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Gianluca Neglia, Giovanni Piccolo, Angela Salzano.**



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ANIMAL PHYSIOLOGY, HEALTH AND WELFARE – ANIMAL WELFARE I

O119

Time-based feed restriction and group size in growing rabbits: effects on health status and growth performance

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The effects of the feeding programme (R, time-based feed restriction vs. L, *ad libitum*) and group size (from 6 to 32 rabbits/group) were evaluated on 368 crossbred rabbits from 31 to 73 days of age. In R group, the access time to feeders was reduced during the 1st week from 14 to 8 h/d, maintained at 8 h/d in the 2nd week, and then increased by 1 h/d during the 3rd and 4th week up to 24 h/d. Rabbits were housed in cages or pens with different dimensions and group sizes, i.e. conventional cages (8 cages of 0.33 m², 6 rabbits/cage), small pens (8 pens of 0.50 m², 8 rabbits/pen), medium pens (1.00 m², 16 rabbits/pen), and large pens (4 pens of 2.00 m², 32 rabbits/pen). Individual data of live weight (LW) and daily weight gain (DWG) were analysed by PROC MIXED (SAS), with the feeding programme, the housing system and their interaction as main effects and with the cage or pen as a random effect. Cage and pen data for feed intake (FI) and feed conversion (FC) were analysed by PROC GLM (SAS), with the feeding programme, the housing system, and their interaction as main effects. Mortality and morbidity rates, and health risk index (HRi) (mortality + morbidity) were analysed by the PROC GENMODE (SAS). L rabbits evidenced epizootic enteropathy (ERE) during the first two weeks on trial, whereas R rabbits fell ill only in the following two weeks during refeeding. In the whole trial, however, R rabbits reached a higher HRi as compared to L rabbits (16.3% vs. 11.9%; $p < .05$). During restriction, R rabbits exhibited lower FI (94 vs. 123 g/d), DWG (47.4 vs. 56.2 g/d), and FC (1.97 vs. 2.21) in comparison with L rabbits ($p < .001$) whereas during the refeeding period, R rabbits achieved higher DWG (52.2 vs. 47.4 g/d) and better FC (2.97 vs. 3.19) than L rabbits ($p < .001$). In the whole trial, R rabbits showed significantly lower FI (141

vs. 149 g/d), and FC (3.04 vs. 3.12), as well as lower DWG (46.5 vs. 47.7 g/d) and final LW (2695 vs. 2750 g) than L rabbits ($.001 < p < .05$). Mortality rate tended to increase with increasing group size (3.4% in cages and pens with 6 and 8 rabbits vs. 10.9% in pens with 16 and 32 rabbits; $p = .06$) without effects on growth performance. In conclusion, time-based feed restriction significantly improved feed efficiency but had some negative effects on health status and reduced final live weight of group-housed growing rabbits.

O120

Veal calves' abomasal lesions and rumen mucosa alterations investigated post-mortem: is there any way to differentiate 'good' from 'bad' farms?

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Several years of research on abomasal lesions and rumen mucosa alterations and on the predisposing and risk factors in intensively reared veal calves have not overcome the problem. Abomasal lesions, in particular, are the most frequent post-mortem findings (70–93% of animals). Since this problem is one of the major welfare concerns, this study aimed at assessing the prevalence of abomasal lesions and rumen mucosa alterations at a commercial slaughterhouse as strategic observation point and at differentiating 'good' from 'bad' farms.

The post-mortem assessments were carried out by a veterinarian who evaluated abomasa and rumens after their emptying, without interfering with the regular procedures and schedule of the slaughterhouse. Abomasa and rumens of the first 15–16 animals per batch were evaluated. The occurrence of lesions on torus pylorus and in the pyloric area of the abomasa was recorded as a binary. Lesions in the pyloric area were also classified according to 3 size classes: 1 = lesions with diameter < 0.5 cm², 2 = 0.5–1 cm², and 3 = > 1 cm². The presence of plaques (multiple patches with coalescing papillae covered by a sticky mass and hair), hyperkeratosis (hardened rumen papillae), and underdeveloped rumen mucosa (almost no papillae in atrium and ventral and dorsal rumen) were recorded as binary. Herd-level prevalence were calculated and submitted to descriptive statistics.

Results of this study regard a total of 653 abomasa and 653 rumens (15.9 ± 3.1 organs/batch (mean \pm SD)) from 41 batches slaughtered in 13 days. The slaughter batch size was 60.6 ± 21.5 and carcase weight 162.7 kg ± 23.4 . Lesions on torus pylorus and in the pyloric area were present in $84.7\% \pm 15.1$ and in $92.5\% \pm 10.0$ of abomasa observed, respectively. Over 77% of abomasa presented at least a large lesion (size class 3). Plaques,