



Tropentag, September 18-20, 2019, Kassel

“Filling gaps and removing traps
for sustainable resource management”

Breed Improvement Using Sexed-Semen for Filling Gaps and Removing Traps for Commercial Cattle Farming in Nepal

LOK NATH PAUDEL¹, RESHMI RAJ GNYAWALI²

¹*Ministry of Agriculture and Livestock Development, Department of Livestock Services, Nepal*

²*Sandhikharka Municipality, Province Number 5, Livestock Section, Arghakhanchi, Nepal*

Abstract

Livestock is an integral part of Nepalese agricultural system that contributes about 12% to the national Gross Domestic Production (GDP) and 30% to the agricultural GDP. Livestock enterprise is becoming semi-commercial to commercial especially after launching the Dairy Cattle and Buffalo Genetic Improvement Program (DCBGIP) and subsequently artificial insemination (AI) mission programme in Nepal. The AI mission programme (2011–19) has increased the number of animals inseminated to around 0.7 million in 2018 as compared to 0.15 million before seven years. This programme has been adding more than 0.2 million crossbred calves every year in the country. Because of religious and cultural value systems, cattle are not allowed to slaughter in Nepal. Therefore, yearly production of around 0.1 million male-calves, other than needed for natural services and AI, are becoming a burden to the nation. To mitigate this problem, an effort has been made to introduce sexed semen that could result in more than 90% female-calves.

A pilot research was conducted by introducing 600 doses of sexed semen obtained from the Improved Seed for Farmers Programs (ISFP) project procured from the USA. This semen was used in cattle farming pocket areas of Arghakhanchi district of Nepal. Out of the 600 doses semen, 570 were used to inseminate the cross bred cattle of smallholders farmers, covering 198 households from February 2017 to March, 2018. The study revealed that the use of sexed semen in cross bred cattle resulted in a conception rate of 58.5% and female-calves born were 90.2%. These results proved that the use of sexed semen in cattle produce significantly ($p < 0.01$) higher number of female-calves. The survey with the farmers and key informants also revealed that the farmers who had used the sexed semen were very happy and explained that their burden of rearing male-calves, which have no monetary importance, has been reduced significantly. It can be concluded that the use of sexed semen would be a cornerstone for commercialisation of cattle farming. This technology would be an exemplary work for filling gaps and removing traps for sustainable cattle farming in Nepal.

Keywords: Cattle, commercialisation, gaps, religion, sexed semen, sustainability, traps