

Watch out for the blow flies (*Calliphoridae*)!

Annika Michelson, senior lecturer at Häme University of Applied Sciences, Mustiala, Finland

In the summer of 2011, we were visited by a new acquaintance in both Estonia and Finland - the blow fly (*Calliphoridae*). This is not a pleasant acquaintance and one can only hope for a slightly drier and slightly cooler summer next year so that they will stay away. The wolves have also ravaged game this autumn in Estonia, with more than 600 dead sheep as a result. But back to the flies. I have kept sheep in Estonia for 6 years and read about sheep for approx. 10 years but awareness of the blow flies came like a surprise. I had never heard of them before 8/13/2011. I was familiar with "mulesing" in Australia, where you pull the skin off around the tail of the sheep in order to prevent dirt from settling in the wool around the tail with fly attacks as a result. Also knew that in England they have a habit of dipping the sheep in a poison bath. But that was also all that I knew.

Blow flies are larger than regular flies, often shimmering in metallic green or blue. They have a buzzing sound when they come. Blow flies usually eat nectar, honeydew, some fresh droppings and the occasional meat juice. The larvae feed on decaying plants, but most prefer food from the animal kingdom. Carl von Linne' has said that they can eat a horse as fast as a lion. The eggs develop into larvae in 8-24h. After that, they start eating holes in the skin of the animal and then start eating the animal's flesh. These are usually only discovered when it is too late.

We had a wool seminar in connection with the Interreg IV project KnowSheep on 13.8.2011 and there a farmer from Saaremaa Island in Estonia came up to me and told me how his sheep suffer from larvae in nasty open wounds.

Farm 1 Saaremaa, Estonia: The farmer told that horse-flies (Tabanidae) bite holes in the animals first and then these nasty flies lay eggs in the small wounds. He told me that he paints the wounds with tar, it doesn't sting the animals and keeps the insects away. The tar comes off the wool on its own within a couple of months. After this seminar, we received calls at a rapid pace from two other farms.

Farm 2 South Estonia: The farmer had kept 2 animals chained at the edge of the forest and these were littered with fly larvae (it is not allowed to keep animals chained on pasture in Estonia but it is an old custom to chain the lead ewe and let the others go loose That way you don't have to build fences / yarrows). Both animals died.

Farm 3 North Estonia: The farm's dog had scared 3 sheep (they only had 3). One was up on the basement roof when the owner came home, the other two were missing. They looked for the sheep but did not find them. Two weeks later, they found the sheep in the woods, alive, but both had blow fly larvae crawling all over their bodies. One had large open wounds with larvae in them, this one was killed immediately. The other sheep was picked clean of maggots, the skin was cleaned and it survived.

Who are more susceptible to the blow flies attack? This information is not written from any source but practical situations that I heard from farmers and by logical thinking. Logically, the risk is greater:

- if you keep the sheep outside at night. It is common for scabs to form on the heads - it is probably moths, mosquitoes and other unrelated things that bite them in the head and in these wounds the blow flies can lay their eggs.
- if sheep are sheared only once a year. The coat becomes more moist and the blow fly likes this
- if sheep are dirty.
- if the farm has many sheep in a small area
- if the farm has meat breeds with poor maternal characteristics. These farms often have bottled fed lambs. Bottled lambs have an increased risk of diarrhoea. Blow flies like dirty animals.
- if the farm has meat breeds with long hairy tails. The tails get dirty easily and these are a good place for the small larvae of the blow fly to live in.
- if using forest pastures without areas of open and windy places.
- if the owners cut off the tails of the sheep. This is not allowed but occurs in some countries. These sheep can't wag their tails to wave away the flies around their bums.
- if farms have dirty stables, dirty yards and dirty pastures
- overgrown pastures (possibly this plays a role)

But the worst thing is that any one of us can be affected even though we take good care of our sheep! So what can we do to avoid these problems? My advice primarily goes to herds with less than 20 sheep, but applies to many, many larger herds as well:

- Keep the animals inside at night, even in summer, as this protects animals against insects and predators. If you keep the animals inside during the summer at night, you must put clean litter under the animals every day - the summer period produces as much dung as the winter period - if not more!
- Check (= lift the tails and see if there are wounds with larvae in) the animals if the weather is hot and humid (often in July-August)
- Cut the animals twice a year
- Keep stables and pastures and animals clean. In Estonia, older women also clean areas outside the stables and the areas where the sheep mostly stay (= pick up the manure daily, sweep / rake the ground)



Daily "yield" ready for the compost.

- It might be better if the lambs are born in February to be a little bigger when they get out into the pastures.
- Do not cut the wool super short just before the animals are to be released on the pasture - cut earlier. The machines cut very close to the skin and leave no protection against insects.
- You could try taring doorways to the stables - maybe that will help reduce the number of insects in the stables during the summer. (haven't tried it myself)
- Do not keep the animals on too small a pasture - they need to be able to run away from any insects.
- Do not keep the animals in only closed, wooded pastures - they need to be able to run to places where the wind blows in case they are attacked by insects.
- Take care of your cultivated land so that it has open grazing areas as well as wooded areas.
- Make sure the animals have a safe place to rub their bodies in the pasture, such as a board fence, a stone fence or a bare tree trunk. Do not let the animals rub against single trunks (or spruce trunks) as dry needles fall into the wool and can create small wounds in the skin.



A board is good and safe to rub against - no needles fall into the fur!

So what should we do when the accident happens? If the wounds are large, it is best to euthanize the animal immediately. If the wounds are minor and you think you can save the animal, you call a vet. Immediately start removing the larvae from the fur (for example with tweezers). The larvae can be all over the animal's body. Pick larvae out of the wound. Clean the wound with disinfection fluid and the animal is treated with antibiotics. Keep the animal inside until all wounds are healed.

Let's hope for slightly cooler and/or drier summers!

Sources:

Entomologi.se. Småkryp. Spyflugor <http://www.entomologi.se/cgi-bin/enter.cgi?iljwhat=3031>
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