

### **Genetic selection on home pen locomotor activity in chickens**

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**P-34.** It has been suggested that feather pecking in laying hens might be genetically linked to their activity level (Kjaer, 2009). If feather pecking and activity are genetically correlated, selection for increased activity should lead to higher levels of feather pecking. Before this hypothesis can be tested, lines genetically selected on locomotor activity need to be developed. Hitherto such selection was done in experimental test cages but here, for the first time, selection was performed on undisturbed locomotor behaviour in the home pen. Two selection lines were developed from a New Hampshire control line. They were selected on low (LA) or high (HA) levels of activity respectively. In each generation and line, 10 sires and 20 dams produced an average of 200 offspring for selection. In S4, 850 chickens of all three lines were phenotyped for comparison. Activity was recorded over 5 days in the home pen at 5 weeks of age, using a transponder system (Kjaer, 2009). Response to selection was good and fairly symmetric, with activity in LA and HA being 58% and 28%, respectively, relative to the control line. Contrary to the expectation, the low activity chickens had lower (GLM,  $F_{2,850}=96$ ,  $p<0.001$ ) BW at 5 weeks of age compared to the C and HA chickens, which did not differ significantly (368 g, 413 g and 407 g, respectively).