



K-STATE

Research and Extension

External Parasite Control in Livestock

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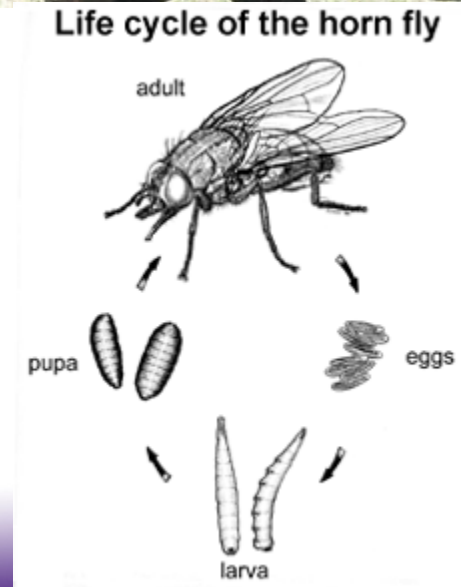
Grazing Season External Parasites

- Horn Flies
- Stable Flies
- Ticks



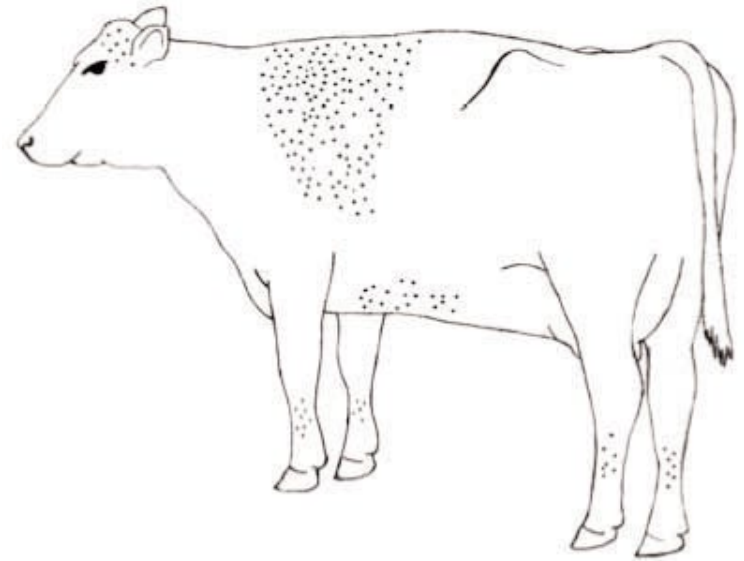
Horn Flies

- Lay eggs in **fresh manure**
- Life cycle 10-20 days
- Spend majority of life cycle on cattle!
- **Rarely** move from animal to animal
- Population rise in late may and persist into fall**
 - Depending on weather conditions



Horn Flies

- When do we treat?
- Economic threshold= 200-300 flies/animal
 - Each fly feeds 20 to 30 times/day
- Highest numbers on dark hided animals/bulls



Stable Flies

- Found on legs of cattle
 - Also impacts other species
- Very painful bite
- Only **feed during day**
- Economic threshold:
 - 5 flies/leg
- Adults spend time **off of cattle.**



