



Factors influencing the occurrence of abnormal lactation curves in Iranian buffaloes



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✓ High peak yields in normal lactation curves are correlated with high total milk yield. An ideal lactation curve has a high peak yield with moderate persistency. However, some curves do not have distinguished peak. Curves, that characterized by the absence of the lactation peak, are called atypical lactation curves (ALCs). ALCs in three buffalo ecotypes were the subject of present study.

✓ The data set consisted of 24679 lactation records from 11478 buffaloes that calved during the years 1996 to 2012.



Khuzestani Ecotype



Azeri Ecotype



Shomali Ecotype

✓ The results revealed that almost 44% of the lactation curves were atypical. All factors but ecotype had significant effects on the occurrence of ALCs.

✓ The structure of the data also affected the trait significantly, lactations with 4 recorded test-days were 1.75 times more likely to have atypical curves than those with 8 recorded test-days.

✓ Heritability and repeatability of the occurrence of ALCs were estimated very low

Variance components, heritability and repeatability estimates of atypical lactation curves

Va (S.E.)	Vpe (S.E.)	Ve (S.E.)	Vp	Heritability	Repeatability
0.021 (0.022)	0.017 (0.016)	1.021 (0.029)	1.059	0.020	0.036

Va, Vpe, Ve, and Vp are additive, permanent environment, residual, and phenotypic variances, respectively.

In conclusion, the effects of environmental factors on the shape of lactation curves were considerably high and they contributed to much of the phenotypic variation of the trait, while additive genetic and permanent environmental components of the phenotypic variance were negligible and caused the heritability and repeatability parameters to be very low.