

## Prevalence of macro and micro-mineral deficiencies in hydrofluorotic cross bred cattle and water buffaloes in Bhatinda district of Punjab, India

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The present study was conducted to assess the macro- and micro-mineral deficiencies in hydrofluorotic cross bred cattle and water buffaloes of Bathinda district of Punjab, India. Blood samples were collected from 585 dairy animals from 25 villages of 8 blocks of the district. Fodder and soil samples were also collected for mineral estimation. Fluoride concentration in water samples intended for animal consumption and plasma samples of animals were estimated. High fluoride levels were observed in both plasma and water samples. The overall prevalence of hydrofluorosis (based on plasma fluoride levels) in crossbred cattle and buffaloes was 70.73 and 74.79 per cent, respectively. Based on plasma mineral analysis, sub-clinical deficiencies of Ca, Pi, Cu and Zn in both crossbred cattle and buffaloes were observed with maximal deficiency of Cu. Prevalence of sub-clinical deficiencies of Ca, Cu, Zn and Pi in crossbred cattle were 26.36, 57.74, 19.67 and 35.11 per cent, respectively and 19.35, 48.09, 19.06 and 23.86 per cent, respectively in buffaloes. Significantly lower mean plasma Ca levels were also observed in both hydrofluorotic crossbred cattle and buffaloes as compared to non- hydrofluorotic crossbred cattle and buffaloes. Fodder samples of the affected farms in the district had deficiency of Ca, Mg, Cu, Zn and Mn, whereas soil samples revealed deficiency of Mn and Fe. From the present study, it can be concluded that excess fluoride intake may result into macro- and micro-mineral deficiencies in cross bred cattle and water buffaloes.

### Biography

S.S. Randhawa has completed his Ph.D at the age of 38 years from C.S.A. University of Agriculture and Technology, Kanpur, India. He is the Director of Research cum Dean, Postgraduate Studies of Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab, a premier veterinary university of India. He has published more than 212 original research papers in referred international and national journals; visited U.S.A., Canada, Brazil, Italy and France for presentation of research papers in the past and to learn animal health programmes. He is fellow of five National Academies and Scientific Societies and has a professional experience of more than 30 years in veterinary sciences.

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