

Managing Feed Use Efficiency in Peri-Urban Dairy Herds in Pakistan

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Introduction

Goal: Evaluation of existing husbandry practices to optimize feeding and resources use efficiency

Approach: 12 months monitoring of feeding, milk offtake and live weight development of cattle and buffaloes

→ **Comparison:** of feed offer with performance-based energy requirements



Fig. 1: Monitoring of feeding, milk and live weight at different sites

Methodology

- ❖ 12-month monitoring of feeding, milk yield and live weight development of cattle and buffaloes on 15 mixed farms
- ❖ Farm types were semi-commercial small-scale mixed (SSM), semi-commercial small-scale dairy (SSD) and commercial small-scale dairy (CSD); mainly stall feeding
- ❖ Regularly collected samples of feeds offered were analysed for their nutrient composition



Fig. 2: Cotton seed cake and green fodder + wheat straw feeding

Results

- ❖ Offered feed dry matter, protein and fibre differed ($P < 0.05$) between the production systems and seasons
- ❖ Offer of metabolisable energy (ME) was similar for the three production systems ($P > 0.05$) in all four seasons
- ❖ Daily milk yield (corrected to 4% fat) was 13.5 L in buffaloes and 8.1 L in cattle. Milk offtake from buffaloes was higher in spring and hot summer ($P < 0.05$).
- ❖ A lactating buffalo was exposed to a daily ME deficit of -7.0 MJ and -8.5 MJ on SSM and CSD farms, and to a balanced energy supply (+1.7 MJ) on SSD farms

