INTRODUCTION

The breeding efficiency of dairy animals is directly related to the prosperity of dairy industry. Numerous studies have shown that repeat breeding is still one of the most prevalent reproductive disorders in dairy cattle. Several hormonal therapies are being tried to combat the problem of the repeat breeding in dairy animals. Ovsynch protocols are being presently used for management of repeat breeding in controlled condition. Poor estrus detection and poor conception rates have resulted in huge challenges in managing reproduction in most lactating dairy cow herds. In an effort to assist producers in managing reproduction in a more effective manner, synchronization protocols have been developed with the use of PGF2α. This includes efforts to create timed artificial insemination protocols to assist in estrus detection (Stevenson et al, 1989). In the past, synchronization protocols have been effective with PGF2α when animals were bred to detected estrus (Archibald et al, 1992; Lucy et al, 1986). Using PGF2α allows producers to increase detection of estrus and artificial insemination management. One important limitation of these protocols has been the fact that estrus has not completely been synchronized, with animals coming into estrus over a period of several days (Lauderdale et al, 1974).

Under the field conditions, very fewer trials were conducted for the management of repeat breeding. Hence, the study was planned to evaluate the effect of ovsynch protocol for the management of repeat breeding cross bred cows.

MATERIALS AND METHODS

A total of 20 repeat breeding cross bred cows from different villages of mater taluka that had taken more than 3 infertile services with good quality frozen-thawed semen were selected. Deworming was carried out using Fenbendazole 3000mg (Panacur - MSD) in all selected cows. All the selected animals were also vaccinated against Hemorrhagic Septicemia and Foot and Mouth disease. All selected repeat breeding cows were treated with powder Cephalexin (Lixen 4 g) intrauterine to check the infection if present in any animals.

All selected animals when came in estrus were treated with 0.02mg GnRH (Receptal 5 ml i/m). On 7th day of estrus cows were given PGF2α (Lutalyse 5 ml i/m) to regret the corpus luteum and on 9th day of estrus, repeat dose of 0.02mg
GnRH (Receptal 5 ml i/m) were given for better ovulation. Artificial insemination was carried out on 24 hours after last GnRH injection. Pregnancy was confirmed per rectum in non-return cases 60 days post artificial insemination. All selected cows were followed for 3 cycles post treatment.

RESULTS AND DISCUSSION

Conception rate

The conception rate at first cycle was 30.0 per cent, whereas the same with second and third cycle was 20.0 and 5.0 per cent, respectively with an overall conception rate of 55.0 per cent. On the other hand when Ovsynch technique was used, the conception rate on first, second, third service and overall conception was observed to be 30.0, 42.9, 0.0 and 60.0 per cent, respectively (Table 1).

Jobst et al (1999) reported 30.1 per cent conception rate at first service in cows. Bhoraniya et al (2012) and Naikoo (2012) reported 33.3 per cent first service conception rate in Kankrej cows. Similarly, the comparable overall conception rates of 3 cycles following Ovsynch treatment have been reported in cows by Geary et al (2001) 61.0 per cent, Sathiamoorthy et al (2008) as 56.3 per cent, Vijayarajan et al (2009) as 60.0 per cent and Sathiamoorthy and Karthirchelvan (2010) and Naikoo (2012) as 55.5 per cent.

In contrast to the present findings, the higher overall conception rates were reported by many scientists. Ansari et al (2008) and Muneer et al (2009) reported 90.0 per cent conception, while Kumar et al (2010) and Ammu et al (2012) reported 83.3 per cent first service conception rate in anestrus crosses and/or zebu cows. In contrast, the relatively lower overall conception rates obtained by others with Ovsynch protocol include Raut et al (2008) 46.7 per cent, Sathiamoorthy et al (2008) as 45.5 per cent, Mahour et al (2012) 40.0 per cent and Naikoo (2012) 33.3 per cent in anoestrus cows and Barot et al (2011) as 49.5 per cent in cows and 32.2 per cent in buffaloes.

The possible reasons for variation could be the reproductive status or stage of oestrous cycle at the beginning of the protocol, apart from nutritional, managerial, lactation status, drug source, age and such other factors. The present results, however, suggest that the application of Ovsynch protocol can serve as a good tool for induction of estrus and ovulation as well as enhancement of conception rate in repeat breeding crossbred cows in field condition.

CONCLUSION

Reproductive efficiency is dependent upon both service rate and conception rate. The Ovsynch protocol described above has many benefits as it greatly increases the service rate in a herd of dairy cows. Instead of waiting for the cows to come into heat, all of the cows subjected to the protocol are inseminated. A very important benefit is that all cows subjected to this protocol do not have to undergo heat detection. Traditionally, this is a very time-consuming process that often results in “missing” cows that are in heat. By synchronizing ovulation, heat detection is eliminated. However, only one clarification is that Ovsynch does not increase conception rates but rather increases service rate.

REFERENCES


ceptation rates in dairy cows after timed-insemination and simultaneous treatment with gonadotropin-releasing hormone and/or prostaglandin F2α. Theriogenology 37:723.


Table 1. Effect of using Ovsynch technique on conception rate in cross bred cows.

<table>
<thead>
<tr>
<th>Type of Animals</th>
<th>No. of Animals</th>
<th>First Service</th>
<th>Second Service</th>
<th>Third Service</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeat breeding Cross bred cows</td>
<td>20</td>
<td>30 % (n=6)</td>
<td>20 % (n=4)</td>
<td>5% (n=1)</td>
<td>55% (11/20)</td>
</tr>
<tr>
<td>By using Ovsynch technique</td>
<td>20</td>
<td>30.0</td>
<td>42.9</td>
<td>0.0</td>
<td>60.0</td>
</tr>
</tbody>
</table>
Management of Repeat Breeding Under Field Condition


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