# A DELPHI STUDY TO BUILD PAIN SCORING SCALE IN CATTLE

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## Objectives

Detecting pain in cattle is a prerequisite for good health and welfare management. Until recently, there was no specific pain detection scale for cattle beyond lameness scoring. More recently, some grids have been developed for cattle: some specific to surgery (BOTUCATU grid from De Oliveira et al., 2014) and others not specific to a particular disease (Gleerup's pain scale from Gleerup et al., 2015). In addition, although the use of analgesics seems to be increasing, there is a need for greater awareness of the subject among farmers and veterinarians. Delphi method is an interactive forecasting method which relies on a panel of experts and can be used to help reach expert consensus and develop professional Therefore, the objective of this study was, through a Delphi method, to propose simple and if possible specific grids for detecting pain in cattle in the context of specific diseases.

## Material and methods

After a survey of existing grids, all the signs of pain in cattle recognised in the literature were listed. The validation and combination of the signs of interest were carried out based on the Delphi method, using a panel of 12 experts recognised for their expertise in cattle pain. A first round of the questionnaire was submitted, based on a list of possible signs for each of the following conditions: mastitis, metritis, reticuloperitonitis, bovine respiratory disorders, dystocia, normal calving, c-section and dehorning, eye disease, omphalitis, diarrhoea. The experts were asked to answer whether or not the signs included in the questionnaire were relevant, and if so specific, to detect pain. After the first round (11 experts' responses), the criteria considered relevant by 10 experts at least were conserved for the second round. Experts also could add other signs not listed. The second round aimed to consolidate the results of the first round and investigate the relevance of additional signs identified by experts. At this stage, the criteria considered as relevant by 11 experts out of 12 were conserved for the last round which aimed to prioritize the signs and indicate if painkillers should be used when a single sign was detected or a certain number has to be detected.

The pain grids were created thanks to the experts' high level of approval for many criteria. Groupings of signs by clinical similarity were made to reduce the long lists that could be dissuasive for the evaluators.

## Results

For instance, for metritis, the relevant signs finally included in the grid were: discomfort on transrectal palpation of the uterus, contracted abdomen, increased lying time, stranguria, and rapid tail movements.

For calf diarrhoea, the relevant signs finally included in the grid were: tight abdomen, tenesmus, tooth grinding, tail flicking, and modification of lying bouts and hind legs position. The different grids for each condition will be presented.

Although combining several signs and conditions could increase the grids' specificity, the grid's sensitivity seems to be favoured by the experts who recommend the administration of NSAIDs as soon as a sign of pain is present: doubt must benefit the animal.

## Conclusions

The grids thus developed through the Delphi method will serve as daily support for farmers and veterinarians to improve the detection and management of pain in cattle. The further steps consist of developing an application for smartphones and tablets for both vets and farmers to test these grids in the field and increase awareness around pain management in cattle.

## References


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