ZERO FLY® LIVESTOCK – A NOVEL INSECTICIDE INCORPORATED SCREEN FOR TSETSE CONTROL

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A PUBLIC – PRIVATE PARTNERSHIP

Kenya Government (KARI) • Aimed at ensuring that an effective and quality product gets to the Kenyan market

Vestergaard Frandsen.
• Tsetse transmitted trypanosomiasis still constraints livestock production in Kenya
• Improved cattle breeds are on chemotherapy
• and are raised in complete zero grazing units in tsetse infested lands.
Screens of netting are provided on all windows of zero grazing units.
• Netting so far available in Kenya is ordinarily used on windows against mosquitoes.

• This study aimed to evaluate efficacy of ZeroFly Livestock wrt its:
  - longevity of insecticidal action
  - durability
MATERIALS AND METHODS

• Trial began in July 2012.
• 2 field sites at Kenya’s south coast.
• Area is infested with *Glossina pallidipes*, *G.brevipalpis* and *G.austeni*.
• Erecting Zerofly and equivalent screens on same zero grazing unit.
Clipping ZFL samples

- Clipped samples are labelled by location, date, where clipped. They are wrapped in aluminium foil and transported to the lab.
Laboratory bioassays

- 30, 30’day old male *G. pallidipes* in individual tubes were forced to make contact with insecticide for 30 seconds
- Fate of flies was observed after 5 mins, 10 min, 2 hours and 24 hours.
RESULTS

• Results obtained were consistent between the 2 field sites.

• 14 months after onset of trial (August 2013):
  – On the Zero fly livestock, effect on fly is still being realized within 5 minutes:
    » Restlessness, culminating in
    » Cessation of buzzing sound.
    » Moribund.

  – Complete loss of activity in 10 minutes.

  – 100 % of flies remain dead after 24 hours

  – In the equivalent netting, 100% of flies have remained alive
NOVELTY OF ZERO FLY LIVESTOCK

• It is insecticide incorporated in the factory,
• Insecticide is long acting and available to tsetse
• Netting is long lasting:
  – Strong after 14 months of exposure
  – No holes are made on it by insects unlike conventional netting.
SO WHAT??

• Zero Fly Livestock has a double action aiding trypanosomiasis management:
  – Long lasting intact barrier on zero – grazing units,
  – Long acting insecticidal action against tsetse.

• Could also offer superior nets flanking visual cloth targets used in tsetse control.
Certainly ZeroFly livestock has a place in trypanosomiasis management.
Thank you for your attention