Stable Flies

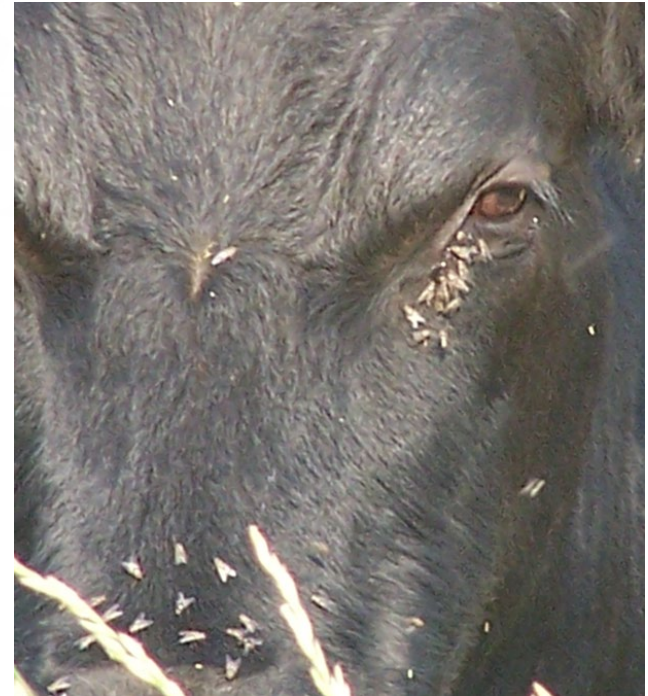
- Any moist organic matter is prime location for eggs and larvae
- Straw bedding, spilled feed, manure piles, round bale feeding sites, calf hutches, alleys, feed areas, etc.
- Rest in **Shaded** areas
- Historically a confinement or barnyard issue
- Why an issue in pastures??

Stable Flies

- Round bale feeding sites is a main breeding ground in pastures
- Residue from a bale ring can result in **1 million more stable flies** the following year

Face Flies

- Feed on secretions from eye and nose
- Vector in spreading Pinkeye
- Lay eggs in fresh manure
- Able to travel long distances between hosts



Face flies

- Difficult to control since they spend so much time off the animal
- Forced exposure to insecticide on a daily basis
 - Ear tag
 - Dust bag/oiler/spray

House Flies

- More of a nuisance to livestock (do not bite)
 - Commonly found around houses near livestock
- Documented ability to transmit pathogens
- Serves as host for some nematodes for horses
 - Habronema
- Will lay eggs on open purulent wounds (fly strike)
- Lay eggs in decomposing organic matter
- Rest in **sunny** areas!

Biting Midges/Black Flies

- Lay eggs in wet organic matter or streams
 - Aquatic areas
- Minimize access to active pests environment
- Day time biters- black flies
 - Feed on head and neck of animal
- Before dusk-midges
 - Feed on dorsal and ventral areas of animal

Treatment options

- Feed through products
- Insecticide impregnated ear tags
- Pour-ons
- Sprays (on-animal/premise)
- Oilers/dusters
- Injectable
- Vet Gun

Insecticides

- Insect Growth Regulators (IGR)
- **Pyrethroids**
- **Organophosphates**
- **Avermectins**

What is Resistance

- The intended target no longer responds as it once did
- Occurs more commonly when exposed to a **low dose of insecticide for long periods of time**
- **Up to 32 generations of flies w/in 1 grazing season**
- Or when exposed to the same insecticide for multiple years in a row
- When can this occur??

Feed Through

- Must begin application before the vector season
 - April 1st Kansas
 - March 15th far SE Kansas
- ***Remember, Adult flies can still move in from a distance
- Products available for cattle/horses/swine/poultry
- Combination therapy is often warranted

Ear tags

- Must be removed at the end of the season!!!
- Effective duration of 12-20 weeks
- Class of insecticide must be rotated on a yearly basis!
 - **Pyrethroid:** no more than once every 3 years
 - **Organophosphate:** no more than two years in a row
 - **Abamectin:** Products newer to market. Have not developed resistance yet.

