



## ***NORDIC ISAE 2006***

***Proceedings of the 18<sup>th</sup> Nordic Symposium of the  
International Society for Applied Ethology***

***18-19 January 2006  
Espoo, Finland***

***SSES  
FINNISH SOCIETY FOR  
APPLIED ETHOLOGY***

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*Finnish Society for Applied Ethology*

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Published by: Finnish Society for Applied Ethology*

## Assessing welfare of organic laying hens in Finland with resource-related and animal-related methods

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The objective of this study was to assess the welfare of organic layer flocks in Finland and to compare resource-related methods with animal-related methods.

A total of 20 out of 23 organic layer farms that sold eggs to consumers through egg packaging companies or food shops took part in the research. Data was collected during two farm visits (autumn 2003 and winter-spring 2004) by interviewing the producer, using a semi-structured interview guide, making environment and animal-based observations and collecting samples. Resource-related methods in this study were ANI 35L/2001 (Bartussek, 2001), housing environment and litter moisture and animal-related methods hen scoring (20–50 hens/flock, all together 911 hens) (Gunnarsson et al. 1995), flock-level fear of humans (assessed as reaction of birds to researcher (tame, distant, fearful)) and hen weight. Correlations (Spearman's rho) between different parameters were calculated and an ordinal regression model was used to model significant interactions further. The farm averages of hen scoring variables were changed to logistic (0/1). Hen hybrid was added to the model.

The hen number at farms varied between 150 and 5,072, and 55% of farms had fewer than 1000 hens/flock. Hens were not beak trimmed. The two most popular hybrids were Lohmann white LSL (40% of flocks and 67% of hens in 2004) and Hy-Line Variety Brown (35% of flocks and 13% of hens). The overall ANI score varied between 15.5 and 31 points, on average 24.8 points (2003) and 23.9 points (2004). Housing environments were mainly according Finnish recommendations. Litter moisture was acceptable, on average 22 % (2003) and 25 % (2004), but was more than 30 % in 3 (2003) and 5 (2004) hen houses. Feather status and skin status were, by and large, good. Moderate wear of feathers on back, wings and/or tail were seen in 1.4–16.9% (2003) and 2.3–29.4% (2004) of scored hens and featherless areas were seen in 0.7–8.1% (2003) and 0–9.6% (2004) of scored hens on average. Pecks at the skin of back, wings, tail, belly and/or cloacae were found in 0.4–3% (2003) and 0.6–6.1% (2004) of the scored hens on average. According the interviews of producers and observations during farm visits signs of feather pecking and/or cannibalism were seen in three (2003) and two (2004) different flocks. In 2003 and 2004, there were 10 and 8 tame, 7 distant and 2 fearful flocks. Total ANI-score did not correlate with any single variable from the hen scoring nor with flock-level fear of humans ( $p < 0.1$  for all). When analysing the five ANI fields and flock-level fear of humans two categories remained: 'locomotion' ( $r = -0.86$ ,  $P = 0.01$ ) and 'stockmanship' ( $r = 0.51$ ,  $P = 0.05$ ).

Feather pecking and cannibalism found during farm visits seem to be at lower level than in some other investigations, even though the hens were not peak trimmed. The analysis gave only few interactions between environment-related and animal-related methods. To assess animal welfare both animal-based and environment-based methods have to be considered.

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