INTRODUCTION

Nutrition status of the animal is central to the reproductive performance of animal with suboptimal nutrition associated with reduced expression of reproductive behavior in goats. Most of the goat farmers have limited resources of green fodder. Hence, fat soluble vitamins especially vitamin A and E remained most critical in goats ration and affects their productive and reproductive performance adversely. Vitamin A is necessary for the maintenance of normal animal physiological metabolism. Studies have shown that vitamin A can enhance antioxidant defence systems against oxidative stress (Kleczkowski et al., 2003) and thus its supplementation improves immune function (Sordillo et al., 1997) and ultimately helps in controlling various reproductive performances (Yildiz et al., 2005).

Vitamin E is considered as intracellular antioxidant, which maintains membrane integrity and phospholipids against peroxidation and oxidative damage (Lawrence et al., 2004). It also increases the production of immunoglobulins in the body and increased the killing of intracellular micro organisms by neutrophils during calving (Franklin et al., 2005).

Administration of vitamin E improves fertility in animals by regulating the free radicals in the ovarian tissues (Wilde, 2006). It has also been reported that vitamin E protects steridogenic enzymes from oxidative enzymes and promotes the release of luteinizing hormone (LH), follicle stimulating hormone (FSH) and adrenocorticotropic hormone (ACTH).

METHODOLOGY

14 female goats between age groups of 9-12 months in 2 different flocks with unknown reproductive status were taken. Vaccination and deworming schedule followed in the animals were as per standard schedule. Animals were maintained under semi-intensive system. In night time, animals were kept in pucca house and floors are made up of concrete. The animals were supplemented with 1 bolus per day beta 4 vet containing vitamin A as (Beta carotene) and vitamin E with additional trace minerals for 10 days. The method of natural mating was practiced by the community reared buck in the trial areas.

RESULT AND DISCUSSION

Reproductive behavior was monitored by project veterinarians during 30 days for the supplemented animals (Table-1).It was noted that out of 14 supplemented goats signs of heat were evident in 79% (11) when using usual method of heat detection. On being mated by buck 50 % (7) of the animals in heat successfully conceived leaving 21% (3) of the goats not showing any signs of heat. The above results clear cut emphasizes the positive impact of supplemental vitamins and
trace minerals which may be well due to antioxidant properties of vitamins and trace minerals (A and E both are strong antioxidants along with selenium) leading to least oxidative stress in treatment group supplied with Beta 4 vet as supplement. Bian et al. (2007) during his work with cattle also reported reduced days from calving to heat due to vitamin A supplementation in HF cows. Corroborating with our results de ondarza et al. (2009) also reported about 22% pregnancy rate as compared to 11% in control group due to supplementation of β-carotene in Holstein cows. Positive effect of β-carotene may be due to high progesterone concentration at ovulation and during the luteal phase as reported by (Snjezana et al., 2012).

Table 1 Reproductive status of goats supplemented with Beta 4 vet

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Name</th>
<th>Village</th>
<th>Tag No.</th>
<th>Treatment follow</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Radha Siala</td>
<td>Giryak</td>
<td>14458</td>
<td>1st day One tab. Fenbendazole &amp; from 2nd day to 11th day bolus beta 4 vet/goat</td>
<td>In Heat</td>
</tr>
<tr>
<td>2</td>
<td>Devi Malo</td>
<td>Mustaffipur</td>
<td>13825</td>
<td></td>
<td>Conceived</td>
</tr>
<tr>
<td>3</td>
<td>Gulab Guriya</td>
<td>Gazipur</td>
<td>14116</td>
<td></td>
<td>Conceived</td>
</tr>
<tr>
<td>4</td>
<td>Gulab Fulia</td>
<td>Gazipur</td>
<td>14148</td>
<td></td>
<td>No sign of heat</td>
</tr>
<tr>
<td>5</td>
<td>Shanti America</td>
<td>Adampur</td>
<td>14729</td>
<td></td>
<td>Conceived</td>
</tr>
<tr>
<td>6</td>
<td>Shanti Sia</td>
<td>Adampur</td>
<td>14728</td>
<td></td>
<td>No sign of heat</td>
</tr>
<tr>
<td>7</td>
<td>Shitla Chameli</td>
<td>Ghojawara</td>
<td>13538</td>
<td></td>
<td>Pregnant, conceived</td>
</tr>
</tbody>
</table>

CONCLUSION

It is concluded that supplementation of vitamin A, E and trace minerals in form of bolus beta 4 vet can be a feasible nutritional manipulation for improved reproductive performance of goats kept under semi intensive condition.

References


How to cite this article:


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