What do you consider good fly control?

- Control of horn flies
- Control of face flies
- No pinkeye
The Enemies

Horn Fly  
Face Fly  
Stable Fly  

Other problem flies include horse flies, deer flies

http://utahpests.usu.edu/schoolipm/structural-pest-id-guide/face-fly  
http://entnemdept.ufl.edu/creatures/URBAN/MEDICAL/Stomoxys_calcitrans.htm
Monitor Horn Flies

More than 200 flies – need control methods

*100-200 horn flies per head is the economical threshold for treatment.
<table>
<thead>
<tr>
<th>The Drugs</th>
</tr>
</thead>
</table>
| **Pyrethrins**
| Pour Ons
Sprays
Fly Tags
Concentrates |
| **Organophosphates**
| Fly Tags
Concentrates |
| **Macrocyclic Lactones**
| Pour Ons
Fly Tags |

IGR/Larvicides
Control Options Flies

- Insecticidal ear tags
- Backrubbers, dust bags
- Pour-on’s, Sprays
- Oral larvicides/IGR’s
- Face wipes at mineral feeders
- Vet Gun
Resistance

- Rotate Drug classes every time
- Rotate Drug classes annually
- Use the same drug class for everything
- Use multiple drug classes at the same time
- Use multiple avenues to attack flies
Summary – Integrated approach to combat flies in beef cattle

Fly Control

- Backrubbers, Dustbags
- Larvicidals
- Fly Tags
- Sprays/Pour-on’s
Questions
Why care?

Flies cost the beef cattle industry between $500 million and $1 billion yearly.
Face Flies

- Feed on eye and nostril secretions
- Lay eggs in feces
- Transmit pink eye organism
- May not directly affect growth or milk production – welfare issue
Horn Flies

- Spend most of time on cow – around cattle horn bases, shoulders and back.
- Blood feeders – 20 to 40 blood meals per day
- Lay eggs in manure
- Results in decrease in grazing time, depressed milk production, hide damage and decreased weight gain
  - Horn fly control can mean an additional 12 to 20 pounds of weight gain per calf over summer
Monitor Horn Flies
More than 200 flies – need control methods

*100-200 horn flies per head is the economical threshold for treatment.
Seasonal occurrence

Peak Fly season: June to September
Control options

• Self-treatment devices:
  – Dust bags
  – Back rubbers
  – Feed through

• Ear tags

• Animal sprays

• Pour-on
<table>
<thead>
<tr>
<th>Type</th>
<th>Mode of Action</th>
<th>Application</th>
<th>Length of Control</th>
<th>Cost/Treatment/Hd (Cost/Hd/180Day)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spray</td>
<td>Kills through contact, transferred through body oil</td>
<td>Saturation of animal's body</td>
<td>21 Days</td>
<td>$0.50-$0.65/hd ($5.40/hd)</td>
</tr>
<tr>
<td>Pour-On</td>
<td>Kills through contact, transferred through body oil</td>
<td>Directly to animal's back</td>
<td>28 Days</td>
<td>$3.00-$3.50/hd ($21.60/hd)</td>
</tr>
<tr>
<td>Insecticide Ear Tags</td>
<td>Kills through contact, transferred through body oil</td>
<td>Ear Tag, apply 1 or 2 tags</td>
<td>8-12 Weeks</td>
<td>$2.00-$2.50/tag ($5.40/hd)</td>
</tr>
<tr>
<td>Feed Additives</td>
<td>Larvicide that controls through manure</td>
<td>Fed through supplement such as mineral</td>
<td>During feeding period</td>
<td>$3.00/head for 6 months ($3.00/hd)</td>
</tr>
</tbody>
</table>

*cost/hd is based on the average cost/treatment to provide control over a 180 day period with costs being an average of available products.
Self-treatment devices

Dust bags

Back rubbers
Feed through

Variable results based on:
- Amount consumed by cattle
- Proximity to untreated herds
Sprays

- High volume/ high pressure sprays
- Low volume/ low pressure sprays
Ear tags

- Install tags after flies first appear in the spring and remove at the end of fly season in September
- Wear gloves
- One study showed the highest percent of fly population reduction with macrocyclic lactone tags (93%) compared to organophosphate tags (82%) and pyrethroid tags (79%)
### Ear tags

