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## **Broiler welfare index based on slaughter-house variables**

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The Council of the European Union has laid down the welfare directive for broiler chickens (2007/43/EC) 12.6.2007. It will come into force after a three year transitional period in 30.6.2010. The directive defines the welfare demands and objectives for growing broilers from stocking density of the birds, the quality of air, the conditions, mortality, to the farmer's education.

The general lines are set in the directive and the more exact rules of interpretation are made nationally. The "general level" of the welfare is especially interpretative. The level of the welfare can be determined for example with a different welfare index in which welfare variables have different weight values. The welfare index attempts to estimate the animal's welfare comprehensively on the farm, and be a measure of welfare with farms can be compared.

The purpose of this study was to develop a welfare index which is suitable for Finnish broiler production. Animal welfare problems in broiler production are connected to fast growth and production environment. The mortality and post-mortem information was 90 commercial flocks. The data was analysed and based on this analysis and literature, five welfare variables and their subclasses were chosen for the index: mortality, ascites, foot-pad score, dermatitis and kachexia. Data of 24 simulated flocks were sent to poultry experts of slaughter-houses, feed industry, administration and research. The experts were asked to sort flocks from worse to best according to welfare. The statistical analysis was made with the conjoint analysis, which finds the best possible combination from given variables, so other variables are weighed more than others according to experts' opinions.

Based on 20 experts' opinions, the relative importance for broiler welfare were: 27.2 % for mortality, 28.6 % for ascites, 27.0 % for foot-pad score, 13.7 % for dermatitis and 3.5 % for kachexia. Subclasses of each welfare variables got a class-specific weight value (utility value) with which it was possible to calculate the welfare index. The test the feasibility of the index, it was applied to slaughter-house results of 90 actual flocks. This index can be used as an indicator of flocks' welfare and to compare flocks' and farmers' results. In the future the answers of different expert groups are compared and the index may be improved.