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Genetic and its relation in susceptibility to diarrhoea and pneumonia in dairy calves from birth to three months of age

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The study was undertaken to analyse genetic factors towards calves diarrhoea and pneumonia in Vrindavani and Tharparkar cattle and Murrah buffalo calves from birth up to 3 month of age. The study indicated that genetic/sires play important roles in contributing calves diarrhoea and pneumonia in early stage of their life. The offsprings of different number of sires (Vrindavani and Tharparkar cattle and Murrah buffalo) were recorded during the study period from cattle and buffalo farm at Indian Veterinary Research Institute, Uttar Pradesh India. Breed wise susceptibility pattern indicated that the offsprings born to Murrah sires are more susceptible to diarrhoea and pneumonia (54.54%) followed by Tharparkar (46.42%) and Vrindavani sires (34.40%). Detailed of sire wise was also study through their available pedigree record. In Vrindavani six sires (776F, 778F, 811F, 1239X1, 1265X2 and 1430X2) were used and it indicated that the offsprings of all the sires were susceptible to infectious disease 21.06%,38.46%,42.10%,47.36%, and 37.50% respectively except offsprings of sire number 1239X1 proved to possess no susceptibility towards diarrhoea and pneumonia. In Tharparkar two sires (6551TH and 6907TH) was used and both the offsprings were susceptible to said disease with 38.88% and 60.00% respectively. While in Murrah buffalo out of seven sires, (2045MU, 2062MU, 2073MU, 3103MU, 3267MU, 3631MU and 5396MU) almost all the offsprings are susceptible to diarrhoea and pneumonia, 66.66%, 100.00%, 50.00%, 100.00% and 100.00% respectively except the offsprings of 3267MU and 3631MU. The pedigrees of Murrah and Tharparkar sire were not available as Murrah semen was received from Central Institute Research on Buffalo, Hisar and the later was purchased from Central Cattle Breeding Farm, Suratgarh (Rajasthan). While keen observation of the Vrindavani pedigrees indicated that the purebred Holstein Friesian sire number 2505 USA (HF) was common to the pedigrees of 778F and 811F and 2307 USA HF to 776F sire respectively, the lineage of purebred Holstein sire number 2505 USA (HF) was having greater susceptibility towards diarrhoea and pneumonia infections as compared to that of 2307HF. Probably due to common sire the offsprings born to sires 778F and 811F expressed more susceptibility towards diarrhoea and pneumonia when compared to its counterpart.

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