Electric shock control of farmed animals: Welfare review and ethical critique

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Abstract

The available methods of electric shock control or containment of farmed animals are increasing and potentially include: (i) fixed and movable electric fencing; (ii) cattle trainers; (iii) prods or goads; (iv) wires in poultry barns; (v) dairy collecting yard backing gates; (vi) automated milking systems (milking robots); and (vii) collars linked to virtual fencing and containment systems. Since any electric shock is likely to cause a farmed animal pain, any such control or containment must, to be ethically justifiable, bring clear welfare benefits that cannot be practicably delivered in other ways. Associated areas of welfare concern with ethical implications include the displacement of stockpersons by technology, poor facility design, stray voltage, coercive behavioural change and indirect impacts on human society and values.

Keywords: animal welfare, automated milking system, collar, electric fencing, electric shock, ethics

Introduction

When electricity is used on farms to transmit power to generate outputs such as light, heat or motion, a basic safety expectation is that animals are protected from current by appropriate distancing or insulation. If a current of sufficiently high energy passes through an animal, its negative welfare effects may include pain (here, pain is used to include what is sometimes termed discomfort), distress, injury or death. These negative effects may be intentionally harnessed and developed for control and containment purposes.

Over the past ninety years, the uses of electricity to control and contain farmed animals by aversive stimulation have gradually increased, with successive new applications being found. Intentionally causing animals pain is ethically problematic because the experience of pain is intrinsically bad (Tannanbaum 1999). This is the earliest modern grounding of animal ethics and is supported by the argument that if causing humans unnecessary pain is ethically unjustifiable, causing sentient animals unnecessary pain is also ethically unjustifiable (Grumett 2018). Where such animals are under direct human control, including in farming contexts, the ethical requirement not to cause them unnecessary pain is even greater because humans are responsible for them. In some states this is legally codified (eg Animal Welfare Act 2006; 9(2)(c)) and enforceable.

This article will address electric shock control applications in which animals subjected to control retain consciousness and retain the capacity for voluntary bodily movement. Other potential uses include stunning, which is used to render an animal unconscious and therefore insensate to pain prior to slaughter, and immobilisation, which has sometimes been used to prevent voluntary muscular movement while mutilations such as castration or dehorning are performed. Stunning and immobilisation fall outside the scope of this paper.

The objectives of this paper are to provide an overview of the different forms of electric shock control potentially used on farmed animals, to identify their welfare implications and to offer ethical assessment of these. As part of the research for this paper we have conducted a comprehensive survey of manufacturer specifications for energisers available for online purchase. The anonymised dataset resulting from this survey can be seen online in Appendix 1 in Supplementary Material. The first section of the paper will review potential control and containment applications, which include: (i) fixed and movable electric fencing; (ii) cattle trainers; (iii) prods or goads; (iv) wires in poultry barns; (v) dairy collecting yard backing gates; (vi) automated milking systems (milking robots); and (vii) collars linked to virtual fencing and containment systems. In the second section, the ethical implications of each of these uses of electricity on animals will be considered in turn. It will be shown that, while some applications may potentially bring welfare benefits in particular situations, because they all have certain negative welfare impacts, they require ethical evaluation. The third section will offer an overall