
PROSIDING
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PERHIMPUNAN DOKTER HEWAN INDONESIA
(KIVNAS Ke-13 PDHI)

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of Indonesian Veterinary Medical Association

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PERHIMPUNAN DOKTER HEWAN INDONESIA
(Indonesian Veterinary Medical Association)
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STUDIES ON TURKEY'S (Meleagris gallopavo) SEMEN COLLECTION METHOD AS AN ANIMAL MODEL FOR COLLECTIONS OF MERAK JAWA'S (Pavo muticus)

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Keywords: Turkeys, Merak Jawa, semen collection, animal model, breeding, spermatozoa

INTRODUCTION

Turkey (Meleagris gallopavo) is included in the class Aves Galliformes, family Passianidae, order Meleagrididae. Males have special characteristics that have heads that are not furry blue and pink, red wattle, with dark colored hair colored bright green and bronze. (Han et al. 2009 and Jackson et al. 2002). Reproduction and AI is one answered of the increasing the population in animal (Hafez & Hafez 2002; Bearden & Fuquay 2004) including the endangered animals (Han et al. 2002). This study was made to obtain scientific information on turkey semen collection techniques most optimized which will be applied to a green peacock (Merak Jawa). Turkey has the closest kinship Merak Jawa is thought to represent the physiological state and behavior of the Java peacock is getting extinct. Animal models are needed to find different methods to be used in semen collection of endangered animal that is more scarce and impossible to apply various research trials directly given because of the lack of references and information. This study determined the effect of time of collection and the proper media for Turkey's semen diluents.

METHODS

Adult male turkeys were collected by the method of massage using a teaser female in the early morning hours of 7-8 am and at noon hour and the last 11-12 hours of 4-5 pm. Then cement diluted with three kinds of diluent such as andromed, Tris egg yolk and tris yolk duck. Quality of semen were examined based on the re macroscopic examination and microscopic examination to define the level of motility and percentage of live and death spermatozoa using negrosin eosin stained method. All the data were analyses by Annova method to define the effect of several factor s on the quality and viability of semen.

RESULTS

Table 1. The effect of time of collection on quality of Turkey's semen that collected by massage methods

<table>
<thead>
<tr>
<th>Grup</th>
<th>Waktu koleksi</th>
<th>Motilitas spermatozoa (%)</th>
<th>Abnormalitas spermatozoa (%)</th>
<th>Prosentase hidup mati (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>pagi</td>
<td>80 ± 5.48&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6 %</td>
<td>81 ± 5.38&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>II</td>
<td>siang</td>
<td>20 ± 6.05&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5 %</td>
<td>22 ± 4.49&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>III</td>
<td>sore</td>
<td>40 ± 4.98&lt;sup&gt;b&lt;/sup&gt;</td>
<td>7 %</td>
<td>43 ± 3.57&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

The difference subscripts in the same column showed the significantly difference P<0.05

Table 2. The effect of variation of dilution on quality and viability of Turkey's semen that collected by massages methods

<table>
<thead>
<tr>
<th>Grup</th>
<th>Jenis pengencer semen</th>
<th>Motilitas spermatozoa (%)</th>
<th>Abnormalitas spermatozoa (%)</th>
<th>Prosentase hidup mati (%)</th>
<th>Post thawing motility (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>andromed</td>
<td>80 ± 5.68</td>
<td>8 %</td>
<td>82 ± 6.68</td>
<td>32 ± 5.67</td>
</tr>
<tr>
<td>II</td>
<td>Tris kuning telur ayam kampung</td>
<td>78 ± 3.47</td>
<td>6 %</td>
<td>79 ± 4.49</td>
<td>34 ± 5.49</td>
</tr>
<tr>
<td>III</td>
<td>Tris kuning telur bebek</td>
<td>75 ± 2.58</td>
<td>7 %</td>
<td>77 ± 3.57</td>
<td>35 ± 2.64</td>
</tr>
</tbody>
</table>

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DISCUSSION

Semen was collected by means of abdominal massage twice a week, the cement was then mixed with 1 ml solution modified Tris media. Character cement is influenced by various factors, the most important is the weight and the way the collection of cement. Where there is a relationship between weight and the volume of cement, cement and pH levels to abnormality. Spermatozoa. Collection of cement can affect semen quality (Kostaman & Setioko 2011). In this research note that the collection in the morning gives better results, this is in accordance with previous studies that stated the opinion that the effect of direct sunlight, temperature and other environmental conditions will affect the motility of spermatozoa (Hafez, 2000; Bearden 2004d). Table 1 it's showed that the motility of semen experienced a significant difference in the morning collection compare to the collection in the afternoon and evening. This resulted similar with previous reported that avian semen would affected by several eksogenic factors (Gholami et al 2012; Gazali et al 2002.) In Table 2 have shown that the three types of diluents tested on turkey semen such as andromed Chicken egg yolk Tris and Tris yolk duck has no showed significant differences to controlled the motility and viability of semen. All three diluents were capable of providing the level of motility and the same percentage between life and death sperm condition. This agrees the opinion of previous studies that the ability of the diluent to provide a protective function of changes in external conditions such as changes in pH, temperature, osmolality can provide the ability to post thawing motility becomes better. Furthermore cement dilution function is to backup spermatozoa metabolism, so the third diluent used have the same ability to provide energy for turkey sperm viability (Evans & Clement 2004; Chelmonska et al 2008).

CONCLUSION

It conclude that the Turkey’s semen collection in the morning gives better results than at in the afternoon and evening. Dilutions of semen that can be used vary between andromed, Tris egg yolk and tris egg ducks and provide the same quality of cement viability. Results of this studied showed that can be applied on a Merak jawa in the series of endangered animal rescue process by the application of animal reproduction technology.

REFERENCES


