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

- Comparative slaughter technique
- Heat production (HP, kJ/kg of EBW0.75) = ME intake (MEI) - Retained Energy (RE).
- The antilog of the Intercept of the linear regression equation between the log of HP and MB was used to estimate the requirement for NEm.
- NEm was computed by iteratively solving the semilog of linear regression equation until HP was equal to MEI.

Results

Initial 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].

\[
\log_{\text{Energy}} (g) = 7.63 \pm 1.43 - 1.59 \pm 0.70 \times \log \text{EBW}
\]

\[
\log_{\text{Energy}} \text{[all males]} = 3.44 \pm 0.65 + 1.47 \pm 0.27 \times \log \text{EBW}
\]

![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)](image)

Conclusion

Recommendations:

\[
\text{ME}_m = (318.1/ \text{k}_{\text{m}})^{\text{BW}^{0.75}}
\]

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