Pour-ons/sprays

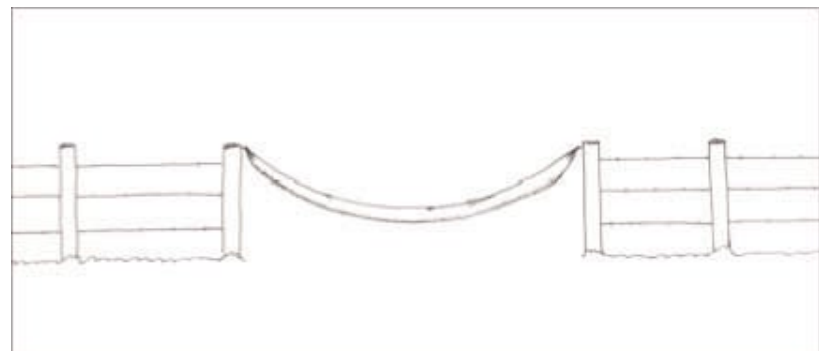
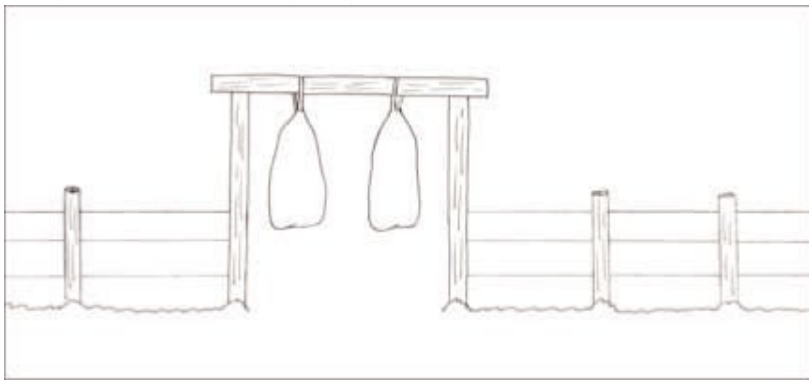
- Generally do not carry as much risk to develop resistance
 - Do not have the residual activity
- Provide control for 2-4 weeks
- Pyrethroids/Organophosphates
- Macrocyclic Lactones:
(Ivermectin/Moxidectin/Doramectin)
 - Primarily used to control internal parasites
 - Reliance on this class for fly control can lead to resistant internal parasites

Premise Sprays

- Short term sprays
 - Foggers, mist blowers, aircraft
 - Kill adults by contact
- Residual sprays
 - Directed to walls, ceilings, perimeter, fence lines
 - May provide coverage for a few weeks
- **Label mixing and application is critical!!**

Self Treatment Dusters/Oilers

- Follow label instructions when charging/re-charging
- Many animals will not use these voluntarily!
- Work very well when forced use near mineral/feed/water areas



Vet Gun

- “Paintball” filled with insecticide CO2 gun
 - Pyrethroid
 - Abamectin
- 15-30 ft range



Parasitic Wasps

- Commercial parasitic wasp release
 - Labor intensive
 - Continued release (APR-SEPT)
 - House/stable flies
 - Several Species available
 - Don't use premise sprays in conjunction with wasp release

Equine

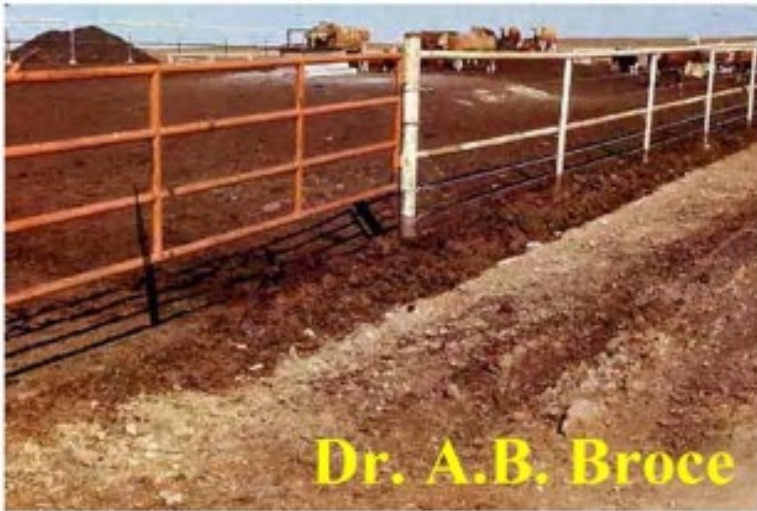
- Many products approved for cattle also approved for Equine animals and premise
- Many repellent products available
 - Shampoos, ointments, sprays

