Effect of Speman Vet powder and Tentex forte Vet powder on semen quality and hatchability in poultry

Upendra, H.A., Department of Clinical Veterinary Medicine, Veterinary College, University of Agricultural Sciences, Hebbal, Bangalore, India, and Mitra, S.K. and Suryanayana, T. R&D Centre, The Himalaya Drug Co., Bangalore, India.

Introduction

In poultry breeding, number of fertile eggs produced and in turn number of chicks hatched per parent bird are important factors in deciding the profitability of breeding operation. Infertile egg percentage will increase in second half of productive life of birds and is a big concern for the poultry breeders. Speman and Tentex forte are indicated to improve quality of semen as well as male performance in human beings. Supplementation of Speman and Tentex forte is found to be beneficial in improving the quality of semen, sperm count and libido in Jersey bulls (Bhandari, 1981). However there seems to be not much of information regarding usage of Speman and Tentex forte in poultry. Hence the present work was conducted with an objective to study the effect of supplementing Speman Vet powder and Tentex forte Vet powder (The Himalaya Drug Company, Bangalore) on quantity, quality of semen as well restoring hatchability in broiler breeder birds.

Materials and Methods

Broiler breeder flock aged 58 weeks, containing 3600 female and 380 male birds served as experimental birds in the study. Broiler breeder flock was divided randomly into two groups namely Group A and Group B, each containing equal number of female and male birds. Speman Vet powder and Tentex forte Vet powder, in equal proportion, was supplemented to Group A at the rate of 1 g/Kg feed for 15 days whereas Group B served as untreated control. All the birds were given commercially available broiler breeder layer mash as per recommendations and standard managemental practices were followed. Both the groups were maintained under identical conditions.

Semen was collected from individual male birds in Group A as well as group B on alternative days from 7 days post therapy for a period of 20 days. Thus collected semen was analysed immediately for seminal volume, viscosity and Sperm motility. Sperm fluid viscosity was graded as ++++, ++++, ++ and + by Visual examination. Sperm Motility was graded as 5 (80-100% motility), 4 (60-80% motility), 3 (40-60% motility), 2 (20-40% Motility), 1 (10-20% Motility) and Zero where the sperm exhibited 0-10% motility.

Semen collected from 7 days post therapy was artificially inseminated to female birds taking into consideration the group from which the semen was collected. Standard procedure of artificial insemination was followed for both the groups. Eggs produced in Group A and Group B were collected separately and were set for hatching under identical hatching conditions. After each hatch, hatchability (%), infertile eggs (%), dead in germ (%) and dead in Shell (%) were calculated for Group A as well as Group B.

Results & Discussion

Results of this study is presented in Table 1. It was observed that the mean seminal volumes per ejaculate in Group A and B were 0.58 ± 0.03 ml and 0.47 ± 0.16 ml respectively. Further the mean seminal fluid viscosity were +++ in group A and +++ in group B respectively. The mean sperm motility were 4.6 ± 0.36 and 4.1 ± 0.12 in Group A and Group B respectively. Post hatch analysis indicated that mean hatchability, infertile eggs, dead in germ and dead in shell percentages were 92.24 ± 1.86, 2.55 ± 0.82, 2.56 ± 0.31 and 2.64 ± 0.43 respectively in group A as compared to 83.03 ± 0.62, 6.99 ± 0.72, 6.20 ± 0.81 and 3.78 ± 1.82 respectively in Group B (Control).

Discussion

In the present study it was observed that there was significantly

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminal volume per ejaculation (ml)</td>
<td>0.58 ± 0.03</td>
<td>0.47 ± 0.16</td>
</tr>
<tr>
<td>Seminal fluid viscosity</td>
<td>++++</td>
<td>+++</td>
</tr>
<tr>
<td>Sperm motility grade</td>
<td>4.60 ± 0.36</td>
<td>4.10 ± 0.12</td>
</tr>
<tr>
<td>Hatchability (%)</td>
<td>92.24 ± 1.86</td>
<td>83.03 ± 0.62</td>
</tr>
<tr>
<td>Infertile eggs (%)</td>
<td>2.55 ± 0.82</td>
<td>6.99 ± 0.72</td>
</tr>
<tr>
<td>Dead in germ (%)</td>
<td>2.56 ± 0.31</td>
<td>6.20 ± 0.81</td>
</tr>
</tbody>
</table>
higher mean seminal volume per ejaculation and mean sperm motility in Speman Tentex forte supplemented group as compared to control. Further the seminal fluid viscosity was also superior in treated group as compared to control. Further the seminal fluid viscosity was also superior in treated group as compared to control. This indicated that supplementation of Semen and Tentex forte resulted in improvement in semen quality of male broiler breeder birds. Similar observations have been made by earlier workers (Vivek and Chaitanyam 1987 and Panda et. al., 1987).

Post hatch analysis indicated that there was a significant improvement in hatchability, number of fertile eggs and decreased dead in germ percentage in Speman and Tentex forte supplemented Group A compared to control (Group B). However there was no significant difference in percentage of dead in shell between two experimental groups. Improvement in hatchability, reduced infertile egg percentage as well as dead in germ percentage observed in this study be attributed to improved semen volume, viscosity and sperm count following Speman and Tentex forte supplementation.

Conclusion

Supplementation of Speman and Tentex forte in equal proportion at the rate of 1 g per kg feed resulted in improved semen quantity and quality as well as hatchability. At the same time percentage of infertile eggs and dead in germ percentage were also reduced in treated groups as compared to control.

References

