

EFFECT OF FEEDING ON CONCEPTION RATE IN GIR COW AND JAFFRABADI BUFFALO AFTER ARTIFICIAL INSEMINATION AT JUNAGADH

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Abstract: Conception rate is a measure of a cow's fertility at service. It is calculated by dividing the number of pregnant cows by the total number of inseminations. The study was carried out to study conception rate in Gir cow and Jaffrabadi buffalo following artificial insemination carried out at the Cattle Breeding Farm, Junagadh Agricultural University, Junagadh, during last seven years from 2010 to 2016. We get in a conclusion that average conception rates of Gir heifer at post insemination was shown 1.362, whereas the average conception rates of Gir cows at post insemination are 1.449 whereas average conception rates of Jaffrabadi heifer and Jaffrabadi buffalo at post insemination were shown 1.224 and 1.314 respectively.

Keywords: Gir Cow, Jaffrabadi Buffalo, Conception rate, Cattle breeding farm, Junagadh.

Introduction

Cattle breeding farm of Junagadh agricultural university is one of the largest and oldest organized farm maintaining purebred Gir cows and Jaffrabadi buffaloes through conservation, improvement and advancement of purebred genome of both Gir cow and Jaffrabadi buffalo breeds by conducting scientific research programmes such as progeny testing programme, establishment of elite herds of Gir cow and Jaffrabadi buffalo, network project and all India coordinated research projects.

Materials and Methods

This study was carried out at the cattle breeding farm of Junagadh agricultural university, Junagadh for a period of last seven years from 2010 to 2016 data on to number of artificial insemination required per conception in heifer and cow were in the range of 1.26 to 1.70 and 1.50 to 2.14 respectively. Whereas, number of artificial insemination required per conception in heifer buffalo and she-buffalo were in the range of 1.18 to 1.40 and 1.12 to 1.83 respectively. Average mean value of rate of artificial insemination per conception for period of 2010 to 2016 in heifer and cow were 1.46 and 1.70 respectively when average mean value

of rate of artificial insemination per conception for period of 2010 to 2016 in heifer and buffalo were 1.29 and 1.51 respectively.

Table-01: Services required for conception in Heifer

| Year | N (Total No. of Services) | 1st service | 2nd service | 3rd service | 4th service |
|------|---------------------------------|-------------|-------------|-------------|-------------|
| | | Mean | Mean | Mean | Mean |
| 2010 | 037 | 56.76 | 29.73 | 13.51 | 00.00 |
| 2011 | 019 | 01.00 | 02.00 | 03.00 | 00.00 |
| 2012 | 048 | 50.00 | 50.00 | 00.00 | 00.00 |
| 2013 | 036 | 69.44 | 22.22 | 08.34 | 00.00 |
| 2014 | 044 | 65.91 | 18.18 | 11.36 | 04.55 |
| 2015 | 015 | 46.70 | 33.30 | 20.00 | 00.00 |
| 2016 | 116 | 73.91 | 19.57 | 04.35 | 02.37 |

Table-02: Services required for conception in Cow

| Year | N (Total No. of Services) | 1st service | 2nd service | 3rd service | 4th service |
|------|---------------------------------|-------------|-------------|-------------|-------------|
| | | Mean | Mean | Mean | Mean |
| 2010 | 082 | 56.09 | 25.21 | 12.20 | 06.10 |
| 2011 | 082 | 01.00 | 02.00 | 03.00 | 04.00 |
| 2012 | 111 | 48.65 | 27.03 | 18.02 | 06.30 |
| 2013 | 078 | 37.18 | 28.21 | 17.95 | 16.67 |
| 2014 | 101 | 55.45 | 31.68 | 09.90 | 02.97 |
| 2015 | 046 | 59.50 | 20.70 | 06.90 | 12.90 |
| 2016 | 086 | 59.30 | 32.56 | 08.14 | 00.00 |

Table-03: Services required for conception in Heifer Buffalo

| Year | N (Total No. of Services) | 1st service | 2nd service | 3rd service |
|------|---------------------------------|-------------|-------------|-------------|
| | | Mean | Mean | Mean |
| 2010 | 12 | 66.66 | 16.66 | 16.66 |
| 2011 | 12 | 01.00 | 02.00 | 00.00 |
| 2012 | 08 | 62.50 | 37.50 | 00.00 |
| 2013 | 25 | 72.00 | 28.00 | 00.00 |
| 2014 | 16 | 87.50 | 06.25 | 06.25 |
| 2015 | 11 | 81.80 | 18.20 | 00.00 |
| 2016 | 28 | 71.40 | 17.90 | 10.70 |

Table-04: Services required for conception in She-buffalo

| Year | N (Total No. of Services) | 1st service | 2nd service | 3rd service | 4th service |
|------|---------------------------------|-------------|-------------|-------------|-------------|
| | | Mean | Mean | Mean | Mean |
| 2010 | 56 | 61.11 | 27.78 | 11.11 | 00.00 |
| 2011 | 41 | 01.00 | 02.00 | 03.00 | 00.00 |
| 2012 | 43 | 60.47 | 27.91 | 11.63 | 00.00 |
| 2013 | 40 | 67.50 | 32.50 | 00.00 | 00.00 |
| 2014 | 26 | 92.31 | 03.85 | 3.85 | 00.00 |
| 2015 | 55 | 65.50 | 23.7 | 9.10 | 01.80 |
| 2016 | 46 | 56.50 | 21.7 | 10.80 | 10.80 |

Results and Discussion

By considering the above study, we got to know that number of artificial insemination required per conception rate in year 2010 to 2016 were in the range of 1.21 to 1.53 in cow heifers, whereas artificial insemination required per conception rate in year 2010 to 2016 were in the range of 1.34 to 1.51 in cow. Number of artificial insemination required per conception rate in year 2010 to 2016 were in the range of 1.22 to 1.37 in buffaloes heifers, whereas artificial insemination required per conception rate in year 2010 to 2016 were in the range of 1.16 to 1.43 in she-buffalo, while green fodder (16,48,390 to 54,00,700 kg), Dry fodder (6,34,090 to 8,85,800 kg) and concentrate (5,93,500 to 8,50,500 kg) were available during that period.

Conclusion

After analyzing all the data pertaining to the conception rates in both heifer and cow, it was calculated that average number of artificial insemination required per conception in cow heifer and cow were 1.36 and 1.44 respectively. This value of CBF farm, Junagadh is lower than average for Sahiwal cow which was 1.75 this may be due to higher nutritive feed availability at CBF. Whereas conception rates in both Jaffrabadi heifer and she-buffalo, it was calculated that average number of artificial insemination required per conception in buffalo heifer and adult buffalo were 1.24 and 1.31 respectively. This A.I./conception value observed that it is lower than average of Surti buffalo which was 1.50.

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