Indian Journal of Animal Sciences **92** (8): 1013–1019, August 2022/Article
https://doi.org/10.56093/ijans.v92i8.122008

Machine learning algorithms for predicting peak yield in buffaloes using linear traits

SUNESH[1]✉, A K BALHARA[1], N K DAHIYA[2], HIMANSHU[3], RISHI PAL SINGH[4] and A P RUHIL[3]

Guru Jambeshwar University of Science and Technology, Hisar, Haryana 125 001 India

Received: 22 March 2022; Accepted: 16 June 2022

Supplementary Table 1. Linear traits of dairy buffaloes

Trait	Description
Body length (BL)	Distance between point of shoulder to pin bone
Height at wither (HW)	Distance between highest point at shoulder blade to bottom of left hoof
Heart girth (HG)	Circumference of thorax at the point of elbow
Body depth (BD)	Distance between top of spine and bottom of barrel at last rib
Paunch girth (PG)	Measure of the circumference of barrel at the point of hip and before udder
Naval-udder distance (NUD)	Distance between naval and point of udder attachment
Udder depth (UD)	Distance from the lowest part of the udder floor to an imaginary line through the hock
Rear udder height (RUH)	Distance between bottom of vulva and rear point of attachment of udder
Fore teat distance (FTD)	Distance between fore teats
Rear teat distance (RTD)	Distance between hind teats
Fore rear teat distance (FRTD)	Distance between fore and hind teats
Teat length (TL)	Length of the left rear teat from base of udder
Rump width (RW)	Distance between the most rear point of pin bones
Rear udder width (RUW)	Width at point where udder is attached to the body at the rear

Supplementary Table 2. Comparison of algorithms in 'WEKA' Experimenter

Model	RMSE
MLR	2.1343[a]
ANN	2.0077[a]
SMOreg	2.1510[a]
RF	2.1058[a]

Note: Values with same superscript in a column did not differ significantly at a 5% level of significance.