



BITING FLIES



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CATTLE GROWERS

As a cattle grower you would be familiar with the stable fly or “biting fly”, which prefers to feed on horses and cattle more than any other animal including humans. The biting fly feeds on cattle several times a day, where their bite causes a sharp pain as it quickly draws blood – the fly pierces the skin several times before drawing blood where they can weight up to 3 times more when fully fed. Only 20 biting flies/animal are needed before there are measurable decreases in weight gain as the flies persistent biting causes the animals great distress. When badly affected by biting flies cattle often bunch together and kick sand up in an attempt to get away from the fly. This can quickly lead to heat stress in the herd and further exacerbates the torment suffered by the cattle. Cattle growers along the Swan Coastal Plain around Perth across many Shires have had to either (i) apply different insecticides in an attempt to reduce the biting fly attacking them, or (ii) agist their cattle in areas where biting fly aren’t severe, or



Fig.1. Biting flies target the lower limbs and underbelly of cattle (LHS) causing reduced weight gain from the stress of the flies continual biting; adult biting fly with distended abdomen after blood meal with prominent biting mouthpart (RHS).

The name “stable fly” is an historical name given to the fly when animals were housed over winter in the northern hemisphere. Being kept indoors for several months their straw bedding was rarely changed and the animals manure and urine mixing with the straw allowed the “stable fly” to develop in this fermenting material. The name “stable fly” suggests that this fly only comes from stables, which is simply not the case in and around Perth. Cattle growers rarely produce high numbers of biting flies as this fly prefers old and aged cattle manure (at least 21 days old). Along the Swan Coastal Plain around Perth, most cattle dung after 21 days is either broken down by dung beetle activity or simply too dry for this fly to develop in.

CATTLE FEEDLOTS

Cattle feedlots can present a risk of biting fly development if either: (i) the manure is not managed properly (e.g. stored in large piles, left to accumulate or wet), (ii) their grain/pelletised feed becomes wet; or (iii) silage and hay becomes wet and rotten.

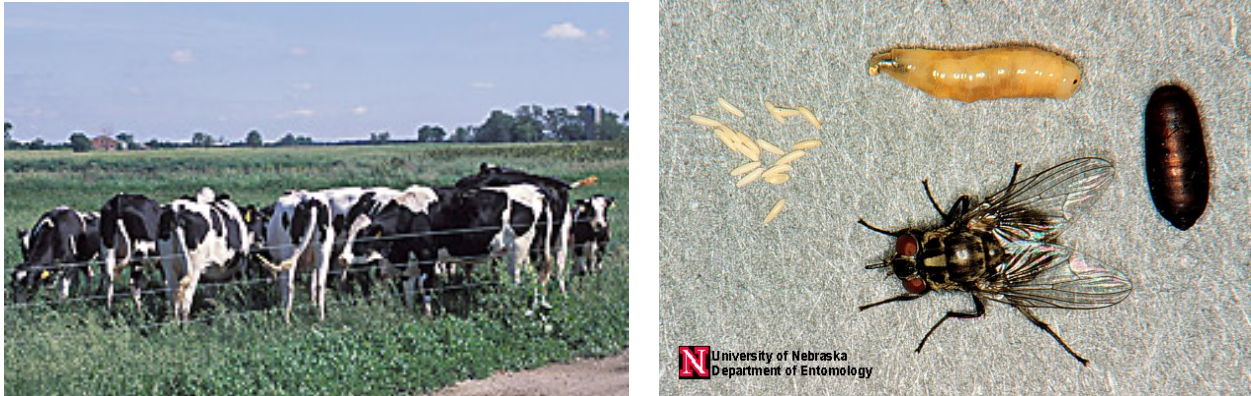


Fig. 2. Cattle often bunch together to avoid the biting fly's constant attack (LHS). All stages of the biting flies life cycle (RHS) from egg (left) to larvae (centre, top) to pupae that lie dormant in the soil (right) – the adult fly emerges from the pupae and digs its way to the soil surface.

VEGETABLES FED OUT TO CATTLE

Reject vegetables fed out to cattle as supplementary feed (especially during summer months) can provide an ideal place for biting flies to develop if the vegetables are placed out in large piles. The trampling of the excessive vegetable matter by the cattle becomes mixed with their manure and urine and this then rots and ferments over time. This can easily be managed though by feeding out all vegetables to cattle in long, thin lines and rotating their placement in the paddock.



