

## 43<sup>rd</sup> Congress of the International Society for Applied Ethology

6–10 July 2009

Cairns Convention Centre, Cairns,  
Australia

HOME

HOST

PROGRAM

TIMETABLE

PRESENTERS

ABSTRACTS

IMPORTANT DATES

TRAVEL AWARDS

ACCOMMODATION

FUNCTIONS

DESTINATION

SPONSORS

EXHIBITION

GENERAL INFORMATION

COMMITTEE

RELATED MEETINGS

### Improving the welfare of calves through the use of topical anaesthesia

Sabrina Lomax, The University of Sydney, Australia

Professor Peter Windsor, The University of Sydney, Australia

Dr Meredith Sheil, Animal Ethics Pty Ltd, Australia

Castration and dehorning are husbandry procedures routinely performed without analgesia or anaesthesia in Australian cattle herds. These procedures cause considerable pain and suffering to the calves but are considered necessary for economic, safety and quality-control reasons. With the increasing shift toward welfare conscious markets, we can no longer ignore the strong ethical and commercial imperatives to explore methods for pain alleviation during routine husbandry procedures. Following the success of our previous studies into the use of topical anaesthesia (TA) for mulesing, castration and tail-docking in lambs (references), our group has been researching the application of a topical anaesthetic gel formulation for castration and dehorning purposes in cattle. Twenty-seven Angus bull calves (mean initial body weight 135.8kg +/- 5.7kg) were randomly allocated to one of treatment groups for either surgical castration (n = 9), surgical castration in combination with TA (n=9), or sham castrated controls (n=9). Calves were placed in a crush, where skin sensitivity of wound and peri-wound surfaces was assessed using an electronic von Frey anaesthesiometer (IITC Life Sciences) over a 2 to 24 hour period after surgical castration with a sterile, sharpened knife. Results were measured as pressure (g) exerted to invoke animal withdrawal and/or reflex, and were analysed using repeated measures analysis (REML) and linear regression. TA treated calves exhibited overall significant ( $p < 0.001$ ) primary wound analgesia (mean pressure exerted  $559.2 \pm 14.26g$ ) as compared to untreated calves ( $612.96 \pm 12.17g$ ). TA calves also displayed less secondary wound hyperalgesia ( $602.82 \pm 16.5g$ ) than untreated calves ( $515.2 \pm 20.3g$ ). In these studies topical anaesthesia successfully reduced the post-operative wound sensitivity of castration in calves. Topical anaesthesia may present a cost-effective and management-friendly approach to on-farm pain alleviation and is proposed as a useful tool to reduce the welfare impact on the animal during routine husbandry procedures.

Email: [isae2009@icms.com.au](mailto:isae2009@icms.com.au) Homepage: [43rd Congress of the International Society for Applied Ethology](http://www.isae2009.com).  
Congress Organiser: ICMS Pty Ltd, 88 Merivale Street, South Bank, Queensland 4101, Australia Telephone: +61 7 3844 1138  
Fax: +61 7 3844 0909