

Inapparent Carriers of EIAV

What Risk?

Insect transmission vs Iatrogenic

Risks: Real and Perceived

Best statement: Unpredictable

**Controls designed to reduce impact
of man, not EIAV**

EIAV: Known Transmission Potential

Highest: Iatrogenic

**Transfusions, plasma
Syringes with needles
Contaminated meds
Syringes, people**

Insect vectors (mechanical)

Transplacental, venereal

Lowest: Fomites: posts, equipment

The Major Threat of EIA



Man vs Insects

Volume

High

Low

Estimate

>0.01ml

<0.00001ml

Transit time

Lower

Higher

26 g needle

~100 nl



18-22 g : 100000 to 1000 nl

Horse fly: 10 nl

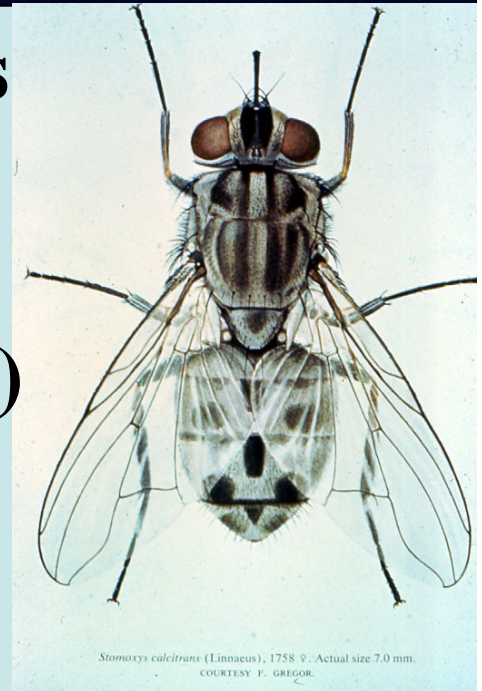


Tabanids



Stomoxys

Stable fly (Muscidae)



Stomoxys calcitrans (Linnaeus), 1758 ♀. Actual size 7.0 mm.
COURTESY F. GREGOR.

How to Reduce Your Risk

UNIVERSAL PRECAUTIONS/ STANDARD PRECAUTIONS:

A system of infection control which assumes that all blood and certain body fluids are treated as if known to be infectious.

Risk of Acquiring EIA

Commingle freely?

Adjacent quarantine farm?

Risk of EIA Transfer



at 200 Meters: inapparent

Vector feed/interrupt/refeed

Chance: probably $<10^{-4}$

Time of transit: virus survives 30'

Chance: probably $<10^{-4}$



Risk of EIA Transfer



+

at 200 Meters: acute case

Vector feed/**interrupt**/refeed

Chance: probably $<10^{-6}$

Time of transit: virus survives 30'

Chance: probably $<10^{-4}$



Quantitative Risk Assessment

Risk Associated with the

Risk Factor

Untested Quarantined+

Infected?

10^{-4}

1

Virus content

1

1

Vector refeeding

1

10^{-4}

Time in Transit

1

10^{-4}

Vector Numbers

1

1

Overall Risk

10^{-4}

10^{-8}

Risk of Acquiring EIA

Commingle freely?

Adjacent quarantine farm?

Stigma misplaced!

Challenges with EIA - 2012

Science, politics and human nature

Control of EIA in nature: easy

One host, not stable in environment

Predict behavior of horses & insects

Insert humans: complexity increases

Proposed EU rules: 10km Q zone!

Inability to control human behavior

Control of EIA

Collection of samples

Use good technique: reduce iatrogenic

Use most accurate lab techniques

Today: three tier strategy

Biggest challenge:

Finding the remaining reservoirs

