

Farmers' opinions on welfare, health and production practices in extensive hill sheep flocks in Great Britain

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Abstract

Despite large numbers of hill sheep reared in the UK, little is known about how hill farmers react to health challenges in their flocks. This paper addresses this lack of knowledge of sheep health management practices and presents farmers' opinions and concerns, particularly regarding ectoparasite control. Focus groups and interviews with UK hill sheep farmers were carried out to collect information on management practices, health concerns, in addition to incidence and impacts of six major ectoparasites (ticks, lice, sheep scab mite, blowfly, keds and headfly), to determine how they viewed the effects of ectoparasites and their control on production practices.

We conclude that despite variations between hill sheep farm conditions and levels of input, similar health concerns and ectoparasite issues were found across different hill sheep farming areas of the UK. Farm labour was also an important issue and most farmers would prefer more labour to be available to effectively manage ectoparasites in their flocks. Finally, there was variation in farmers' opinions of the impact of ectoparasite species on welfare and productivity. This variation in opinion can be related to a trend in their past experience of ectoparasites, but no relationships were found with the animal health treatments farmers use, the number of animals in their flock or variation in the type of grazing land available.

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1. Introduction

Animal health management has always been seen as very important for profitable farming (Buhr et al.,

1993). However, some (McInerney, 1996) argue that the level of animal health control needed to maximise profit is likely to fall well short of complete disease prevention. Potential conflicts therefore may exist between the search for profit and good animal health in livestock farming systems (McInerney, 2004; Stott et al., 2005). Livestock farmers are also responding to a growing animal welfare awareness amongst customers and to changing policies and legislation

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concerning animal health and welfare (Whittemore, 1995; SEERAD, 2003). This public concern for animal welfare is a driver of research into farmers' attitudes and opinions about animal health and welfare, as these factors influence animal health management decisions. Assessment of health problems, decision-making, and actions taken by farmers have been researched for dairying (Agger and Alban, 1996; Haskell et al., 2003), veal production (Lensink et al., 2001) and organic farming (Cabaret, 2003). However, little research has been conducted for the very different context of extensive hill sheep production, although it is the predominant farming system for hill and upland areas in the UK, where semi-natural pastures are grazed by free-ranging sheep, with proportionately less day-to-day inspection than other farming systems. Defra (2006), in the context of the 1946 Hill Farming Act, defines hill farmers as "extensive sheep (or beef) farmers, in Less Favoured Areas, with a minimum stock of 0.15 livestock unit/ha." The Less Favoured Areas (EC Directive 75/276) being defined as "suitable for extensive livestock production, with whole agricultural production restricted in its range by, or by a combination of, soil, relief, aspect or climate".

A better understanding of how hill sheep farmers view both the financial and welfare consequences of different husbandry actions would be helpful to evaluate the potential consequences of changing market and policy environments, such as those arising from reform of the Common Agricultural Policy.

Waterhouse et al. (2003), reporting on the prioritisation of animal health concerns of hill sheep farmers, noted that they most frequently quoted ectoparasites. Although the challenge of controlling and preventing animal parasitism has already been acknowledged by the wider research community and industry (Van Veen, 1999; Hovi et al., 2003), practical ectoparasite control, as well as economic and welfare consequences, have rarely been researched. Some existing data on farm practices regarding sheep ectoparasite control are available (Milne, 2004) and more specifically for scab mites (French et al., 1994) and ticks (Clark, 2003), but without particular focus on hill sheep. Other data on pesticide usage to control sheep ectoparasites also exist (Shave et al., 1995; Thomas, 1998; Bates, 2004); however, these do not describe practices specific to hill flocks.

Six of the most common ectoparasites that can affect hill sheep flocks in Great Britain and northern Europe are lice (*Bovicola ovis*), scab mites (*Psoroptes ovis*), ticks (*Ixodes ricinus*), blowflies (*Lucilia* ssp. and *Calliphora* ssp.), keds (*Melophagus ovis*) and headflies (*Hydrotea irritans*). The effects of infestation on the animals, the transmission and the types of treatments they require are different, as described by Henderson (1990) and Hosie (2003). Some species have different life cycles, with ticks associated with other hosts and different type of grazing land, especially rough grazing and heather moorland (Henderson, 1990). This study will present information collected among hill sheep farmers on their management practices, health concerns, as well as on incidence and impacts of these six major ectoparasites on their farms.

2. Methods

2.1. Farms study

This research was conducted in 2003 through two series of focus groups and interviews with hill sheep farmers across the UK. Using local lists and addresses from local agricultural consultants, hill farmers were invited to participate in group discussions.

There were four sessions in each series, with groups in Scotland, northern England and mid-Wales. The locations of the farms involved in these focus groups are presented in Fig. 1.

The 10 farms in Scotland were based around Inverness, with some of them located in the northwest, in crofting areas. Flock sizes varied from 400 ewes to 2000. Most of the farmers had some common grazing. In Northern England, one of the groups was centred on the Keswick area (Lake District) with 15 participating farmers predominantly located in the valleys radiating out from there. Consequently, most of the farms had limited mowing ground and often limited intakes (land between the open hill and the lower fields). All had extensive and severe hill grazing (around 600–800 m altitude), mainly commons but some fenced. The other group was centred on the Hope Valley in the Peak District area, with 10 participating farms. Most had extensive heather moorland grazing, some of which were

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