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A pilot study to develop an assessment tool for sheep welfare after long journey transport

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Abstract

Sheep transport within Europe involves 9.5 million animals yearly, 63% of which travel over long journeys (> 8 h). Livestock transport, particularly over long journeys, gives rise to concern about the welfare of transported animals. The European Commission stimulates the development of market-oriented animal welfare standards for all phases of livestock production, providing an alternative to the 'regulatory approach'. This study aimed to develop and test a new sheep welfare assessment protocol to be used following transport, irrespective of the journey purpose. The protocol included outcome (animal-based measures) and input variables (resource-based and management-based measures), being welfare-relevant aspects of both transport and unloading procedures. Weighted Cohen's Kappa and Fleiss' Kappa index of agreement were calculated to evaluate the raters accuracy and the inter-observer reliability. Overall, good agreement levels were found. The protocol was tested on 40 commercial transports arriving at previously selected assembly centres and slaughterhouses in Italy and Greece. The protocol was found to be feasible when applied to commercial transports, allowing for a comprehensive and quick sheep welfare assessment during unloading, without impairing stockman work. Univariate analysis was carried out to evaluate associations between outcome and input variables. In this study, significant association between outcome measures and risk factors were identified when associated to unloading procedures but not to travel conditions. In collaboration with the relevant stakeholders, this protocol might be developed into a tool for routine checks for certification purposes and could provide direct feedback to all professionals involved in animal transportation on the weaknesses and strengths of their work.

Keywords: *animal welfare, long journey, sheep, transport, welfare assessment, welfare indicators*