Evaluation of breeder preferences on reproduction aspects of Ongole crossbreed in the breeding area of Rembang regency

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Abstract

The aim of this research is to evaluate the breeder preferences on reproduction aspects of Ongole crossbreed in the breeding area of Rembang Regency. Fifty respondents with random sampling were used in this research. Age, education level, breeding experience, number of cattle and rearing method of breeder were measured in this research. Mating method, twin and efficiency reproduction preferences of breeder were measured in this research. Descriptive analysis was used in this research. Age of breeder of Ongole crossbreed in the breeding area of Rembang regency is range on 22 to 63 years old. The education level is 86% is elementary school, 8% is junior high school and 6% is senior high school. The breeding experience is range on 10-55 years. Number of cattle is range on 2 to 5 head and intensive rearing and mix feed between forage and concentrate is the rearing method that applied by them. Artificial insemination (86%) is the higher preferences of breeder on mating method compare with natural mating (14%). Twin birth is low preferences of breeder compare with single birth with the successfully parturition reason. The breeder preferences are cow with 12 months calving interval and higher conception rate. The preferences on reproduction aspects of breeder of Ongole crossbreed is more on higher efficiency reproduction compare with twin birth. The preferences on reproduction aspects of breeder of Ongole crossbreed is more on higher efficiency reproduction compare with twin birth.

Keywords: Breeder preferences, reproduction aspects, Ongole crossbreed, Rembang regency

Introduction

Ongole crossbreed is a cross between Sumba Ongole and Java cattle [1]. Sutarno and Setyawan [2] stated that Ongole Grade cattle have white-gray skin, long tail, black fur around the eyes, short head, short horns, long straight ears, and a rather large belly and they are the crossing result of Javanese cattle (*Bos javanicus*) and and Ongole cattle (*Bos indicus*). It has been known for their tame and strong body, Ongole crossbreed are famous as working and beef cattle and they are also able to wtithstand and grow under

limited environmental conditions [2]. The biological potential of reproduction and production of Ongole Crossbreed shows a fairly large variation, the avarage reported performance shows thad the role of environment is very large, and responsive to feed changes [3]. Ongole Grade cattle also have lean meat [4] and good reproductive performance [1,5,6]. Ongole crossbreed is one of the local beef cattle that have high genetic diversity [7]. Ongole crossbreed are favored by breeders because they do not encounter many difficulties in their reproductive performance and have an easier pregnancy rate compare to cattle of sub tropical descent [8]. Ongole crossbreed are widespread in Indonesia and most of the population is found on the island of Java. In Central Java, PO cattle are growing in almost every district with high livestock potential [9]. Population of Ongole croessbreed in Rembang has high genetic diversity This high genetic diversity condition needs to be maintained for the purpose of conservation and also for avoiding inbreeding [10].

Until 2021, the ongole crossbreed strain that has been established in Central Java is the Kebumen Ongole Crossbreed (by Decree of the Minister of Agricultural Number 358 of 2015 that concerning the Determination of Kebumen Ongole Crossbreed Cattle). In Rembang Regency, it has just been determined as The Source of ongole crossbreed Breeding Area (By by Decree of the Minister of Agricultural Number 404/KPt/PK.010/7/2017 dated July 3rd).

The population of Rembang Ongole crossbreed in the past 8 years has decrease from 94.03$ in 2013 to 91.10% in 2020, but Rembang Ongole Crossbreed are still in great demand as preferred cattle. The population decline occured because the direction of Rembang Onole Crossbreed development was still not optimum. Tgis also due that government policies in the form of programs and activuties that have not been carried out in a sustainable manner and this is no compatibility between these programs/activuties with the needs of farmwers in the Rembang ongole crossbreed breeding area. In addition, the development and research support from universities institutions or research center are still limited to the fields of genetics and recording. So, this is need the efforts to get accurate information by doing research on breeder preferences on reproduction aspects of Ongole crossbreed in the breeding area of Rembang Regency.

Materials and Methods

Materials

Fifty respondents were involved in this research. The respondents are Ongole crossbreed breeder in breeding area of Rembang regency (Kragan, Sarang, Sulang and Sluke District). The content of questionnaires is about breeder profile, reproduction and socio-economic aspects were used in this research.

Methods

The methods used in this research is observational. Data collection was start with fill out the questionnaire by the breeder of Ongole crossbreed.

The question about breeder profile is age, education level, cattle breeding experience, number of cattle, rearing and feeding method. Socio-economic aspects question in questionnaires is related to the Ongole crossbreed purchasing in breeding area of Rembang. The reproduction aspects is related with the preferences of breeder to the mating method type of birth, and efficiency reproduction. The next step is depth in interview to the breeder of Ongole crossbreed. The depth in interview were used for strengthening the answer of the breeder of Ongole crossbreed in breeding area Rembang regency.

Data Analysis

The data was analyzed by descriptive statistical analysis. Percentage, range and average is used on the descriptive analysis.

Results and Discussions

Profile of Ongole crossbreed breeder in breeding area of Rembang regency

The data collected from the observation of breeder of Ongole crossbreed in breeding area of Rembang regency through questionnaire and depth in interview composed by age, education level, cattle breeding experience, number of cattle, rearing and feeding method. The results of the study about profile of Ongole crossbreed in breeding are of Rembang regency showed on Table 1.

