**Haematobia irritans pdf**

The horn fly, Haematobia Irritation Irritation (Linnaeus), is one of the most economically important cattle pests worldwide. It is to oblige the blood-supplied ectoparasite, fed almost exclusively by livestock. Just in the United States, hundreds of millions of dollars in damages are attributed to the horn to fly annually, while an additional millions are spent annually on insecticides to reduce the number of horns to fly (Kunz, etc. 1991, Byford, etc. 1992, Cupp, etc. 1998). In Figure 1. A dorsal view of the adult horn fly, Haematobia Irritant Irritants (Linnaeus). Photograph by Dan Fitzpatrick, University of Florida. Synonyms (Back to Top) Conops Irritant Linneus, 1758 Hematobia Cornicola Williston, 1889 Serrat Robino-Desvoidi's Hematobia, 1830 Lyperosia meridionalis Bezzi, 1911 Lyperosia rufifrons Bezzi, 1911 Distribution (Back to top) The fly was introduced to North America from France in 1887 (Bruce 1938). This pest is now found all over the Americas, as well as in Europe, Asia and non-tropical regions of Africa. Description (Back to top) Adults: Adult horn flies have brownish-gray or black bodies and are shiny, with slightly overlapping wings that are held flat above the abdominal cavity. The body is 3.5 to 5 mm indistinguity, or about half the size of a shared fly house, the Musca domestice Linnaeus. The head has small brown-red antennae that point downwards. The chest has two parallel bands on the back surface, just behind the head. Both male and female horn flies have piercing oral sucks and feed solely on blood. In Figure 2. A side view of the adult horn fly, Haematobia irritant irritation (Linneus). Photograph by Dan Fitzpatrick, University of Florida. Horn flies differ from another large cattle pest, persistent fly (Stomoxys calcitrans (Linnaeus)), in several ways. Although both flies have a piercing scourge, horn flies have a longer maxillo-palp relative to the anticipated. Horn flies are also smaller (5mm in length), and do not have the main patterns on the dorsal (rear) side of the abdomen, while resistant flies are 7 to 8mm long and have a checkered appearance of the upper abdomen. flies should also lay eggs in undisturbed, fresh manure, while stable flies rarely lay eggs in fresh manure, choosing rather purulent-straw mixtures soaked in urine feed and straw, waste feeding sites, herbal cut-off piles and round hay bale feeding sites. In Figure 3. Lateral species of horn fly, irritation of hematobia irritation (Linnaeus) (above); and stable flight, Stomoxys calcitrans (Linnaeus) (bottom). The maximum pile of the horn fly almost as long as its probes, while the paleness of the stable fly is much shorter than its probes. Photographs by Dan Fitzpatrick (fly cone), Jerry Butler (stable fly), University of Florida. Eggs: fly eggs sunbathe, yellow or white when first laid and then darkened to reddish-brown in front The eggs are oval and concave on one side and sealed on the other, and have an estimated 1.2mm widow. Widows. 4. Egg (bottom) and third larva instar (top - head left) fly horn, irritation of hematobia (Linnaeus). Photograph by Dan Fitzpatrick, University of Florida. Larvae: The newly hatched maggotes are white and about 1.5mm wide with a slender pointed head. Spirokly, or breathing holes, appear in black indentations at the end of the abdomen. In Figure 5. Spiguular plates of the third star larvae (above) and pupae (bottom) of the fly, irritation of hematobia (Linnaeus). Photograph by Dan Fitzpatrick, University of Florida. Dolly: 3 to 4 mm doll and white first, outside pupal coating sclerotizes, or harden, turning dark reddish-brown for hours. In Figure 6. Empty corneals fly, hematobia irritates irritation (Linneus). See the adult appearance of the hole in the upper left corner. Photograph by Dan Fitzpatrick, University of Florida. The life cycle (Back to the Top) cattle manure is a prop for the development of larvae, and adults mostly feed on livestock, with females leaving their master long enough to lay their eggs in fresh manure. Eggs hatch one to two days after deposition (Foil and Hogsette 1994). Eating fresh dung, the larvae develop through three instars in four to eight days before reaching a mature size of 6.5 to 7.5 mm (Lysyk 1991, 1992). The umplate usually requires six to eight days for a full ripening (Foil and Hogsette 1994). The time it takes to complete the fly lifecycle is 10 to 20 days, depending on the temperature and time of year (Campbell 2006). When an adult comes out of a pupal case, it will take approximately three days to complete the ripening reproductive organs that allow egg production. Adult flies begin to mate three to five days after the appearance, and adult females begin laying eggs three to eight days after the appearance. The female horn flies to ovise, or lays, an average of 78 eggs during her adult life period of approximately six to seven days, but can lay up to 100-200 eggs (Krafsur and Ernst 1986). Flies of the male and female horn feed only on