<table>
<thead>
<tr>
<th>Pyrethroid - Group 3</th>
<th>Organophosphate - Group 1B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Permethrin</strong> - Atroban Extra, Apollo, Deckem, Ear Force, Gard Star Plus, New Z Permethrin, Permethrin Insecticide Ear Tags, Super Deckem II (10%) 2 tags</td>
<td><strong>15% Coumaphos + 35% Diazinon</strong> Corathon 2 tags</td>
</tr>
<tr>
<td><strong>beta-Cyfluthrin</strong></td>
<td><strong>Coumaphos + Diazinon</strong> - Co-Ral Plus</td>
</tr>
<tr>
<td>CyLence Ultra (8%) CyGuard 15% 2 tags</td>
<td>1 tag for horn fly, 2 tags for face fly</td>
</tr>
<tr>
<td><strong>10% z-Cypermethrin</strong> - Python MagnuM, ZetaGard 1 tag</td>
<td><strong>20% Pirimifos-methyl</strong> - Dominator 2 tags</td>
</tr>
<tr>
<td><strong>10% l-Cyhalothrin</strong> - Saber Extra/Excalibur 2 tags</td>
<td><strong>20% Diazinon OPTimizer / X-Terminator 2 tags</strong></td>
</tr>
<tr>
<td><strong>Combination Tags P + OP Groups 1B + 3</strong></td>
<td><strong>40% Diazinon</strong> Patriot 2 tags to suppress face flies</td>
</tr>
<tr>
<td>6.8% l-Cyhalothrin + 14% Pirimifos methyl - Double Barrel VP 2 tags</td>
<td><strong>30% Diazinon + 10% Chlorpyrifos Warrior / Diaphos Rx 2 tags</strong></td>
</tr>
<tr>
<td><strong>Abamectin Group 6</strong></td>
<td><strong>18% Abamectin XP 820</strong> 2 tags</td>
</tr>
</tbody>
</table>
Pour-on

- Only treats horn flies
- Short term control – on average 28 days
- Re-treatment may be needed at 3 to 5 week intervals depending on fly pressure
Resistance

1. Base ear tag application and other control methods on high fly load. Start looking in May. Treatment usually starts in June
2. Rotate insecticide classes – every 2 or 4 years
3. Keep records
4. Remove ear tags at end of season in fall
5. Read label – may need 1 or 2 tags
6. Combine with other control methods
Alternative treatment options
Walk-through horn fly trap
Biological control methods
Conclusion

- There is no one solution to fly control
- Resistance is occurring
- Fly control should be restrained to fly season – from June to September
- Control methods should be used in combination
- Rotate insecticide classes
Questions
What Are Your Options?

- New Tags
- Current Tags
- Pour-On
- Back Rubber/Backpack Spray
Questions
Stable flies

- Feed on animal’s feet and legs with a painful bite
- Lay eggs in wet decaying organic material
- Leads to fatigue, reduced grazing, decreased milk production and weight loss
- Best means of prevention is through proper waste management and sanitation
What impact do these flies have?

- Economic loss—Horn fly is biggest culprit
- United States cattle producers lose about 1 billion dollars each year from:
  - Irritation
  - Blood loss
  - Decreased grazing
  - Lowered weight gains

Reduced production
What products did you use last year?

How did they work?
Horn flies
How do horn flies harm cattle?

- Found on the back, sides, poll, and belly of cow
- On belly during warmest times of day
- Male and female flies take > 30 blood meals per day
How do horn flies harm cattle?

- Reduce calf weaning weights by nearly 4-15%
  - Studies in Nebraska: calf weaning weights were 10-20 pounds higher when horn flies controlled on mama cows
- Yearling weights can be reduced by as much as 18%
  - When horn flies adequately controlled, grazed yearling cattle had increased weight gain by 0.18 lb/day when insecticidal ear tags used (Drouen et al., 1995, Sanson et al., 2003)
How can you assess horn fly numbers?

