

# Welfare Issues in Farm Animal Ophthalmology

David L. Williams, MA, VetMB, PhD, CertVOphthal, CertWEL, FRCVS

## KEYWORDS

• Eye disease • Farm animal welfare • Pain • Suffering

One of the most exciting days of my year as a university lecturer is the graduation ceremony for our students, the moment they become veterinarians. There and then the students affirm “my constant endeavor will be to ensure the welfare of the animals committed to my care.”<sup>1</sup> Yet in farm animal practice, there is often a clear tension between animal welfare and the economic basis of food animal production.<sup>2</sup> It can be that animal welfare, animal well-being, is compromised by the stringencies of intensive animal husbandry. On the other hand, usually when disease impairs animal welfare, it also has deleterious effects on production. Conditions such as infectious keratoconjunctivitis or ocular squamous cell carcinoma, while having negative effects on animal welfare, also have profoundly deleterious effects on animal production.

In this article, the author discusses the welfare implications of the conditions covered in other articles in this issue and how these affect treatment of the diseases.

## PAIN, SUFFERING, AND STRESS IN PRODUCTION ANIMALS

Pain may be defined as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”<sup>3</sup> While many from Descartes onwards considered that animals could not feel pain<sup>4</sup> or at least were not self-consciously aware of pain,<sup>5</sup> such a view is much less common today.<sup>6</sup> Given that animals, or at the very least mammals and birds, have the same nociceptive machinery as humans in terms of pain-related neurotransmitters, nociceptive neural pathways, and pain-sensing brain structures,<sup>7</sup> it would be foolish not to attribute somewhat similar pain sensations to them. These pain sensations account for the sensory aspect of the definition given earlier. What though of the emotional side of pain? Changes in behavior in animals exposed to painful stimuli show that response to a nociceptive stimulus is more than a mere reflex, yet the relationship between the injury itself and the response to pain can be varied and complex.<sup>8</sup> Indeed, a major part of the problem in assessing ocular pain in production animals, such as ruminants,

---

Veterinary Ophthalmology and Animal Welfare, Department of Veterinary Medicine, University of Cambridge, Cambridge CB3 0ES, England, UK  
E-mail addresses: [dlw33@cam.ac.uk](mailto:dlw33@cam.ac.uk); [doctordwilliams@aol.com](mailto:doctordwilliams@aol.com)

Vet Clin Food Anim 26 (2010) 427–435

doi:[10.1016/j.cvfa.2010.08.005](https://doi.org/10.1016/j.cvfa.2010.08.005)

[vetfood.theclinics.com](http://vetfood.theclinics.com)

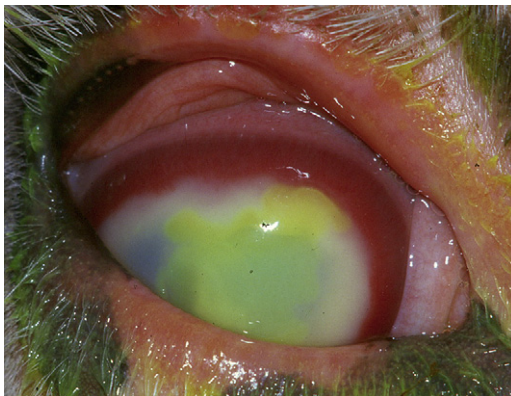
0749-0720/10/\$ – see front matter © 2010 Elsevier Inc. All rights reserved.

is that evolution has designed them to disguise much of their pain response. For example, lameness is a major problem in dairy cattle at present. Gait analysis shows that early signs of foot pain are missed by many farmers. Use of pedometers shows that changes in movement occur well before even the most assiduous cowman can detect obvious locomotor defects.<sup>9</sup> A survey of the available literature shows 718 articles on cattle lameness and 35 on the assessment of pain in these animals.

Yet, the only articles on ocular pain in ruminants concern the use of ex vivo bovine cornea models to assess ocular irritation<sup>10</sup> or changes in ocular temperature in calves subject to dehorning.<sup>11</sup> Although these topics are fascinating, it is deeply concerning that there is neither any literature on the pain experienced by cattle with an ocular disease, such as that illustrated in **Fig. 1**, nor on the importance (or indeed otherwise) of ameliorating such noxious stimuli.

Behavior changes in ruminants experiencing pain include separation from the flock or herd, decreased mutation exhibited as a reduced interest in surroundings and conspecifics, decreased appetite, bruxism (teeth grinding), dropping ears and head held below the withers, vocalization such as grunting either spontaneously or when the painful region is palpated, a hunched back and reluctance to move, restlessness, and in extreme situations, sternal or lateral recumbency with tachycardia.<sup>12</sup> Specific signs associated with ocular pain also include blepharospasm, epiphora, and guarding of the eye when approached. Yet, as noted earlier, many animals exhibit these signs to a far lesser degree than might be expected, given the pathology noted with corneal ulceration, intraocular inflammation, or periocular neoplastic change.

There is more to animal welfare than pain alone. The 5 freedoms approach to farm animal welfare originated from the Brambell Committee's report in 1965 in response to Harrison's<sup>13</sup> groundbreaking book *Animal Machines*. Modified a decade later by the Farm Animal Welfare Council (FAWC),<sup>14</sup> this strategy aims to identify basic freedoms from physiologic stress, pain, and suffering, which should be afforded to all animals under human care, as discussed in **Box 1**. Furthermore, a Universal Declaration on Animal Welfare proposed by the World Society for the Protection of Animals<sup>15</sup> calls on the United Nations to acknowledge animals as sentient beings, capable of experiencing pain and suffering, and to recognize animal welfare as an issue of importance as part of the social development internationally.



**Fig. 1.** Infectious bovine keratoconjunctivitis. Note the perilimbal hyperemic vascular fringe, the extensive corneal edema and ulceration, and the degree of epiphora demonstrating ocular surface pain.

Download English Version:

<https://daneshyari.com/en/article/2459923>

Download Persian Version:

<https://daneshyari.com/article/2459923>

[Daneshyari.com](https://daneshyari.com)