blood during the adult stage, while other blood-feeding flies, such as a stable fly, will consume nectar. While the horn flies tend to be diapause, or hibernation, as lyalic over the winter in most subtropical and temperate areas (Mendes and Linhares 1999), horn populations fly year-round troubles for livestock in the southeastern United States, with comparatively lower winter populations (Koehler, etc. 2005). Populations fly peak in early summer, then decline as the weather becomes hot and dry. In autumn, populations tend to increase again as temperatures drop and rainfall increases, falling again after September or October as late autumn and early winter temperatures set in (Baldwin, etc. 2005). The hosts (Back to top) flies got that name because of their habit of huddled around cattle, although they usually prefer to settle on their backs during cooler parts of the day and on your stomach during the hotter part of the day. They are known to feed on horses, dogs, pigs and sometimes humans. However, they have well-documented close associations with livestock and tend to stay on or near cattle throughout their life cycle. The economic significance (Back to the Top) of the Horn fly is considered one of the most economically destructive pests of the beef cattle industry in the United States (Byford and others. 1992). This causes annual losses of between $700 million and $1 billion, while an additional $60 million is spent annually on insecticides to control infection (Kunz et al. 1991, Byford et al. 1992, Cupp et al. 1998). Due to the behavior of feeding the horn and the number of flies present on animals, cattle expend a large degree of energy in defensive behavior. This leads to increased heart and airway frequencies, reduced grazing time, reduced feeding efficiency and reduced milk production in cows, which can lead to weight loss of recoil (Byford et al. 1992). Large feeding horn can also seriously damage livestock hides, leading to poorer skin quality (Pruett, etc. 2003). Horn flies typically report butchered cattle in large numbers, with thousands of flies occurring on individual animals. Although the average size of food is just 1.5mg, or 10 mg, of blood per feed (Kuramochi and Nishijima 1980), each fly takes 24 to 38 blood dishes a day (foil and Hogsette 1994). Thus, the number of flies infecting the animal, as well as the amount of blood dishes taken daily by each fly, can lead to significant blood loss (Harris et al. 1974). In Figure 7. A cloud of flies (numerous white spots), irritation of hematobia (Linnaeus), feed on cows. Photograph by Lane Fold, Louisiana State University. The horn fly is also a vector of several pathogens. The philarial nematode, Stefanophilaria stiles Chitwood, causes stephanophylariasis, a dermatitis characterized by areas of beveled skin on a upland of cattle. Typically found on cattle in the western and southwestern United States and Canada, S. stilesi can touch up to 80 to 90% of the herd (Hibler 1966). However, production losses associated with this nematode or other adverse reactions in cattle have not been reported. Horn flies are also able to vector several Staphylococcus spp bacteria that cause mastitis, or titus infection in dairy cows, especially in the summer months (OWENS ET AL. 1998, Gillespie et al. 1999). In addition to the tithing damage they cause, feeding flies can inject bacteria into open wounds, causing significant infection (Edwards, etc. 2000). Cattle producers can reduce cases of mastitis by managing horn numbers (Nickerson et al. 1995, Edwards et al. 2000). Management (Back to Top) Static thresholds were set based on the number of flies per animal to determine whether exercising fly control is Necessary. Calves and dairy cattle cannot withstand large numbers of flies without satisfying significant damage; 50+ flies per nursing dairy cow are considered to be of economic importance. Beef cows can carry more than 200 flies per animal, while bulls can carry the largest number of horn flies (Schreiber et al. 1987, Hogsette et al. 1991). Chemical control: Insecticide-soaked ear tags have become a popular and effective method for managing ergot populations, thanks to the emergence of low cost, highly resistant pyrethroyd and organophosphate pesticides (SZALANSKI et al. 1991). In the slings affected by the horn of flies, hewns with push larvae gained up to 50% more weight per day than no-show control hewns (Sanson et al. 2003). More recently, insecticides formulated in self-pouring are increasingly being used. While insecticide technology was largely, if not exclusively, relied on the management of horn flies, resistance to many insecticides was widely reported and demonstrated through several known mechanisms, including the insensitivity of the target site and the careful metabolic detoxification of insecticides (SZALANSKI ET AL. 1991). Thus, the use of a comprehensive pest management approach, which uses several methods in tandem, will allow cattle producers to more effectively