

# **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



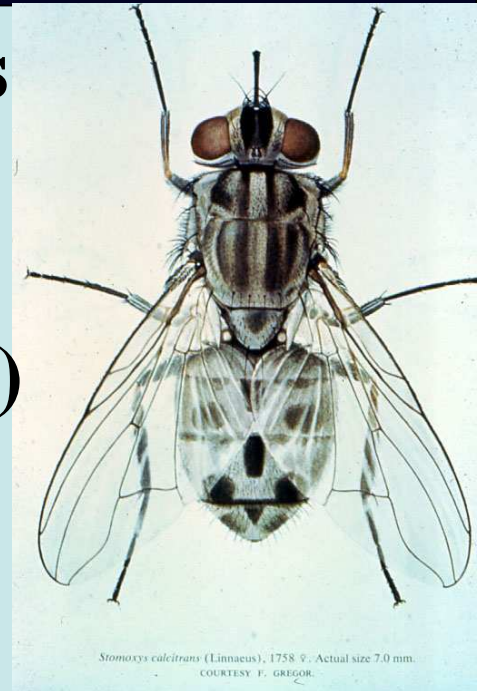


# Tabanids



## Stomoxys

## Stable fly (Muscidae)



**26 g needle**

**~100 nl**



Copyright © 2004 Dennis Kunkel Microscopy, Inc.

**18-22 g : 100000 to 1000 nl**

**Horse fly: 10 nl**

# **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**

