

## OESTRUS RESPONSE IN BROILER RABBITS WITH SUPEROVULATORY DOSE OF PMSG

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Unlike most domestic species, female rabbits do not have a classical oestrous cycle with regular heats during which ovulation can occur spontaneously. Muy and Simpson (1975) reported that domestic female rabbits became sexually attractive to males at intervals of four to six days or multiples thereof. But Bourdillon *et al.* (1992) stated that the length and periodicity of these mating cycles seemed to vary very much depending on the does. This poses a managerial difficulty in rabbit breeding because in mating, the females are to be presented to males every day until mating occurs. Pregnant Mare Serum Gonadotrophin (PMSG) can be used to overcome this reproductive problems in does (Armoro *et al.*, 1994).

So, in the present investigation the effect of supero-vulatory dose of PMSG, on onset and intensity of oestrus in two breeds of broiler rabbits, were studied.

### Materials and Methods

Twelve healthy broiler rabbit

does of two breeds, New Zealand White (6) and Soviet Chinchilla (6), in the age group of 6 to 12 months maintained under ideal and identical managerial conditions formed the material for the study. All the does were housed individually in metal cages under a 12 h light - 12 h dark cycle.

All the does were administered with 150 IU PMSG (Folligon, Intervet Int., Holland) intramuscularly as a single dose (0 day). These animals were closely observed for the heat symptoms at 8-12 hours interval following PMSG treatment. Onset of oestrus and intensity of oestrus based on changes in vulval mucosa, restlessness and lordosis were recorded.

### Results and Discussion

The results of administration of PMSG in New Zealand White and Soviet Chinchilla, as shown in Table 1 and 2 respectively, revealed that the mean interval between the PMSG treatment and onset of oestrus was  $56.0 \pm 5.1$  h for both the breeds.

**Table 1. Oestrus response and intensity of oestrus in treatment Group A- New Zealand White**

Sl. No.	Animal number	Time for onset of oestrus after PMSG treatment	Intensity of oestrus
1	ET(R) 001	48 hrs	+++
2	ET(R) 002	72 hrs	++
3	ET(R) 003	48 hrs	+++
4	ET(R) 004	72 hrs	++
5	ET(R) 005	48 hrs	+++
6	ET(R) 006	48 hrs	+++
	Mean $\pm$ SE	56.0 $\pm$ 5.1	

+++ - *High*

++ - *Moderate*

**Table 2. Oestrus response and intensity of oestrus in treatment Group B - Soviet Chinchilla**

Sl. No.	Animal number	Time for onset of oestrus after PMSG treatment	Intensity of oestrus
1	ET(R) 013	72 hrs	+++
2	ET(R) 014	48 hrs	+++
3	ET(R) 015	48 hrs	+++
4	ET(R) 016	72 hrs	+++
5	ET(R) 017	48 hrs	++
6	ET(R) 018	48 hrs	+++
	Mean $\pm$ SE	56.0 $\pm$ 5.1	

+++ - *High*

++ - *Moderate*

It could also be seen that 66.7 per cent of the animals exhibited sexual receptivity in 48 h, while the remaining 33.3 per cent in 72 h. after gonadotrophin treatment. This finding is in agreement with Illera *et al.* (1988), Kosec and Petac (1989) and Tandle *et al.* (1993a and 1993 b), who also reported a time interval of 60-72 h for onset of oestrus after administration of superovulatory dose of PMSG (120-150 IU).

In the present investigation, among the six New Zealand White rabbits, four (66.7%) exhibited intense heat and remaining two (33.3%) evinced moderate heat symptoms. Five (83.3%) out of six Soviet Chinchilla rabbits exhibited intense heat, while one animal (16.7%) evinced moderate heat. All these does accepted double mating with two different bucks at the induced oestrus. This result is in accordance with Armero *et al.* (1994) who also recorded a higher mating acceptance rate in does treated with PMSG than in non-treated does.

From this study it could be concluded that superovulatory dose of PMSG can be effectively utilized for oestrus induction and oestrus synchronization in broiler rabbits.

### Summary

An investigation carried out to study the effect of superovulatory dose of PMSG on oestrus response in broiler rabbits revealed that PMSG at a dose

rate of 150 iu/animal produced cent per cent oestrus response in New Zealand White and Soviet Chinchilla does. The results revealed that a super ovulatory dose of PMSG could be utilized for induction of oestrus and oestrus synchronization in broiler rabbits.

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