Fig. 3. Excessive amounts of vegetables fed out to cattle can begin to rot - when mixed with cattle dung and urine this can soon become an ideal site for biting flies to develop (carrots left and spring onions right).

HOW DO I KNOW I HAVE BITING FLIES?

The biting fly or “stable fly” is very similar in size and appearance to the common house fly and bush fly – the major difference between these flies is that the biting fly has, as their name suggests, a prominent biting mouthpart. Stable flies are persistent biters, feeding on animals several times a day, preferring to bite cattle and horses, but will also attack humans, dogs, pigs, newborn lambs, pet kangaroos and emus. .

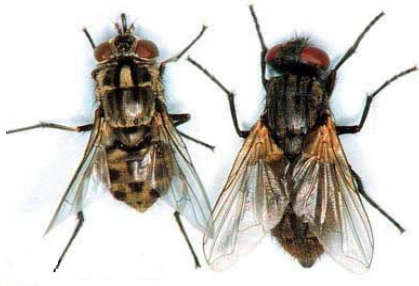


Fig 5. Biting fly (LHS) v House fly (top view)

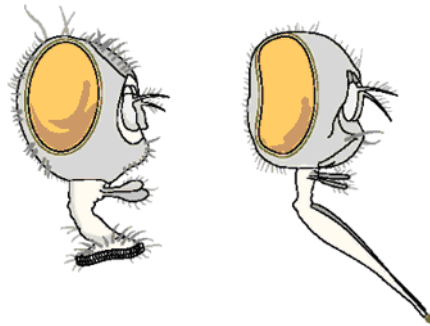


Fig 6. Housefly mouthparts v Biting Fly (Right)



Fig. 7. Biting Fly piercing mouthpart



Fig 8. A Biting fly drawing blood from a human

The picture on the far left (Fig 5) shows that the biting or stable fly is slightly smaller than a house fly but has the prominent, piercing mouthpart sticking out the front of its head – this is lowered and used to pierce the skin of animals and humans to draw blood, as is shown in Figs 7 and 8. House flies have sponge-like mouthparts that release saliva down onto a surface and then suck back up the food they have contacted (Fig 6).

REDUCING BITING FLIES ON CATTLE

The following options will help give your cattle some relief and/or respite from biting flies, but will not eliminate them:

(1) Feedlot Management: Any high density feeding and holding yards for cattle quickly accumulate a lot of manure. Regular clean-outs are essential to prevent nuisance flies developing in the manure. As the manure ages, biting flies are more likely to breed in this manure. The manure should not be put into large piles and left exposed to flies. All feed bins and troughs need to be kept dry so that pelletised feed and grain does not become wet, ferment and allow for biting flies to develop. Ensure water troughs do not over-fill and wet manure and feed that accumulates underneath the troughs. Similarly, silage and hay if left exposed and wet for any extended period of time will ferment and provide biting flies with an ideal breeding place.

(2) Feeding out Vegetables: If you feed out reject vegetables to cattle, make sure that you only feed out enough vegetables that will be mostly eaten. Any excess vegetable matter will rot when left on the ground and combined with the cattle's manure and urine, provide an ideal place for biting flies to develop. Simply put the vegetables out in long, thin lines to ensure it is mostly eaten and that any residue left behind rapidly dries out. Also change where you place the vegetables in your paddocks and/or yards to prevent the build up of rotting residues in the soil.

(3) Insecticides and Repellents can be used on your cattle to keep biting flies away. There are numerous products on the market ranging from backline pour-on's and sprays to insecticide-impregnated ear tags. The relative effectiveness of these products in controlling biting flies has not been tested. Most repellents have been found to last anywhere from a few days to maybe a day or two at best, given the huge numbers of biting flies affecting livestock in and around Perth. Biting flies are quickly able to overcome any initial repellent action and the simplest advice is to use 3 or 4 different repellent sprays, rotating through them every day. Please check the website www.apvma.com.au/products/index.php for up to date information on product registration.

(4) Biting Fly Traps can be used to catch and remove this fly from areas where your cattle feed and shelter. Protein-based traps will NOT catch biting flies, but a whole other lot of nuisance flies including bush flies, house flies and blowflies that still annoy cattle, but not nearly as much as the biting fly. There is a 4 page brochure specifically on "Biting Fly Traps" that detail all the homemade and commercial traps that can be used to reduce the numbers of this fly.

Disclaimer: Neither the University of WA nor the Shire of Gingin endorse any of the products mentioned on this information brochure. Any product omission is unintentional and prices quoted are current as at November, 2011.

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