

FIELD GUIDE TO LAMB PREDATION

INTRODUCTION

Badgers, foxes and birds have all been implicated in predation (killing and eating) lambs on sheep farms in Scotland. Differentiating between livestock predation and scavenging (feeding on lambs that are already dead), and identifying the species responsible, is essential for livestock managers to effectively manage risks and reduce losses.

Lamb predation by foxes has been well established, and predation by birds, including corvids and eagles, has been confirmed. However, evidence of predation by badgers is scarce, so associated signs are more difficult to define. Lesions caused by dogs cannot be differentiated from those caused by foxes on appearance alone. This should be borne in mind if there is other evidence to suggest a dog attack took place such as multiple animals attacked but not all killed, and ewes involved as well as lambs.

The following information outlines key signs of predation and scavenging of lambs, where foxes and birds have been confirmed as the predator or scavenger.

The descriptions and illustrations can be used as guide to determine whether remains found are from lambs that died of predation or from lambs that died of natural causes and were then scavenged. It will not be possible to be certain in every case because bleeding can be present if trauma occurs immediately after death and scavenging can remove evidence of predation. Scavenging can also remove so much of the carcass that there is too little left to assess.



Figure 1: A lamb head showing puncture wounds behind the left ear and on the upper neck with extensive haemorrhage consistent with predation by a fox. The eye has been removed but there is no haemorrhage, indicating avian scavenging after death.

PREDATION (LIVE) VERSUS SCAVENGING (DEAD).

Bleeding When tissues are damaged in a living lamb, as the lamb is dying or immediately after death, it causes bleeding. If the skin is punctured, blood will be apparent on the hair or fleece (Figures 2a to d). When tissues are damaged even a short time after death the blood has already started to clot. Therefore, when damage is caused by scavenging after death, bleeding is greatly reduced or does not occur at all (Figures 3a to c).

Site When carnivores attack and kill their prey, they inflict the majority of their wounds on the head and neck (Figure 2a). There may be visible puncture wounds (Figure 2b). Single, pairs or multiple puncture wounds may indicate bite marks from a mammalian predator, whereas puncture wounds caused by eagle talons may be larger, deeper, less uniform tears (Figure 2c). There may be blood on the fleece with no obvious punctures, or all the injuries may be internal, due to crushing (Figure 2d), with no blood apparent externally.



Figure 2a: Fresh blood at the throat, consistent with predation.



Figure 2b: A pair of puncture wounds on the neck surrounded by blood staining of the fleece consistent with predation by a fox.



Figure 2c: Top of lamb's head with skin partially peeled back showing one large and one smaller, deep, irregular puncture wound with haemorrhage. Consistent with predation by an eagle.



Figure 2d: Neck of a lamb with the skin partially peeled back to show extensive tearing and crushing of the muscles and haemorrhage consistent with predation by a fox.

When a carcass is scavenged the damage is untargeted. It can be limited to plucking of the wool and scraping of the skin (Figure 3a) or target the eyes, tongue or anus (Figure 3b), all of which is particularly associated with avian scavengers, or can involve removal of the head, large areas of muscle, internal organs, limbs or the tail (Figure 3c). Skin and / or bones may be all that is found.



Figure 3a: Removal of the fleece and scraping of the skin consistent with scavenging by birds such as corvids.



Figure 3b: Damage to the dental pad X and tongue Y with no associated haemorrhage consistent with scavenging.



Figure 3c: Scavenged lamb. Left foreleg and skin and muscle from the left chest have been removed with no associated haemorrhage.

Healthy, Compromised or Born Dead.

Healthy, older lambs have milk in the stomach. If they die suddenly, as happens in predation, the milk will still be there after death (Figure 4a). If the lamb is unwell prior to death and dies of disease the stomach is likely to be empty (Figure 4b). Other evidence that the lamb was compromised could include visible deformities, infection around navel/umbilical or in the lungs (Figure 4c), poor body condition and faecal staining around anus or on the hind legs or tail.

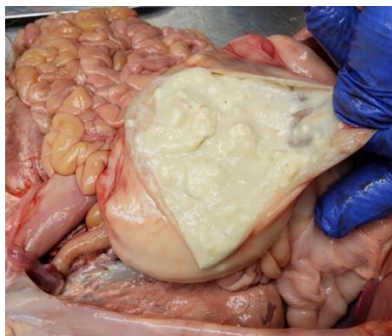


Figure 4a: Healthy lamb with a stomach full of milk suggesting it had fed just before death.

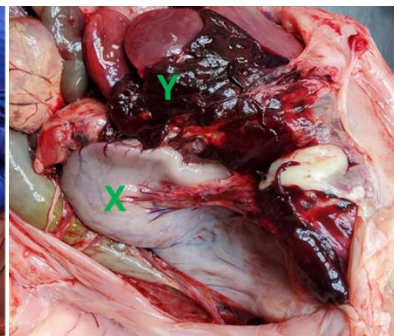


Figure 4b: Compromised lamb with an empty, flabby stomach (X) and clotted blood from haemorrhage (Y).

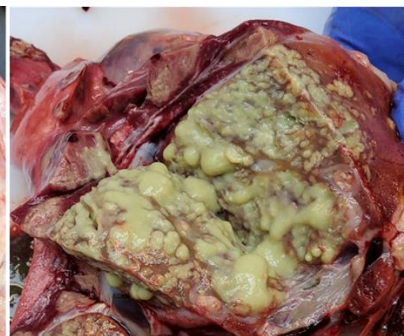


Figure 4c: Compromised lamb with severe pneumonia.

Lambs that are born dead or die soon after birth (Figure 5a) will have soft tissue visible on the bottom of the hoof. This rubs off once the lamb has taken its first steps. They will also have no milk in the stomach (Figure 4b) and have red uninflated or poorly inflated lungs (Figure 5b).



Figure 5a: Wool and umbilicus still wet suggesting newborn



Figure 5b: Lungs uninflated confirming the lamb was born dead.

CHECKLIST

Predation – Blood, puncture wounds on the head and neck, milk in the stomach.

Scavenging – No blood, lots of missing body parts, empty stomach, born dead or evidence of disease that could have killed it.

Image Credits

Figure 1: Henny Martineau The RVC

Figure 2c: Gill Hartley formerly SASA

Figure 3a: Sheila George SASA

All other Figures: Pernille Jorgensen SRUC Veterinary Services

Authors

Fiona Howie SRUC Veterinary Services and Sheila George SASA



Production of this guide has been part funded by Scottish Government as part of its Animal Welfare Advisory Activity.