Objective carcass grading for bovine animals based on carcass length

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Introduction: The aim of the study was to evaluate performance for beef carcass grading using a novel semi-automatic method compared to human classifiers. The novelty was measuring carcass length as a predictor. The grading is given as conformation and fat cover as defined by the EUROP classification system.

Materials and methods: A training set was used to fit the model with predictors based on weight, age, breed and sex, in addition to length. Prediction performance was evaluated for a test set including carcasses graded by Norwegian classifiers, and a separate test set for carcasses graded by international classifiers.

Results: The precision for conformation was high (Pearson correlation ≥ 0.94) for both test sets, but the precision for fat cover was lower (Pearson correlation range 0.30-0.91).

Conclusion: High correlation for conformation, together with low bias estimates, provides indication that the objective method is equipped to replace the previous human classifier system for conformation in Norway.

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