

Triggers leading to blowfly strike

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Spring emergence of blowflies

The transition from maggot to adult fly occurs in the ground and is controlled by soil temperature. On the tablelands and higher slopes, maggots which drop off sheep in late autumn remain as larvae or prepupae in the ground during winter.

When the soil temperature increases, the larvae pupate. The length of the pupal phase is also dependent on soil temperature – the warmer the soil temperature, the shorter the pupal state.

When the female fly emerges from the soil it needs protein feeds to allow eggs to develop. After mating, the female begins to search for a susceptible sheep on which to lay eggs.

In warmer areas, over-wintering may be of a shorter duration or, depending on temperature, not occur at all. The date of emergence of adult flies at any given location will vary from year to year, with differences of up to four weeks.

Emergence times range from early August to mid-October, depending on the region.

Triggering mechanisms for fly strike

The Australian sheep blowfly *Lucilia cuprina* initiates more than 90 percent of strikes. However, blowflies are particular about where they deposit their eggs and will only lay on susceptible sheep.

Newly hatched maggots need a moist protein source to survive. If a moist protein source is not present then sheep will not be struck.

Flies are attracted to:

- urine or faecal stained wool around the crutch which causes skin irritation and weeping of protein rich fluids – **breach/crutch strike**;
- moist fleece infected with fleece rot or mycotic dermatitis (lumpy wool) – **body strike**;
- urine stained wool causing scalding and weeping of the skin around the pizzle – **pizzle strike**;
- wounds from fighting injuries or sweat around the base of horns in rams and wethers – **poll strike**;
- any wound regardless of type or size that provides a suitable protein when moist, for example footrot, marking and mulesing wounds or other injuries – **wound strike**.

If a moist site is found, eggs are laid in a cluster. When the maggot first hatches from the egg (12–24 hours later) its mouth parts are not sufficiently strong enough to serrate the skin and it requires liquid protein. After the first moult (12–24 hours after hatching) the mouth parts are adequately developed to serrate the skin, ensuring the maggot's food supply.

Maggots feed on the sheep for 3 to 5 days before dropping off, usually at night, and burrowing into the soil. Struck areas become increasingly attractive to blowflies leading to further egg laying by the green or brown blowflies or secondary strike by the hairy maggot blowfly. Secondary flystrike causes rapid extension of the strike wound and is commonly associated with illness and death in struck sheep.

Environmental influences

Besides the predisposing conditions on the sheep, weather plays an active role. All these factors must be present at the same time for body strike to develop:

- sufficient rain to maintain fleece moisture long enough to cause fleece rot – this may be only one day of steady rain or intermittent rain over a number of days;
- air temperature about 17°C or higher;



- moderate wind speed around susceptible sheep (less than around 30 km/h, when small branches on trees will be still).

Other types of strike may occur in the absence of rainfall if the temperature and wind speed are suitable.

Further reading

Primefact 842, *Trapping blowflies*

Primefact 845, *Treating flystruck sheep*

Primefact 846, *Chemicals registered to treat lice and flystrike on sheep*

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