- Assess between 8-11 am when horn flies on topline and sides of animal; (afternoon assessment not accurate because majority of flies on belly)
- Look at about 10 animals to check numbers of flies
- Check for signs of cattle annoyance (stomp feet, throw head, twitch)
Insecticidal Ear Tags

- Through grooming and contact with the hair coat, cattle’s hair oil will help transfer insecticide over the whole hair coat.
- Tags contain enough insecticide to control flies for as much as 4-5 months depending on product.
- DOC cattle marketing to Pineland Beef-no organophosphate products (avoid products such as Corathon, Dominator, Optimizer, Patriot, Warrior, Double Barrel).
Advantages and Disadvantages of Insecticidal Fly Tags

- **Advantages**
  - Safe
  - No meat or milk residues
  - Stable in sunlight and rain
  - No carcinogenic ingredients
  - Controls flies, ticks, lice

- **Disadvantages**
  - Resistance
  - Need to rotate drug classes yearly
  - Need to delay early spring applications of fly tags until >200 flies per animal (about June)
<table>
<thead>
<tr>
<th>Chemical Class</th>
<th>Active Ingredient</th>
<th>Product Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organophosphate</td>
<td>coumaphos</td>
<td>CoRal</td>
</tr>
<tr>
<td></td>
<td>coumaphos + diazinon</td>
<td>CoRal Plus* Corathon*</td>
</tr>
<tr>
<td></td>
<td>diazinon</td>
<td>Patriot*, Optimizer*</td>
</tr>
<tr>
<td></td>
<td>diazinon + chlorpyrifos</td>
<td>Warror*</td>
</tr>
<tr>
<td></td>
<td>pirimiphos-methyl</td>
<td>Dominator*</td>
</tr>
<tr>
<td></td>
<td>tetrachlorvinphos</td>
<td>Rabon</td>
</tr>
<tr>
<td></td>
<td>tetrachlorvinphos + dichlorvos</td>
<td>Ravap</td>
</tr>
<tr>
<td></td>
<td>phosmet</td>
<td>Prolate</td>
</tr>
<tr>
<td>Pyrethroid</td>
<td>cyfluthrin</td>
<td>Cutter Gold* CyLence</td>
</tr>
<tr>
<td></td>
<td>beta-cyfluthrin</td>
<td>CyLence Ultra*</td>
</tr>
<tr>
<td></td>
<td>zeta-cypermethrin</td>
<td>Python Magnum*</td>
</tr>
<tr>
<td></td>
<td>lambda-cyhalothrin</td>
<td>Saber Extra*, Saber,</td>
</tr>
<tr>
<td></td>
<td>gama cyhalothrin</td>
<td>AIM-L VetCaps</td>
</tr>
<tr>
<td></td>
<td>permethrin</td>
<td>StandGuard</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CardStar Plus*, Permectin,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ultraboss, various other brands</td>
</tr>
<tr>
<td>Organophosphate-Pyrethroid</td>
<td>cyhalothrin + pirimiphos</td>
<td>Double Barrel*</td>
</tr>
<tr>
<td>Combination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Botanical</td>
<td>pyrethrins</td>
<td>Prozap and others, several</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ready-to-use products</td>
</tr>
<tr>
<td>Macrocyclic lactone</td>
<td>abamectin</td>
<td>XP 820*</td>
</tr>
<tr>
<td></td>
<td>eprinomectin</td>
<td>Eprinex</td>
</tr>
<tr>
<td></td>
<td>ivermectin</td>
<td>Ivomect, various generic</td>
</tr>
<tr>
<td></td>
<td>moxidectin</td>
<td>brands</td>
</tr>
<tr>
<td></td>
<td>spinosad</td>
<td>Cydectin</td>
</tr>
<tr>
<td>Insect Growth Regulator</td>
<td>methoprene</td>
<td>Elector</td>
</tr>
<tr>
<td></td>
<td>diflubenzuron</td>
<td></td>
</tr>
</tbody>
</table>

* = insecticide ear tag

Sources

Product names are included as a convenience to the reader and do not imply endorsement of the product nor discrimination against similar products not listed.
# Insecticidal Ear Tags and Strips – some options

<table>
<thead>
<tr>
<th>Product</th>
<th>Drug Class</th>
<th>Product claimed Length of Control</th>
<th>Non-resistant Horn Flies</th>
<th>Resistant Horn Flies</th>
<th>Face Flies</th>
<th>Cost per tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>XP-820</td>
<td>Macrocyclic Lactone + piperonyl</td>
<td>5 months</td>
<td>X</td>
<td>X</td>
<td>Aides control</td>
<td>$2.26</td>
</tr>
<tr>
<td>XP-820 strips</td>
<td>Macrocyclic Lactone + piperonyl</td>
<td>2 strips gets 5 months</td>
<td>X</td>
<td>X</td>
<td>Aides control</td>
<td>$2.20</td>
</tr>
<tr>
<td>CyLence Ultra</td>
<td>Pyrethroid + piperonyl</td>
<td>5 months</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$2.56</td>
</tr>
<tr>
<td>PYthon Tags/strip</td>
<td>Pyrethroid + piperonyl</td>
<td>Tag 3-5 months</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$1.93</td>
</tr>
<tr>
<td>Saber Extra</td>
<td>Pyrethroid + piperonyl</td>
<td>2 tags gets 4-5 months</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$2.57</td>
</tr>
<tr>
<td>GardStar Plus</td>
<td>Pyrethroid</td>
<td>5 months</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$1.02</td>
</tr>
</tbody>
</table>
When should tags be put in?

