



External Parasites in Cattle

A Fact Sheet for the Canadian Cattle Industry

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Purpose

The presence of external parasites in cattle can affect cattle productivity and operation economics. Estimated losses in cattle operations caused by external parasites range from \$29.7 million to \$730.7 million per year in the United States¹. There are many species of external parasites that are of economic importance to cattle operations including ticks, flies, mites, and lice¹ (Table 1). Currently, biting and nuisance flies are a primary concern for producers, with cattle grubs being one of the most important parasites in the North Americas⁵.

Animal Health and Welfare Concern

The severity of damage from external parasites range from undetectable effects on energy to death². Direct damage includes: annoyance, irritation, blood loss, modification of behavior, and burying in tissues. Direct damage includes: anemia, reduced average daily gain (ADG), damage to carcass, injury by chemical control of pest or during pest avoidance, and even death². Indirect damage occurs when external parasites transmit disease².

Diagnosis of Ectoparasites

Many external parasites are easily recognizable and visible, others are very small and difficult to find⁶. Diagnostic methods include: examination of hair by brushing or plucking (fly larvae, ticks, lice), tape examination (picks up parasites on the skin), and skin scrapings⁶.

Prevention and Control

Most livestock producers have situations where the potential of economic loss is high enough to justify controls. According to the integrated pest management principles, producers do not need to control 100% of pests affecting livestock to produce a valuable yield².

For grazing management, avoid overstocking and overgrazing. Overgrazing increases the number of pasture larvae because of the higher number of cowpats where flies lay their eggs⁷. As well, avoid grazing the same pasture fall of one year and spring of the next, and only harrow pastures during hot and dry conditions⁷.

Biosecurity measures will help prevent possible spread of parasites by workers throughout the operation⁴. It is recommended that new animals be treated for external parasites while in quarantine from existing herd⁴.

Resistance

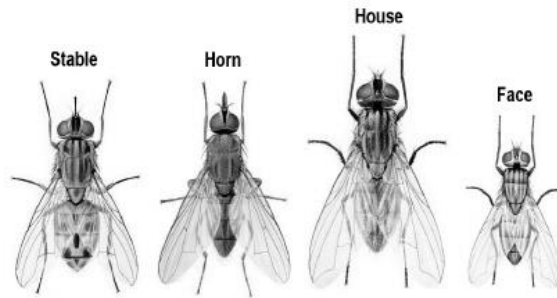
Within the last 30 years, overuse of pesticide and insecticide drugs has led to the development of drug resistance in more than 600 pests⁹. The rate at which ectoparasites become resistant is caused by; a high killing rate (the closer to 100% kill the faster resistance develops), lack of untreated animals for safekeeping of susceptible genes, and persistence of residues (more persistent = faster resistance)². Drug resistance makes treating external parasites very difficult. Therefore, producers should work with their veterinarian to make a control protocol that is best for their operation.

Table 1: Ectoparasites of concern for cattle producers

Species	Location on Cattle	Impact on Production
Horn flies (<i>Haematobia irritans</i>)	Found around and on cattle. Over back and sides during morning then move towards belly area in afternoon as temperatures increase ² .	Significant irritation and blood loss to cattle. Up to 25% loss in milk production ²
House flies (<i>Musca domestica</i>)	Commonly found in confinement operations, flying around the barn.	Do not consume blood, but can be carriers of bacteria such as <i>Salmonella</i> and <i>E. coli</i> ³
Stable flies (<i>Stomoxys calcitrans</i>)	Legs, flanks, and underside of cattle ³ . Only land on animal for blood meal. Typically affect confined cattle.	Bite is painful ³ . High densities can lead to decreases ADG of 0.25kg/d per head ² .
Cattle grubs (<i>Hypoderma bovis</i>)	Females fly between host's legs and attach eggs to legs ² .	Calves and yearlings infested at higher rates than older animals ² . Reduced weight gain performance, trim and hide losses ² . Can decrease ADG by 9.2% ¹ .
Face flies (<i>Musca autumnalis</i>)	Feed on secretions around eyes and muzzle ² .	Associated with pink eye infections ² .
Lice (<i>Bovicola bovis, Linognathus vituli</i>)	Face, neck, shoulders, back, and tail area.	Can lead to anemia, abortion, and even death. Known to transmit diseases ³ .
Mites (<i>Chorioptes bovis, Sarcoptes scabiei, Psoroptes ovis</i>)	Found on skin surface ⁴ .	Create scabby lesions from feeding. Spread from cow to calf, and spread throughout herd ⁴ .
Hard Ticks (<i>Boophilus spp.</i>)	Found on head, ears, and lower body.	Damage hide, cause loss in production, some cause tick paralysis in calves ⁵ .
Soft Ticks - Spinose ear tick (<i>Otobius</i>)	Found in ear canal.	Injury to ear canal and can cause additional infections ⁵ .



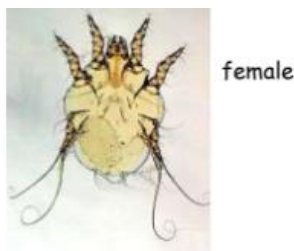
Cattle Grub (*Hypoderma bovis*)



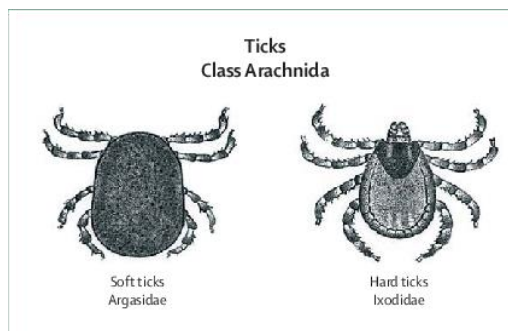
Difference in size of flies that infest cattle



Sucking Lice (*Bovicola bovis*)



Mites (*Chorioptes bovis*)



Soft and Hard Ticks

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10. Images available from: www.google.com



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