Table 1. Profile of Ongole Crossbreed Breeder in Breeding Area of Rembang Regency

Parameter	Information
Age of Breeder, years	22-63
Education Level	
- Elementary School, %	86
- Junior High School, %	8
- Senior High School	6
Cattle Breeding Experience, years	5-55
Number of Cattle Ownership, head	3-5
Rearing Method	Intensive
Feeding Method	Mix Forage and Concentrate

Age of breeder of Ongole crossbreed in breeding area of Rembang regency is varied and not different with age of Ongole crossbreed breeder in Karanganyar regency that estimated 50.5 ± 10.8 years [11]. The education level of Ongole crossbreed in breeding area of Rembang regency is lowest than the Ongole crossbreed breeder in Karanganyar regency. The education level of Ongole crossbreed in Karanganyar regency is 55% elemntary school and 5% is college [11]. But, for breeding experience for Ongole crossbreed breeder in Karanganyar regency is onlu 19,35±10,78 tahun [11]. The data showed that the education level can affected to the knowledge of breeder, besides that the attitude of the breeder also affected by habit on breeding experience. This result showed that the government agency in Rembang need

to improve the knowledge, atitude and skills of the breeder of Ongole crossbreed through socialization and training.

Ongole Crossbreed Breeder Preferences on Socioeconomic Aspects in Breeding Area of Rembang Regency

The data related with socioeconomic aspects of Ongole crossbred preferences in breeding area of Rembang regency is about the preferences of cow purchasing, cow and bull price purchasing based on body weight. The results of the study about Ongole crossbreed breeder preferences on socioeconomic aspects in breeding are of Rembang regency showed on Table 2.

Table 2. Ongole Crossbreed Breeder Preferences on Socioeconomic Aspects in Breeding Area of Rembang Regency

Parameter	Information
Cow Purchasing	
- Heifer, %	46.00
- Cow, %	54.00
Cow Price Purchasing Based on Body Weight	
- < 200 kg, IDR	7,000,000-10,000,000
- 250-350 kg, IDR	11,500,000-12,500,000
- > 400 kg, IDR	14,000,000-15,500,000
Bull Cow Price Purchasing Based on Body Weight	
- < 200 kg, IDR	10,000,000-11,000,000
- 250-350 kg, IDR	13,000,000-15,500,000
- > 400 kg, IDR	17,500,000-18,500,000

The price of cow purchasing of Ongole crossbreed is a big problem of Ongole crossbreed in breeding area of Rembang regency. The price of Ongole crossbreed is lowest than SImental Ongole Crossbreed. Research of Prajogo and Ilham [12] showed that the price of Ongole crossbreed is 19.7% lowest than Simental Ongole crossbreed. Cow price of Ongole crossbreed need to be concern of government agency of Rembang regency to keep the economic aspect of Ongole crossbreed breeder in Rembang regency.

Ongole Crossbreed Breeder Preferences on Reproduction Aspects in Breeding Area of Rembang Regency

The data of reproduction aspects of Ongole crossbred preferences in breeding area of Rembang regency is about the preferences of mating method, type of birth and bull minded on cow mating. The results of the study about Ongole crossbreed breeder preferences on reproduction aspects of Ongole crossbreed in breeding are of Rembang regency showed on Table 3.

The preferences of Ongole crossbreed in Rembang regency is moroon artificial insemintaion for mating method, single for type of birth and Ongole crossbreed bull. The resarch is different with the research of Widi [13] that showed the farmers in Indoensia preferred the crossbreds because of their nice appearance, high growth rate and the higher market price for progeny compared to Ongole. This attitude of the Ongole crossbreed breeder in Rembang regency need to support with the program and activity by the

government. The support can be done with the agribussines system of Ongole crossbreed control by government.

Table 3. Ongole Crossbreed Breeder Preferences on Reproduction Aspects in Breeding Area of Rembang Regency

Parameter	Average Value
Mating Method	
- Natural Mating, %	14.00
- Artificial Insemination, %	86.00
Type of Birth	
- Single, %	72.00
- Twin, %	28.00
Bull Minded on Cow Mating, %	
- Ongole Crossbreed, %	87.50
- Non Ongole Crossbreed, %	12.50

Ongole Crossbreed Reproduction Performance of Ongole Crossbreed in Breeding Area of Rembang Regency

The reproduction performance of Ongole crossbreed in breeding area of Rembang regency is composed by service per conception and calving interval. The results of the study about reproduction performance of Ongole crossbreed in breeding are of Rembang regency showed on Table 4.

Table 4. Ongole Crossbreed Reproduction Performance of Ongole Crossbreed in Breeding Area of Rembang Regency

Parameter	Average Value
Service Per Conception, times	2.25
Calving Interval, months	15.87

Table 4 showed that the reproduction performance of Ongole crossbreed in breeding area of Rembang regency lowest than Kebumen Ongole crossbreed. Kebumen Ongole crossbreed showed service per conception 1.97 ± 0.20 times and calving interval 14.17 ± 0.67 months. This condition is one of the concern that need to be improve through cow increasing productivity program by increasig feed quality or rearing method.

Conclusion

The preferences on reproduction aspects of breeder of Ongole crossbreed is more on higher efficiency reproduction compare with twin birth. The Ongole crossbreed breeder prefer to mate their cattle used Ongole crossbreed compare with Other bull breed.

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