reduce adult populations and horn larvae flying. Rotation of chemicals with different active ingredients and different methods of application is considered the best approach to managing this fly. Using backs and bags that physically apply insecticides to cattle when they brush against them can help control efforts when placed in places where cattle are forced to clean against them. When the insecticide is reapplied on the backs and dust collection every two to three weeks, they are effective enough to control the horn of flies (Baldwin, etc. 2005). Feed applications, where certain pesticides are mixed into livestock feed, lead to chemical passage through the digestive tract of cattle and therefore in manure. Endectocides have also gained popularity among cattle farmers in recent years under different trade names. These pesticides are injected or thematically used and absorbed by livestock and excreted unconnected in manure. The pesticide remains in dung and can significantly reduce the number of immature horns up to two months after use (Miller et al. 1981, Lysyk and Colwell 1996, Floate et al. 2001). Another approach to this technique, blyus, ensures a few weeks is worth controlling from a single treatment. Blosses are essentially long-lasting pills that were put off in the animal's stomach, where they slowly release insecticide in manure. Both of these techniques kill only immature stages of the horn fly and do not affect adult flies feeding on animals. Therefore, due to the fact that adult flies are not killed, and therefore new adult flies can emigrate from nearby untreed shingle, treatment of all treatments (Baldwin et al. 2005). Biological insecticides have also gained popularity as alternatives to pyretroid or organophosphate pesticides. Bacillus thurigiensis Berliner (Bt), a known bacterium used as a biological insecticide, is effective against a number of insect pests. Even though there are no products on the market to control the fly horn containing Bt, recent research has shown that several strains of Bt are highly toxic to horn larvae (Lysyk et al. 2010). Mechanical control: The old, and possibly effective, nonchemical control tactic that has been critically assessed in recent years is a horn span trap. These traps use the reluctance of the horn to fly to enter the darkened building to remove flies from animals and then trap or kill flies with sticky traps or electricity as they leave the animals. More modern designs of this technique reportedly provide up to 85% reduction in flight numbers (Watson et al. 2002). In Figure 8. Cow using passing fly trap to remove horn flies, Haematobia irritants (Linnaeus). Photograph by Philip Kaufman, University of Florida. Biological control: A number of natural predators, parasitoids and competitors have been viewed as agents for suppressing horn fly numbers. Beetles of the Scarabaeidae families, as well as other predatory beetles of the Staphylinidae and Histeridae families, are important natural predators of the larvae horn of flies in manure (Hu and Frank 1996, Oyarzun, etc. 2008). Interestingly, the red imported fire ant, Solenopsis invicta Buren, also reduces immature horn fly numbers in cattle purulent pats, as well as through predator activity (Summerlin, etc. 1984), but can cause additional problems by killing other predators and stung by livestock, especially calves (Hu and Frank 1996). In Figure 9. Onhofagic Gazella Fabricius, a regular scarab beetle in Florida, on a purulent cattle herd. This and other dung bury large areas of manure and accelerate the drying of manure, creating competition for fly larvae, hematobia irritants (Linneus), who live in pat. Photograph by Philip Kaufman, University of Florida. The parasytoid wasps of the Pteromalidae and Chalcididae families, which are not pests of humans but naturally attack horn flies, have been assessed as potential control agents for use against horn flies in the United States (Geden et al. 2006). These wasps, including Spalangia and Muscidifurax spp., lay eggs in pupae pupae, and the offspring of wasps feed on the inner fly and eventually kill it. To date, control of the horn fly has not been achieved solely with the use of natural or augustative biological control, mainly due to widespread purulent cattle (and therefore the horn fly pupa) and difficulties in getting released wasps to these locations. Cattle producers are encouraged to protect these natural horn enemies flying, just like without them, will undoubtedly be much higher. In Figure 10. Spalangia sp. wasp parasite sensing on the fly of the puparia. The female stung the pupa, lays one egg, and the mistletoe larvae feeds and kills the fly. Photograph by Jerry Butler, University of Florida. Selected links (Back to Top) Baldwin JL, Foil LD, Hogsette JA. (May 2005). Important pest flies of Louisiana beef cattle. LSUAg Center. April 14, 2020) Bruce WG. 1938. A practical trap for controlling the horn flies on livestock. 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