Effects of level of social contact on dairy calf behavior and health

Housing preweaned dairy calves in pairs rather than individually has been found to positively affect behavioral responses in novel social and environmental situations, but concerns have been raised that close contact among very young animals may impair their health. In previous studies, the level of social contact permitted in individual housing has been auditory, visual, or physical contact. It is unclear how these various levels of social contact compare with each other and to pair housing, when their effects on behavior and health are considered, and whether the timing of pair housing has an effect.

To investigate this, 110 Holstein calves (50 males, 60 females) in 11 blocks were paired according to birth date. Within 60 h of birth, each pair of calves was allocated to 1 of 5 treatments: individual housing with auditory contact (I), individual housing with auditory and visual contact (V), individual housing with auditory, visual, and tactile contact (T), pair housing (P), or individual housing with auditory and visual contact the first 2 wk followed by pair housing (VP). At 6 wk of age, calves were subjected to a social test and a novel environment test. In the social test, all pair-housed calves (P and VP) had a shorter latency to sniff an unfamiliar calf than did individually housed calves (I, V; and T), whereas calves with physical contact (T, P, and VP) sniffed the unfamiliar calf for longer than calves on the remaining treatments (I and V). In the novel environment test, calves with physical contact (T, P, and VP) had a lower heart rate, and more of these calves vocalized during the test compared with calves without physical contact (I and V). No effect of treatment was found for clinical scores, levels of the 5 most common pathogens in feces, or in development of serum antibodies against the 3 most common respiratory pathogens. Calves housed individually are more fearful of unfamiliar calves than are pair-housed calves. Contrary to common belief, the allowance of physical contact and pair housing had no effects on the health of the calves.
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 2
Scopus rating (2009): SJR 1.321 SNIP 1.717
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 1.226 SNIP 1.556
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 0.978 SNIP 1.894
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 1.169 SNIP 1.656
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 0.978 SNIP 1.639
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 1.02 SNIP 1.59
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 1.135 SNIP 1.64
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 0.94 SNIP 1.579
Web of Science (2002): Indexed yes
Scopus rating (2001): SJR 0.974 SNIP 1.499
Scopus rating (2000): SJR 0.919 SNIP 1.454
Web of Science (2000): Indexed yes
Scopus rating (1999): SJR 1.047 SNIP 1.404
Original language: English
behavior, health, social, animal welfare, DAIRY cattle, Research
DOIs:
10.3168/jds.2013-7311
Source: FindIt
Source-ID: 269301693
Publication: Research - peer-review › Journal article – Annual report year: 2014