thoroughbred* in Eclipse Stud and Stable Boyolali were the average age of first-time mating, first lust, long lust, the cycle of lust, the symptoms of heat, and post-partum estrus. The results of Observation of *Thoroughbred* horse reproduction can be seen in table 1.

Table 1. Results of Observation reproduction horse female Thoroughbred in Eclipse Stud and Stable Boyolali.

Female Reproductive Parameters	Observation result
Mating for the first time	3 years
First lust (estrus)	±15 months
Long lust	4 days
Lust cycle	21 days
Symptoms of lust	The vulva is swollen and secretes fluid little by little, when brought close to the male, the mare will be silent, and experience anxiety
Post parturition estrus	±13 days
Length of pregnancy	±11 Months
First pregnancy ultrasound	18 days
Second pregnancy ultrasound	21 days

The average *Thoroughbred* mare was first bred in Eclipse Stud and Stable Boyolali at the age of 3 years. This is because at the age of 3 years, the mare has passed the age limit of sexual maturity and has entered her adult body. Sexual maturity according to [5] occurs in mares aged 15-18 months. There are several opinions regarding the age at which horses were first bred. The first opinion according to [7], mares should be bred when they reach the age of 24-30 months. The opinion of [8] the average age of *Thoroughbred* horses was first mated when they were 4 years old.

Thoroughbred mares in Eclipse Stud and Stable Boyolali go through different periods of lust. The average length of lust in the mare is 4 days. The first lust occurs at the age of 15 months. The estrus cycle is the distance between the appearance of the first lust period to the next [9]. The cycle of lust in horses in Eclipse Stud and Stable Boyolali is 21 days. According to [10], horses experience an estrus cycle between 19-23 days with an estrus phase length of about 5-7 days. The estrus cycle in horses consists of 4 phases, namely proestrus, estrus, metestrus, and diestrus. Proestrus occurs for 3 days, estrus occurs for 4 to 7 days, metestrus occurs for 3-4 days, and diestrus occurs for 6 to 10 days [11]. According to [12] a mother horse that gives birth will experience lust again after her child is 2 weeks

old, even though her child is still actively breastfeeding. This period is called postpartum estrus. Symptoms of wanting to mate in *Thoroughbred* mares in Eclipse Stud and Stable Boyolali, namely the vulva is swollen and secretes fluid little by little, when brought close to the male the mare will be silent, and experience restlessness. Symptoms that occur are in accordance with the [13] statement such as horse lust with the vulva secreting fluid, the vulva is swollen, if it is brought close to the male it will ride quietly, and the horse is restless. Symptoms of a female horse in lust urinating when brought near a male can be seen in Figure 1.



Figure 1. Characteristics of *Thoroughbred* mare lust

According to [14] mare mating starts from the third day of lust. Mating *thoroughbred* mares in Eclipse Stud and Stable Boyolali in accordance with the statement of [14], *Thoroughbred* mares in Eclipse Stud and Stable Boyolali were mated at least twice and carried out every day or once every two days during their lust period. Horses are mated on day 3 and 4 of their lust because at that time the ovum is released from the horse's ovary. Horse marriage in Eclipse Stud and Stable Boyolali can be seen in Figure 2.



Figure 2. Horse mating

Thoroughbred mares in Eclipse Stud and Stable Boyolali experienced a gestation period with an average of ± 11 months. This is in accordance with the statement according to [15], the length of gestation in horses occurs for ± 11 months. A similar statement was also put forward by [8], the average gestation period for *Thoroughbred* mares is 324.37 days. The duration of pregnancy is influenced by the breed of horse, the age of the parent, gender, the number of children it contains, the season and geographical location [16]. Ultrasound is performed in the early stages of pregnancy on the 18th or 19th day. Ultrasound aims to detect early pregnancy. Ultrasound depiction of pregnant *Thoroughbred* mare in Eclipse Stud and Stable Boyolali can be seen in Figure 3.

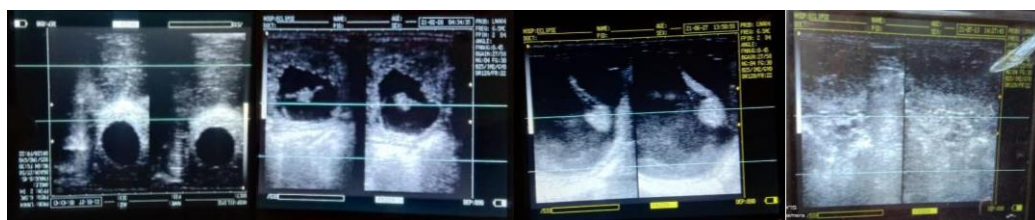


Figure 3. Ultrasound depiction of pregnancy in horses. (a). 19th day of pregnancy; (b). 30th day of pregnancy; (c) 60th day of pregnancy; (d) negative at 19th; (b). 30th day of pregnancy; (c) day of pregnancy 60th; (d) negative

4. Conclusion

The results of observations of reproduction of *Thoroughbred mares* in Eclipse Stud and Stable Boyolali are the first mating at the age of 3 years, the first estrus (estrus) when the horse is 15 months old, the estrus duration is 4 days, the estrus cycle occurs for 21 days. Symptoms of lust in Eclipse Stud and Stable Boyolali are the vulva is swollen and secretes fluid little by little, when brought close to the male the mare will be silent, and experience restlessness. Post-partum estrus is on the 13th day after delivery. Gestation duration occurs for \pm 11 months and ultrasound pregnancy detection is carried out on day 18.

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