- Apply tags only when horn fly numbers at 200 flies per cow
  - Usually about June. This helps insecticidal levels be high enough during highest fly numbers.
  - Avoid placing tags at the start of the grazing season (April/May) when fly numbers are not causing an issue yet
- Two tags per cow; 1 per calf gives best results
Fly Tag Application

- Applying tag on the backside of the ear may help increase contact with the haircoat.

**Figure 1**
Place tag under clip by depressing lever, raised knob must be pointed down.

**Figure 2**
Slide button on pin. Tag and button are now ready for application.

**Figure 3**
Apply tag through the ear half way between the head and tip. Do not allow shaft of male button to penetrate a rib or blood vessel, as ear damage may result.
When should fly tags be removed?

- **Must** be removed 4-5 months after application
- If applied in June, then remove by October
  - If tags left in too long, low levels of insecticide still released
  - **Sub-lethal levels leads to resistance**
Horn Fly Resistance

- Insecticidal fly tags have been in use since the 1970s
- Generations of horn flies have developed resistance especially to pyrethroids
- This was a study conducted by the USDA Agricultural Research Service at Knipling-Bushland US Livestock Insects Research Lab in Kerrville, Texas
  - 5 Hereford cows with Atroban extra fly tags (permethrin, piperonyl butoxide)
  - They took hole punch samples of the tags over 18 weeks to measure their chemical levels
  - Rubbed filter paper on cows’ shoulders and then exposed susceptible and resistant horn flies to the filter papers that got insecticide on them
Study found that the ratio of the synergist such as piperonyl butoxide to the permethrin affected the kill of flies

- Very helpful to have the synergist to improve kill and reduce resistance
- Once the ratio of the synergist: permethrin runs down, no longer effective. Future research is looking at extending release of the synergist.

What helps fight resistance?

- Use new generations of pyrethroid chemicals
- Try products that contain synergists like piperonyl butoxide
- Rotate drug classes yearly
- Wait to apply tags when the economic threshold level is reached
Combatting Resistance to Fly Tags

- Apply tags only after numbers reach 200/animal
- Remove them in fall
- Rotate classes each year
  - Rest one class so resistance to it goes down for the next year

Year 1: use a Pyrethrin

Year 2: use a Macrocyclic Lactone

Year 3: use a Pyrethrin
Pour on’s and Sprays

- Avermectin products
  - Advantages-easy to apply, immediately effective
  - Horn fly control is often an added benefit from using them in deworming calves
- Drawbacks
  - Length of control limited
  - Need repeat applications
    - More time handling, stress, increased labor
How long do pour’s on work?

<table>
<thead>
<tr>
<th>Product</th>
<th>Horn Flies</th>
<th>Face Flies</th>
<th>Stable Flies</th>
<th>Length Effective</th>
<th>Dose</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ULTRABoss</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>~8 weeks</td>
<td>3 mL/100# 30 mL max</td>
<td>$1.10/oz</td>
</tr>
<tr>
<td>CyLence</td>
<td>X</td>
<td>X</td>
<td></td>
<td>~4 weeks</td>
<td>~12 for cattle &gt;800#</td>
<td>$1.28/oz</td>
</tr>
<tr>
<td>Brute</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>~6 weeks</td>
<td>1.5 mL/100# 15 mL max</td>
<td>$1.31/oz</td>
</tr>
<tr>
<td>Permectrin CDS</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>~4 weeks</td>
<td>1.5 mL/100# 15 mL max</td>
<td>$1.45/oz</td>
</tr>
</tbody>
</table>

Overall, not economical to use pour-on’s alone to control flies due to repeated applications and handling.
Self Applicator options

- Backrubbers
- Dust bags
- Face Wipes

Advantages: helps in a multi-pronged horn fly control approach

Drawbacks: erratic control
  - MUST be forced use to work
    - On the way to trough, for example
  - Maintenance
  - Heavy rainfall can lower performance
How has the larvicide in your mineral been working?
Insect Growth Regulators-Oral Larvicides

