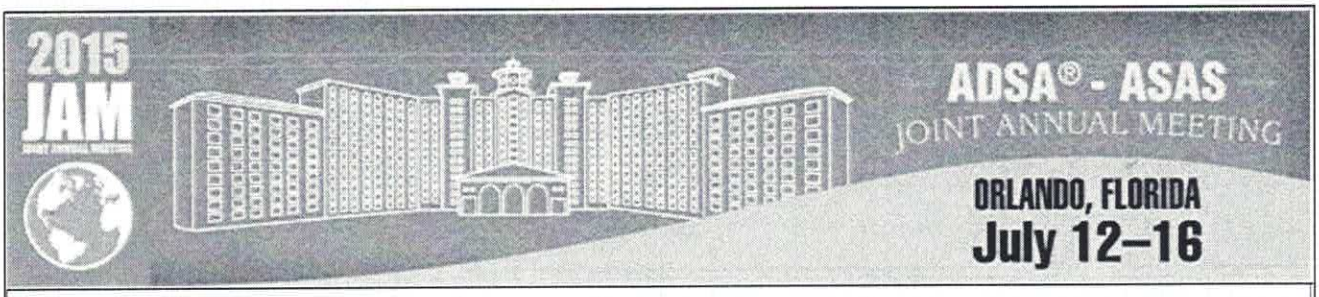

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Growth performance in Crossbred (Holstein x Gyr) calves differing in phenotypic residual feed intake on pre- weaned period

Juliana Mergh Leão*[1], Fernanda Samarini Machado[2], Mariana Magalhães Campos[2], Juliana Campos Carneiro[3], Paulo Campos Martins[1], Isabela Carvalho Costa[4], Paulo Sérgio Dornelas Silva[4], Brenda Karoline Alcântara Faria[3], Juliana Aparecida Mello Lima[2], Rayanne Soalheiro de Souza[1], Sandra Gesteira Coelho[1]; Universidade Federal de Minas Gerais - UFMG, Belo Horizonte, Minas Gerais, Brazil[1], Embrapa Dairy Cattle, Juiz de Fora, Minas Gerais, Brazil[2], Instituto de Ciências Agrárias da UFMG, Montes Claros, Minas Gerais, Brazil[3], Instituto Federal de Educação, Ciência e Tecnologia do Sudeste de Minas Gerais - IFSEMG, Rio Pomba, Minas Gerais, Brazil[4]

Montes Claros, Minas Gerais, Brazil[3], Instituto Federal de Educação, Ciência e Tecnologia do Sudeste de Minas Gerais - IFSEMG, Rio Pomba, Minas Gerais, Brazil[4]

The aims of this study were to quantify the variation in residual feed intake (RFI) of calves F1 (Holstein x Gyr) until 60 d of age and evaluate their productive performance. Eighteen calves received colostrum after birth (10% of body weight) and were housed in individual sand bed stalls in the experimental farm of Embrapa Dairy Cattle (Coronel Pacheco, Brazil). All animals were subjected to the same nutrition management which consisted of 6L of whole milk (TS; 11.75%) in equal amounts twice a day. Solid diet consisting of 95% of concentrated (88% DM; 20% CP and 3% Fat), 5% Tifton 85 hay (81% DM; 13.4% CP; 72.8% NDF; 32.3% ADF) and water were provided *ad libitum* from the first day of life. Feed solid diet, milk and water intakes were measured daily and body weight and morphometric measurements (withers height, hip height, chest circumference and rump width) were done at birth and at 60 days of age. RFI was calculated for each animal as the difference between actual DMI and expected DMI. Expected DMI was computed for each animal by regressing average daily DMI on mean $BW^{0.75}$and ADG over a 60 d period. Twelve animals were ranked according to the RFI into two groups: low (efficient) and high (inefficient). The data were analyzed in a completely randomized design by ANOVA using GLM procedure of SAS. High RFI calves had DMI 12.39% higher than the low group ($P < 0.05$). There was no difference in ADG, water intake and rump width between RFI groups ($P > 0.05$).Withers height, hip height, chest circumference were higher ($P < 0.05$) for the low RFI group.

Table 1. Main effect means and SE to intake and growth performance parameters in crossbred (Holstein x Gyr) calves differing in phenotypic residual feed intake. Means within rows followed by the same letter are not significantly different (P≥0.05).

Parameters	Low RFI	High RFI	SE	*P*-value
RFI. kg DM/d	-0.13	0.07	-	-
Average daily gain. kg/d	0.730 a	0.746 a	0.02	>0.05
Dry matter intake. kg/d	0.941 b	1.074 a	0.03	<0.05
Water intake. L/d	1.00 a	1.38 a	0.20	>0.05
Milk Intake. kg/d	0.803 a	0.795 a	0.04	>0.05
Hip height. cm	92.25 a	91.87 b	0.96	<0.05
Chest circumference. cm	94.00 a	93.50 b	1.33	<0.05
Rump width. cm	25.67 a	25.50 a	0.40	>0.05
Withers height. cm	88.20 a	87.25 b	0.89	<0.05

KEYWORDS
measurements
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efficiency