Strategies for Converting Dairy Farms Into “Low (House) Fly” Zones

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House Flies -- Ubiquitous and Annoying
House flies can cause a variety of problems on dairies:

Transmit diseases, such as mastitis, but more often pinkeye.

Can cause production losses due to fly worry.

Large populations can disperse to nearby farms and residential areas.

Can carry and potentially transmit pathogens such as *E. coli* O157:H7.
House Flies Have an Affinity for Dairy Farms

Where there is both food and moisture to feed and breed.
To Control House Flies Prevent them from Reproducing

Egg and larval stages – 4 to 5 day minimum

Pupae stage – 2 day minimum
Basic Fly Control - Sanitation

To breed house flies need to deposit eggs:
-- in moist areas (40-60% moisture)
-- with available food (organic matter)
  - manure
  - cow/calf feed
  - hay or straw
  - garbage
Hot spot #1 – Calf pens

Combination of manure, urine, bedding, spilled milk and feed = flies everywhere!
Hot spot #2 – Feeding areas

Beware of spilled or uneaten feed
and watch the end of any concrete.
Hot spot #3 - Round hay bale feeders

Move round hay bale feeders frequently; clean up and thinly disperse any left over hay.
Hot spot #4 – Feed storage areas

Clean up spilled feed and keep dry feeds dry!
Hot spot #5 – Manure Storage Areas

Clean them up!

Spread manure thinly over fields to allow drying or fast soil incorporation with water.
Hot spot #6 - Weeds and tall grasses

Favorite spots for flies to sun themselves for warmth or shade themselves to cool.
Chemical Control - Pesticides
Biological Control

Parasitic wasps and flies
Other Fly Controls

Sticky tapes
Other Fly Controls

Ultra-violet light traps – Great for trapping moths, not flies
Other Fly Controls

Granular baits – Keep dry!
Other Fly Controls

Bait strips – work well indoors
Other Fly Controls

Fly traps with attractant in water – messy, but they do trap flies.
2010 Research Objective

Evaluate the relative effectiveness of a trap and two toxic baits for management of flies in high-density fly congregation areas on conventional Florida dairies.
Fly Trap and Baits Selected

The Farnam Captivator trap

Dinotefuran

Nithiazine

QuikStrike Bait Strip

QuikStrike Scatter Bait

Dinotefuran
High-density fly congregation areas on 3 dairies:
Calf production areas.

Commodity/Feed storage area.

Free stall or feeding barn area.
Procedures

1. The trap, bait station, and scatter bait were placed at the 3 high-density fly congregation areas on each dairy and left for 24 hours.

2. Flies were counted and each treatment rotated to the next area.

3. A complete rotation constituted one replication in a 3 x 3 Latin square design.

4. Each test was composed of 6 replications.
Which device did the best overall?

**Results:**

- Captivator Trap: 1623.9 (± 243.4) a
- QuickStrike Bait: 137.8 (± 43.1) b
- QuickStrike Strip: 94.9 (± 16.9) b
Where were most of the flies caught?

Results:

- Feed Storage: 1049.6 (± 236.2) a
- Calf Pens: 557.6 (± 146.9) a
- Feeding Barn: 249.2 (± 80.3) b
Where did each device catch the most flies?

**Results:**

- **QuikStrike Scatter Bait**
  - Feed Storage: 220.4 (± 122.6) b

- **QuikStrike Bait Strip**
  - Feed Storage: 146.3 (± 34.1) b

- **Farnam Captivator Trap**
  - Feed Storage: 2782.2 (± 490.6) a
  - Calf Pens: 1448.1 (± 360.8) ab
  - Feeding Barn: 641.3 (± 213.7) b
2011 Research Objective

Test the effectiveness of the Captivator Trap for controlling house flies on dairy farms, particularly around the three primary areas of fly attraction.
Procedures

Study sites: Three north central Florida dairies similar in size that have the 3 high-fly density areas:

- Calf raising area.
- Feed storage area.
- Feeding barn area.
Findings So Far

Where fly density was low,

- total capture of flies with one trap was similar to capture with multiple traps.

Where fly populations were very high,

- total capture with multiple traps exceeded total capture of one trap.
Conclusion

To turn a dairy into a low (house) fly zone:

1. Search out fly breeding “hot spots.”

2. Clean them up and dry them out.

3. Some pesticides work, but beware of fly resistance.
Conclusion continued

4. Biological wasps and flies can help.

5. Traps with attractants appear to be one of the better ways to control flies – if sufficient in quantity and well maintained.
Any questions?

“I always keep mine on intermittent.”

— Heard’s Dairyman, August 23, 2011
The End