- Advantages: Kill larvae developing in manure
  - More helpful for confinement situation, such as feedlot or drylots
- Drawbacks: need steady consumption
  - Horn flies migrate in from neighboring untreated herds can negate their effectiveness
  - Horn flies travel up to 3 miles
Insect Growth Regulator-Oral Larvicides

- Can get IGRs in mineral, boluses
  - Feed through: chemicals inhibit fly eggs from developing in manure
  - One advantage is flies can’t develop resistance to these compounds
- Disadvantage-hard to know amount consumed and requires certain level of consumption per day

http://www.pf4feed.com/productsigr.html
IGR-Larvicides guidelines

- Need to feed it in loose mineral or in a mineral tub about two weeks before fly season hits (roughly mid May for Virginia)
  - Adult flies present and those coming from neighboring fields mean will still need other measures to control adult flies like tags
- Remove any other mineral/salt products so that cows will use these instead
- Be sure to have adequate water supply near the mineral feeder
<table>
<thead>
<tr>
<th>Product</th>
<th>Chemical</th>
<th>How Given</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalyx</td>
<td>Methoprene</td>
<td>Mineral additive 4 oz/1000#</td>
<td>$0.08/oz → $0.32/day</td>
</tr>
<tr>
<td>Rabon</td>
<td>Tetrachlorvinphos</td>
<td>Additive to mineral or ration, block- 0.88 oz/100#</td>
<td>$12.49 for 33.3 lb $0.19/day</td>
</tr>
<tr>
<td>Altosid</td>
<td>Methoprene</td>
<td>Mineral lick or loose mineral Need 4 oz/1000#/day</td>
<td>$0.04/oz $0.16/day</td>
</tr>
<tr>
<td>JustifFLY</td>
<td>Diflubenzuron</td>
<td>Mineral mix 1.8 g/day</td>
<td>$21.99 for 360 grams $0.11/day</td>
</tr>
</tbody>
</table>
Advantages: Applies gel capsule of insecticide that lasts 21-35 days
- Pyrethroids and macrocyclic lactone products available
- No handling needed, can shoot from 15-30 feet away
- Self-marks which you did
- Disadvantages” Reapplications needed throughout season; effective control for 4 weeks

Costs
- VetGun $249
- CO2 propellant cartridges - $0.08/discharge
- $1.99/capsule
Face flies
How do face flies harm cattle?

- Feed on cattle’s secretions from the eyes and nose as well as manure liquids
  - Female flies get around eyes, mouth, muzzle
  - Feed on blood and body secretions, especially around wounds
  - Numbers are the highest around water and irrigated pasture
- Major contributor to pinkeye
  - Female face flies damage eye tissue and also spread pinkeye infections
Fighting Pinkeye

- Pinkeye costs us about $150 million per year from decreased weight gain, milk loss, and treatment costs
- 20 year study showed calves weaning weights 19.6 pounds lower
  - Others say 30-40 pounds lower
- Pinkeye most common disease in breeding age heifers and 2nd most in calves < 3 wks.
- Moderate infestation = 10-20 face flies per animal
- Pinkeye bacteria has over 20 strains and mutates quickly making vaccines disappointing
Combatting Pinkeye

- *Moraxella bovis* is the bacteria that causes pinkeye; survives on flies 4-5 days
- Needs a compromise to the cornea to invade
- Eye irritation from face flies as well as abrasion from:
  - Tall weeds, grasses rubbing cattle’s eyes as they walk and graze
  - Feed and dust when cattle eat from overhead feed bunks or the centers of round bales
  - Dust on windy days, sunlight also increase risk
- Breeds with less pigmentation around the eyes most at risk, e.g. Herefords, Hereford crosses, Charolais, some Holsteins
Combatting Pinkeye

- Fly control strategies-tags, larvicides, backrubbers/face wipes, sprays
- Pasture management
  - Clipping pastures to reduce seed head development and lessen irritation to eyes and decrease the amount of resting places for flies
  - Clip pastures to a low stubble height in May, just after seed heads emerge, and again in mid-summer when weeds appear (to about 10 inches height)
- Provide tree lines, shaded areas
- Select for pigmented eyes—it’s a heritable trait
- If possible, lower overhead feeders and roll out round bales
- Isolate animals with pinkeye if you can
How do we control face flies?

