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Behavioural aspects of integration of young calves in dynamic groups fed with automatic milk feeding system

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ABSTRACT :

The increased number of cows per herd and the reduction of full-time workers per farm in dairy production promote livestock systems using simplification and automation. In such a context, rearing calves in dynamic groups fed with automatic milk feeding system (AMFS) may be of interest but concerns about welfare troubles due to the permanent social reorganizations may also arisen.

Present study aimed at measuring the variability of individual responses in this system by evaluating the influence of animal and environmental parameters on the social and feeding behaviour of 81 heifers born during autumn 2010. Heifers were introduced into the groups at eight days old and observations of the behaviour of new and older animals were performed two days after.

Calves learnt to use efficiently AMFS within five days, without any effect of age or body weight when introduced in the group. The heaviest newly introduced calves (> 42 kg) were more often in close contact with another calf than lightest ones (85 vs 62%, $p < 0.10$), suggesting a faster integration. Limiting the number of entering calves was in favour of increased social behaviour (2.2 vs 0.0% of time spent to social behaviour respectively for 1-2 entering calves or 3-4).

Feeding behaviour was modulated by environmental and social factors. The low temperatures decreased daily milk consumption of new entering calves during the entering day (43 vs 59% of daily allowed amount respectively, for a temperature > or < 9°C; $p < 0.05$). Larger group of resident calves didn't disturbed entering calves' milk consumption.

Present results suggest that the welfare of heifers reared in dynamic groups fed with AMFS could be improved by delaying the introduction of small calves, by limiting the number of animals entering simultaneously and by protecting the animals from too cold temperatures.

Poster