

PERFORMANCE OF CROSSBREDS (THARPARKAR×HOLSTEIN FRIESIAN) AT JABALPUR, INDIA

Performances des croisements (Tharparkar×Holstein Friesian
in Jabalpur, Inde

Rendimiento de los cruzamientos (Tharparkar×Holstein Friesian)
en Jabalpur, India

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1. In India, migration as a force to bring about sudden rise in milk production within a short period, is the only choice left for bringing the «White Revolution» a success. Crossbreeding between Zebu females and exotic males using frozen semen, has become recognized as the method for the rapid increase in milk production.

Use of different exotic breeds for crossing different Zebu breeds are being experimented under the All India Co-ordinated Research Project on Cross-breeding for Milk Production, at different places of India covering a wide range of agro-climatic conditions. The results are still awaited from many centers.

2. At Composit Livestock Farm of J. N. Agriculture University at Jabalpur, a pilot project on cross-breeding between Tharparkar, the Zebu breed, with American Holstein Friesian was launched with the help of U.S.A.I.D. in the year 1969.

The frozen semen of twelve Holstein Friesian bulls was imported from the U.S.A. A single ampule per insemination on basic foundation of 80 Tharparkar cows as female was used.

3. In all 177 F_1 cross-breds were produced with 89 females and 87 males by using 287 inseminations. As only one ampule was used for each insemination, the number of frozen semen ampules required per conception was 2.3 on foundation Tharparkar females.

The average birth weight of 72 females recorded was 24.4 ± 0.35 Kg. The estimates of the same parameter in the corresponding Zebu calves was 22.3 Kg.

The average age at maturity (age at 1st service) of 53 F_1 female crosses was 536 ± 13 days (17.6 months) with an average body weight at maturity recorded

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on 43 F_1 crosses was 267 ± 6.2 Kg, while the average age at conception in 53 F_1 crossbred heifers was 581 ± 21.5 days (19.0 months) with an average body weight of 289 ± 7.1 Kg recorded on only 38 F_1 crosses. The average number of services required was 1.9 per conception based on 61 F_1 crossbred heifers using only one ampule each of frozen semen for every insemination. The first service conception rate in crossbreds was 50 % and it was 76 % at second service conception. Out of these only 32 F_1 crossbreds heifers calved so far recorded an average age at calving, 812 ± 5.3 days (26.5 months), while their contemporary pure bred Zebu averaged 1369 days (44.9 months).

The twelve F crosses completing first lactation so far, averaged 2901 ± 102.4 liters of milk in 342 ± 17.2 days of lactation period. The estimates of same parameters in the contemporary Zebu dams were 1100 liters in 222 days respectively. One crossbred cow (C-2) produced 6310 liters of milk in first two lactation by the time she was 54 months old.

The number of services required on 27 F_1 crossbred cows in first lactation was 2.3 for each conception. The first service conception recorded in these crossbreds was 47 % while total conception rate at second service was 71.4 %. The average first service period was 124 ± 4.7 days.

4. The current breeding policy of the J. N. Agriculture University, Jabalpur includes: (i) producing more F_1 females so as to have total 100 half-breds, (ii) using all the F_1 females to produce 100 F_2 $3/4$ exotic animals by using different set of sires, (iii) interse mating of these two crossbreds groups separately. All the animals are kept fully exposed to the rigors of extreme climate (maximum summer temperature 44.9°C ; minimum winter temperature 3.1°C).

5. Crossbreeding by Holstein Friesian in Zebu Tharparkar resulted in 8 % increase in birth weight in F crosses as compared to purebred Tharparkar. No substantial advantage was observed in crossbred in respect to conception rate. However, the average age at calving was reduced by 41 % in half-breds. Crossbreeding resulted in major increase in milk production by 160 % with 54 % more days in milk.

SUMMARY

At J. J. Agricultural University, Jabalpur, India, a crossbreeding by Holstein Friesian sires in Zebu Tharparkar dams was started in the year 1969; has resulted in 8 % increase in birth weight in F_1 crosses as compared to purebreds Tharparkar. No substantial advantage was observed in crossbreds in respect to conception rate. However, the average age at calving in heifers was reduced to 41 % in half-breds. Major advantage of crossbreeding was noticed in milk production which resulted in 160 % increase with 54 % more days in milk as compared to the purebred Tharparkar.

RESUME

Chez la J. N. Agricultural University, Jabalpur, Inde, s'est développ   d  s 1969 le croisement de taureaux Holstein Friesian \times Zebu Tharparkar. Le poids    la naissance a   t   augment   en 8 % dans les croisements F_1 , en comparaison avec la race pure Tharparkar. Les crois  es n'ont pas d  montr   une augmentation du taux de conception, mais l'  ge moyenne au premier mise-bas a   t   r  duite en 41 %.

Les croisées ont démontré aussi une augmentation dans la production laitière (160 % en plus, et 54 % d'augmentation dans les jours de lactation) en rapport avec la Tharparkar.

RESUMEN

En la J. N. Agricultural University de Jabalpur, India, viene practicándose desde 1969 el cruce de toros Holstein Friesian \times vacas cebú Tharparkar. El peso al nacer ha aumentado en un 8 % en la F_1 sobre la raza pura Tharparkar. Las cruzadas no han demostrado un aumento en el porcentaje de concepciones, pero la edad media al primer parto ha disminuido en un 41 %. Asimismo han demostrado un aumento en la producción lechera (160 %) y ha habido un 54 % más de días de lactación.