- Really hard to control because they only spend short spurts of time on the cattle themselves
  - They hang out most of their time on fence posts, plants, other objects around
- Insecticidal fly tags help
- Daily insecticide applications are the most helpful via dust bags, oilers, or sprayers
# Backrubbers and Oilers set up

**Products for Back Rubbers and Face Rubbers**

<table>
<thead>
<tr>
<th>Product</th>
<th>Amount/gal oil</th>
<th>Days To Slaughter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-Ral 11.6% EC (coumaphos)</td>
<td>1-1/4 cups (1:13)</td>
<td>0</td>
</tr>
<tr>
<td>Delnav 30% EC or 15% EC (dioxathion)</td>
<td>13 Tbs (1:20) or 26 Tbs (1:10)</td>
<td>0</td>
</tr>
<tr>
<td>Back Side, Ectiban 5.7% EC, Insectrin, Permectrin II 10% (permethrin)</td>
<td>6.5 Tbs (1:40)</td>
<td>0</td>
</tr>
<tr>
<td>Lintox-HD (phosmet)</td>
<td>1 qt in 50 gallons (1:100)</td>
<td>3</td>
</tr>
<tr>
<td>Ravap 28.7% EC (stirofos+dichlorvos)</td>
<td>9 Tbs (1:28)</td>
<td>1</td>
</tr>
</tbody>
</table>

[http://www.uky.edu/Ag/PAT/recs/livestk/recbeef/beeffly.htm](http://www.uky.edu/Ag/PAT/recs/livestk/recbeef/beeffly.htm)
Backrubbers and oilers

- Guidelines for use:
  - http://www.uky.edu/Ag/PAT/recs/livestk/recbeef/beeffly.htm
  - Estimates about $25-30 of materials to construct
  - Mix insecticides with mineral oil (diesel oil tends to evaporate more quickly)
  - Make the height so that calves can use it too

- For face fly control:
  - Soak in 1 gallon mineral oil per 20 feet on backrubber once weekly
  - Backrubber most effective against face flies if 18 inch strips of cloth are tied at 4-6 inch intervals along the length
  - Place at entryways to water and mineral feeders
Stable Flies
How do stable flies bother cattle?

- Blood feeders, especially on legs of cattle
  - Lay eggs in spoiled/fermented matter mixed with manure, moisture, and soil
- Very painful bites cause cattle to stomp feet, bunch in corners of pastures, or stand with legs in water to avoid bites
- Cattle become nervous and spend less time grazing
Control of stable flies

- Insecticidal sprays
  - Examples:
    - coumaphos (Co-Ral), permethrin (many brand names), natural pyrethins (many brand names), and Phosmet (Prolate)
  - Clean up spilled feed and old feed around winter hay feeding sites, mow around fence lines
Other Fly Issues

- Fly strike—be sure to spray Catron (permethrin) when castration and dehorning sites, wounds, umbilicus (during heavy fly numbers), surgical sites.
- Horse, deer flies—use fly tags, backrubbers.
- Grubs—Hypoderma bovis—more of a problem out west but recommended not to use pesticide when grubs in deep tissue (November 1 – February 1)
# Fly Control Calendar

## MAY
- Mid-May: start adding Altosid larvicidal product to mineral
- Clip pastures to a low stubble height

## JUNE
- Apply 2 CyLence fly tags, 1 fly tag per calf (if XP-820 was used last year)
- Set-up and charge weekly backrubbers and face wipes

## JULY
- Clip pastures to 10” and weeds down
- Monitor fly numbers on animals. If having problems can try sprays or pour-on’s.

## AUGUST
- Monitor fly numbers on animals and use sprays/pour on’s if needed

## OCTOBER
- Remove Fly tags

## NOVEMBER
- Continue to feed Altosid larvicidal product until 30 days after the first frost (feed until about Nov 1st)
Resources

- https://beef.unl.edu/cattleproduction/controllingflies
- http://cdrf.org/2016/01/06/5000/
- https://www.drovers.com/article/controlling-flies-pastured-cattle
- https://extension2.missouri.edu/g7012
- http://www.leedstone.com/chart-insecticide-tags/
- http://www.ag-link.com/Products/YTex/insecticide101.html
- http://pubs.ext.vt.edu/400/400-750/400-750.html


  - http://www.beefmagazine.com/mag/beef_weaning_twostep
  - https://www.progressivecattle.com/topics/grazing/7218-self-applicating-tools-for-parasite-control
Thank you!