Environmental Management

- Manure
- Heavy vegetation (drainage ditches)
- Water holding areas
- Barns
- Feed Residue
- Fly Traps

Environmental Control

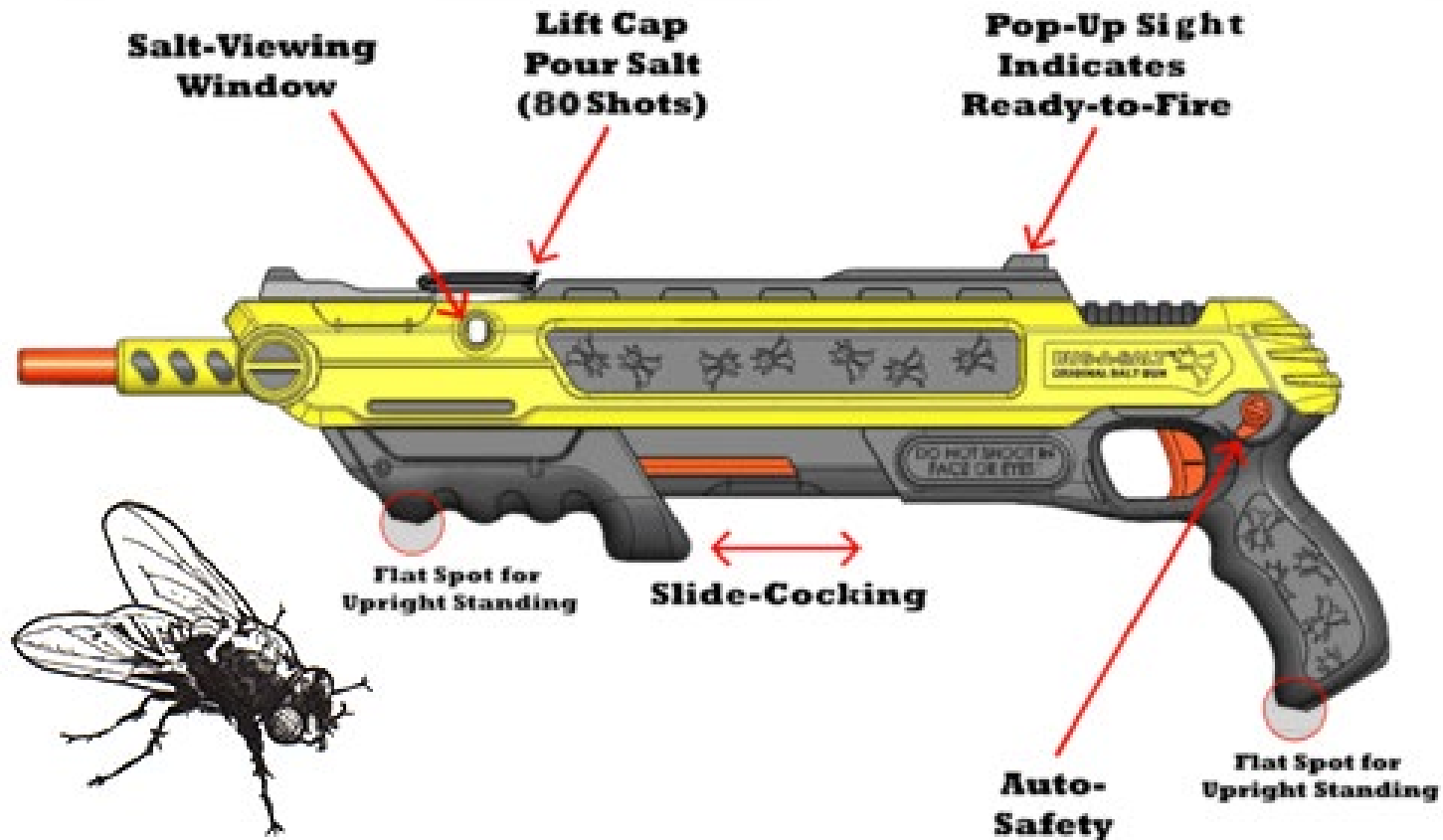
- Continual movement of feeding sites
- Rolling hay out
- Feed in areas with low moisture and well drained
- Disturb hay residue
 - Pile and compost the residue (before the next season)
 - Burn the residue (before the next season)



