Co-Dominant and Piebald in Guinea Pigs

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ABSTRACT

Once upon a time guinea pig rearing was a major hobby in Bangladesh. Now due to huge fancy animals the guinea pig rearing is decreasing. Most of the guinea pigs are tri- or bi-coloured and its pups are same as parents which noted co-dominance and piebalds. Self-coloured animals are rare. The breeding of this animal are good and it performed more or less disease-free life. These are excellent laboratory animals. It consumes our common vegetables so it can be reared easily at any corner of the residence. It needs not extra care for better production. Its dry excreta don’t pollute the environment. Always keep dry its hutch and if not more animals within a short place shows better output. For better performance one male with several females is good and after birth or at the time of birth of course need to separate male from the female. Beware from cats and dogs of its total safety.

Key words: Guinea pig; Management; Breeding, Genetics; Cavy types.

Introduction

Guinea pigs are small sized mammal belonging the order rodentia and family caviidae. It has no tail because it need not climbing on the trees. Its ear is rat like. Voice is very loud. This is gregarious and gentle animal. Very cute and attractive face is accepted by everybody at the first sight. Its droplet or excreta is dry and goat like. Excess sound and predator animal especially cats and dogs are the main enemy. Guinea pigs are active and after taking meal it get rest. It shows higher reproductive rate and conception is very rapid. Its litter size at a time 1-9. Thoracic, abdominal and inguinal nipples are helpful to nourish all pups. Newborn shows it walking within few hours. Some days are needed to complete running with their parents. Pups father sometimes vulnerable on it so separate rearing is helpful in that crucial moment. After parturition only mother and pups need to rear closely. So that a birth cage is needed. After lactating period when female again get heat it needs to introduce a male in front of mother. Then mating occurs and next time pregnancy comes. Selective breeding is good for its better longevity. Age-wise guinea pigs are reared for avoiding unusual pregnancy. In Bangladesh most of the guinea pigs hairs are short. Pet guinea pig in Bangladesh is now a low graded hobby to the people. Now fancy pigeons and colourfull cage birds are available all over Bangladesh. For exhibition purpose this type of animals are good for the people. It shows good level of camouflage in nature. Its fur is shyer than rabbits. Guinea pigs average longevity is about six years. In USA they have produced self blue or bluey shade of grey variety. Red and black colour is more evident contrast in its coat (Alderton 2001, 2008). Due to less availability of grass in flat (residence) these small nice animals are decreasing. In Bangladesh there some guinea pigs in Comilla, Rajshahi, Bogra, Kushtia and Dhaka etc. Different colour of patches on white is called piebald. In case of guinea pigs most of the animals were piebald in Bangladesh. All domesticated guinea pigs are come from Cavia aperia which is more or less same with domestic one. In England in 16th century guinea pigs are first domesticated. The basic three varieties are- American/English which are short hair, Abyssinian that’s whorl of short hair and Peruvian shows long hair. Guinea pigs showed total 11 different sounds from its vocal cord. Though its average longevity is 5 years but it could stay maximum 8 years. Sexual maturity comes 68-70 weeks, oestrous cycle 15-17 weeks and gestation period 59-72 weeks. Rabbits, dogs and cats are the carrier for the diseases in guinea pigs farm. During the rearing of these animals due to heat stroke most guinea pigs died (Wright and Eaton 1926).

Materials and Methods

Productive performance

In a natural way the male shows the breeding behaviour in front of female. Sometimes female accept the male to mate. Continuous mating is running all day long. Female comes to heat in front of male after 16 days interval.
Figure 1. Wild guinea pig (Cavia aperia)

Figure 2. Domestic guinea pig (Cavia porcellus)

Plate 3. Hutch of guinea pig

**Collected guinea pigs**

Collected male guinea pig was black with slight brown and female were white with little patches of yellow on back. From Kushtia district and Mirpur, Bherama (Gudhibari Pouro Poshuhat) these guinea pigs were collected. Both pair was healthy.
Hutch

Its house is called hutch as rabbits. Guinea pigs are not sits as rabbits so it needs not more height in room for living. One house (24”x18”x24”) for one pair guinea pig was maintained for a long time. This house was in two floors. The back of the house there was a wooden stair for climbing guinea pig from ground to top. Moreover, this system was enjoyable and animal got exercise for maintaining its proper health (Plate 3).

Feed

Leaf of morning glory (Ipomoea reptans), marsh herb (Enhydra fluctuans), bread, rice, cabbage, spinach and cauliflower was supplied all day long. Sometimes I made them free in nature by good protection. In winter season carrots were the best food.

Enemy

Finally all animals were killed by dogs when it is out from the chamber. Cats and dogs catch the guinea pig and kill but not eat them.

Results and Discussion

The world varieties are Himalayan, agouti, brindle, black, tan, dalmatian, Dutch, martin, roan, self, tortoiseshell, chocolate, red, beige, lilac and harlequin. Incomplete dominance, co-dominance and piebald are common in most guinea pigs but in Bangladesh most of the coat-colour was co-dominance and piebalds. As natural state the female got matured and fertilized ovum by males’ sperm. In first generation I got one white and yellow pup as mother and in second stage total three pups one was mother type and two tri-coloured. And finally all guinea pigs were killed by street dogs (Plate 2). Most of the guinea pigs are reared in birds’ cage. Cage or intensive rearing is common and rearers not maintain the measurements of the cages. Small or medium size cage is enough for a pair. Piebald have a pattern of coloured spots on white ground causes somatic mutation of the genes (Eyster 1924). Denoted genes of piebald (s) are simple recessives on the coat-colour of guinea pigs (Wright and Eaton 1925). There was an experiment on 35,000 guinea pigs where piebalds were recessive. 5 set of allelomorphs of guinea pigs are recognized. The wild or agouti has 7 dominant factors. Brown coat-colour is not effect on red. In guinea pigs there are four distinct colours (red, sepia, white, black). The incidents of soma and germ-plasm were mosaic pattern in those mutant guinea pigs (Mohr 1923; Morgan, Bridges and Sturtevant 1925). Castle 1912 concerned an albino guinea pig but had small areas of sepia on the right side of the head, the hips and dark streaks in the iris. Rats could be heterozygous with tri-colour (gray, yellow, white) (Castle 1922). The yellow colour of guinea pigs are higher than black (Wright 1925). Wright in 1916 mentioned four allelomorphs in guinea pigs are red yellow, cream and white (Wright 1916) whereas seven series of allelomorphic factors were described by Wright 1927.

Conclusion

Once in Bangladesh there found lot of guinea pigs. But nowadays this is very little; reason is that the commercial basis animal pets are now available in Bangladesh. Guinea pigs are replaced by rabbits because rabbits’ meat is good to people. Guinea pigs were reared only hobby. Its economic value in Bangladesh is not well known to the people and is less than others. Guinea pigs are few in most pet shops.

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References

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