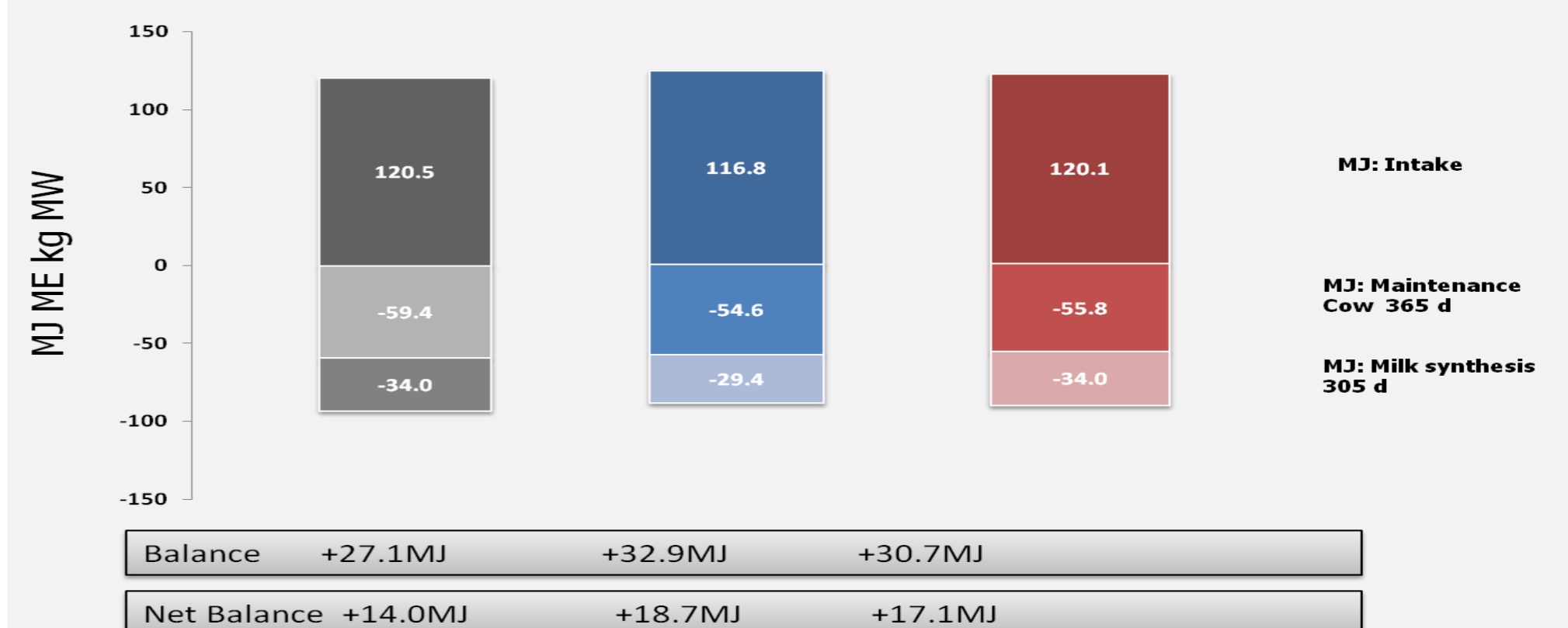


Fig. 3: ME intake versus requirements in dairy buffaloes

- ❖ For cattle, a daily ME oversupply of 14.0 MJ, 18.7 MJ and 17.1 MJ was calculated on SSM, SSD and CSD farms

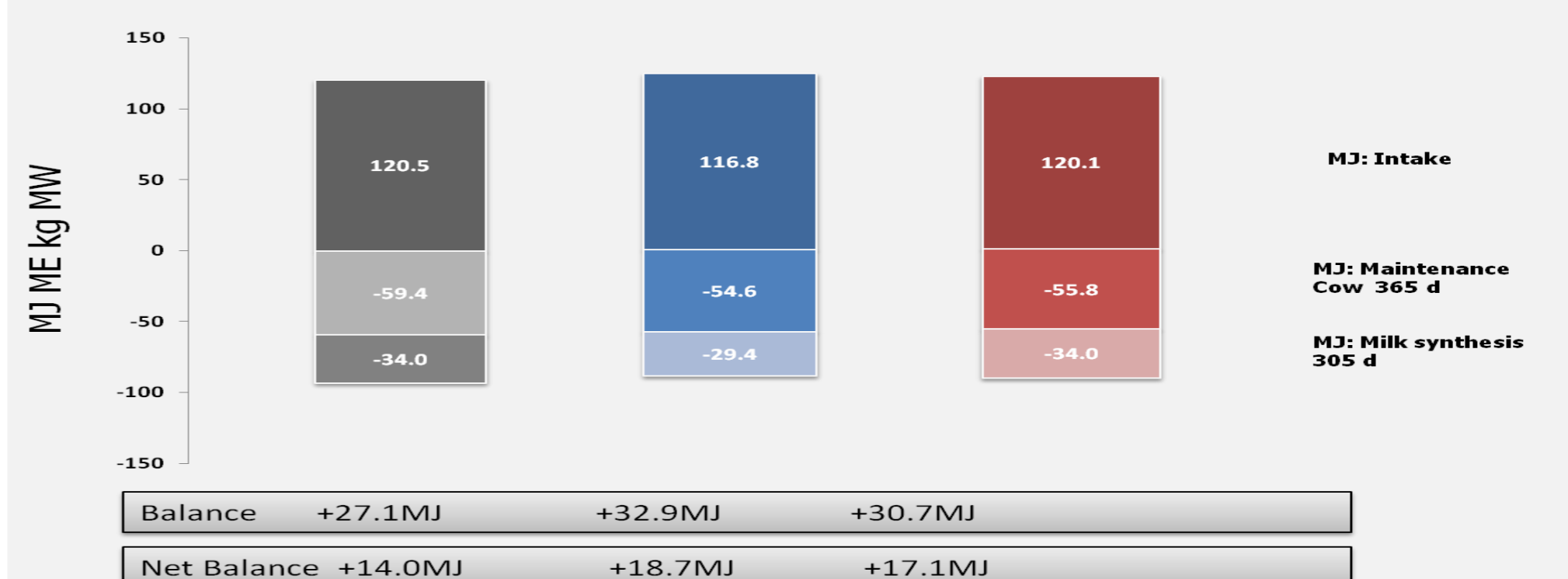


Fig. 4: ME intake versus requirements in dairy cattle

Conclusions

- ❖ Undersupply of feed and nutrients to high producing and oversupply to low producing dairy animals
- ❖ More efficient feed utilization is possible through separate feeding of physiologically homogenous groups of buffaloes and cattle, according to requirements