Dr. A.B. Broce

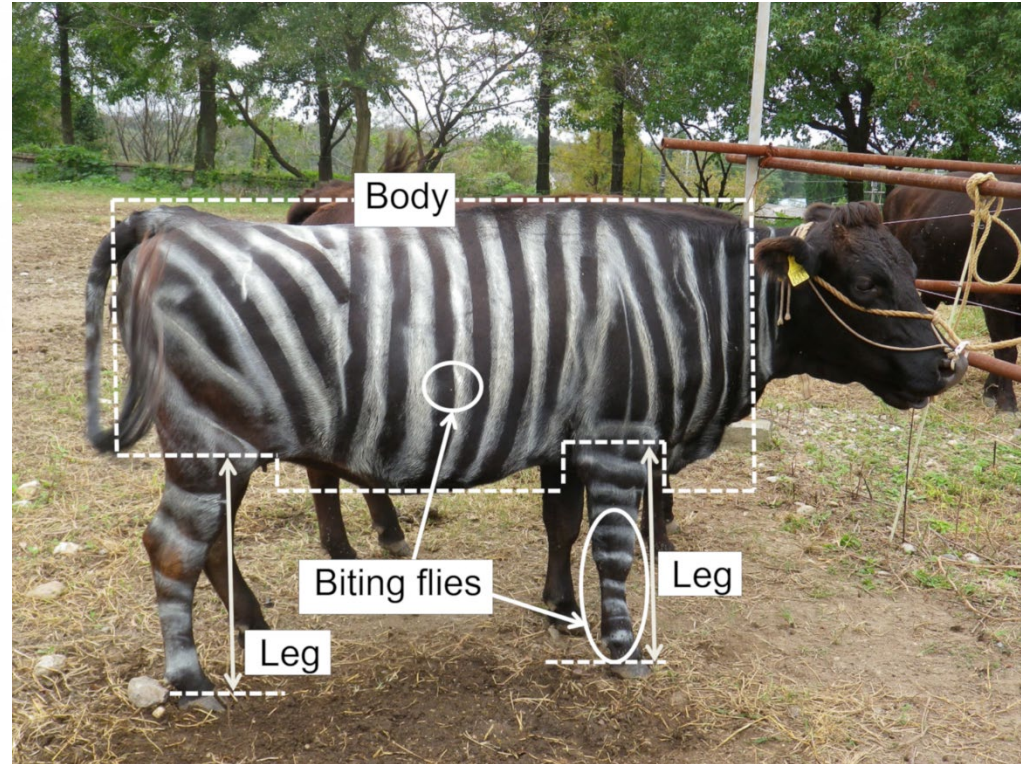


My Personal Favorite



Taking tips from other species in nature??

- Decreased biting flies on animal by ~50%
- Decreased fly repelling behavior by ~20%



Ticks

- Eggs are laid off the host
- Thrive in high humidity areas
 - Brush
 - Trees (cedars)
 - Tall grass
- Depending on species, can be active from Feb-Oct

Tick Control

- Difficult with pasture animals – must handle the animals
- Sprays and Pour-On are labeled for ticks and do a good job for about 3 weeks
 - Spraying ears
- Ears tags are labeled for Spinose Ear Ticks and Gulf Coast Tick and will help with others
 - Tags do not get insecticide to groin and tailhead (Dog Tick)

Questions