Maintenance energy requirements of goats

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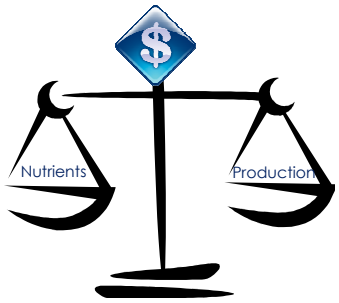
Background



Determine the effect of **gender** on maintenance **energy** requirements of Saanen goats weighting between 30 and 45 kg.

Material and Methods

Pair fed within gender:
ad libitum
75% of ad libitum
50% of ad libitum

Slaughtered when the ad libitum goat reached 45 kg of BW.

✓Comparative slaughter technique

✓Heat production (**HP**, kJ/kg of $EBW^{0.75}$) = ME intake (**MEI**) - Retained Energy (**RE**).

✓The antilog of the Intercept of the linear regression equation between the log of HP and MEI was used to estimate the requirement for NE_m.

✓**ME_m**, was computed by iteratively solving the semilog of linear regression equation until HP was equal to MEI.

Results

Inicial energy content in the EBW, was given by following equations ($P < 0.0001$; RMSE = 0.033) because the intercept differed between genders ($P < 0.0001$).

✓ Log_{Energy} (♀)= 7.63 ±1.43 -1.59 ±0.70×Log EBW

✓Log_{Energy}(all males)= 3.44 ±0.65+1.47±0.27×Log EBW

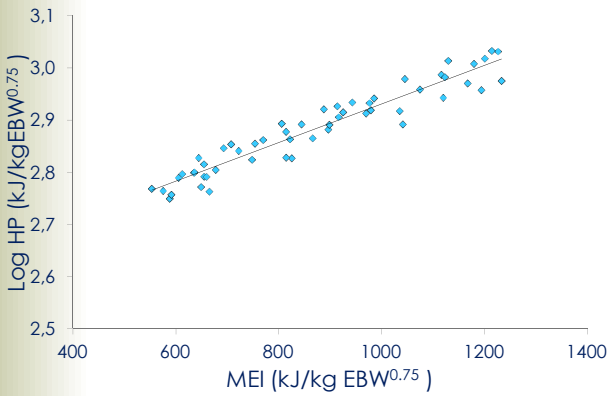
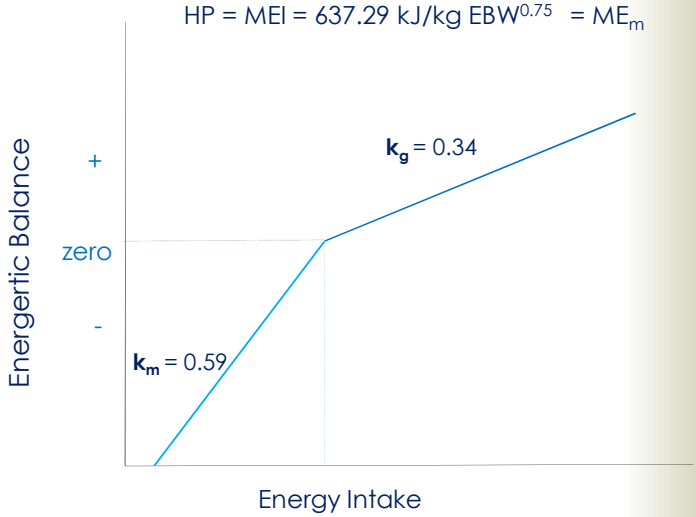


Figure 1. Relationship between MEI and Log HP of Saanen goats weighting between 30 and 45 kg.
LogHP = 2.5781±0.01265 + 0.000355±0.000014 × MEI
($P < 0.001$, RMSE = 0.021)

HP = MEI = 637.29 kJ/kg $EBW^{0.75}$ = ME_m



HP = MEI at maintenance = 378 kJ /kg $EBW^{0.75}$ = NE_m

Conclusion

Recommendations:
$ME_m = (318.1/ k_m)*BW^{0.75}$

Acknowledgement

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