Comparison of animal welfare on conventional and organic dairy farms

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Keywords: *monitoring dairy animal welfare, scoring systems, loose housing*

Introduction

During the last years, concern has increased concerning animal welfare at the farm level. The Associations of Organic Agriculture have elaborated minimum requirements regarding animal welfare. The aim of the study was to compare the welfare status on conventional and organic dairy farms.

Material and methods

Firstly, an inquiry was carried out on 241 German farms with newer straw based loose housing systems (straw yards, bedded sloped floors and cubicle houses) to obtain key features (108 organic and 133 conv. farms, 10.900 cows). Secondly, on 65 farms, housing conditions were examined in detail (35 org., 30 conv. farms). For this reason, a new assessment scheme has been developed which focusses on 36 criteria in 3 functional areas of the stable (laying, feed, walking area) (Hörning, 1997). A maximum of 120 points can be achieved. For comparison purposes, other index systems were used ('Tiergerechtheitsindex' TGI 35 L resp. TGI 200, see Bartussek, 1999).

Results and discussion

Inquiry: Choice of housing system was not influenced by farming method. Organic farms kept horned cows more often than conventional ones. Cows on organic farms had more access to outside yards or pasture. Organic farmers offered more space in the laying area and in the outside yard (Table 1). Cubicle house measures did not differ significantly, but organic farms had a higher proportion of cubicles with non-rigid side partitions.
On-farm evaluation: Organic farms achieved significantly higher scores than conventional ones in each scoring system. The Spearman Correlation Coefficient between the TGI's was 0.84. Correlation coefficients with the TGI's to the new scheme was lower (0.73 respective 0.75), but also highly significant. Using this scheme, there have been significantly differences between conventional and organic farms in feed and walking area (Table 2). Considering single criteria, cubicle length and width, feeding face, slope of the feeding rack, availability of brushes, and type of drinker scored less than half of the maximum points within the new scheme.

Table 1: Key features of 241 farms (inquiry)

	conv.	organ.	Sign.
horned cows (% of farms)	10.0	51.0	***
outside yard (% of farms)	36.5	60.4	**
pasture (% of farms)	62.1	79.2	**
open front stable (% of farms)	14.6	32.3	**
lying area - straw yard (m²/cow)	5.3	6.0	*
lying area - sloped floor (m²/cow)	4.0	5.3	*
outside yard (m²/cow)	4.0	5.7	*

T = p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Table 2: Application of 3 animal welfare scoring systems on 65 farms

	conv. [1]	organ. [1]	Sign. [2]
TGI 35	18.9	24.2	**
TGI 200	55.3	65.9	**
new scheme	51.9	67.2	***
- laying area	17.8	22.3	T
- feed area	19.9	25.8	***
- walking area	14.2	19.1	***

[1] % of resp. maximum points, [2] see Tab. 1

Conclusions

Concerning sample used (straw based loose housing systems), organic farms on average showed a better welfare status than conventional farms. This has also been demonstrated in other studies (for a review see Hörning, 1998). Mean points achieved in single criteria show deficiencies and therefore potential for improvements. The respective scoring systems seem to be suitable for an on-farm assessment of housing conditions and thus to demonstrate the preconditions for animal welfare as an indirect measure. A more direct assessment of welfare should include more animal health parameters like injuries or diseases.

References

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