

BG-Pro Tips

Presented by Jay Kiser

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Biogents Traps

- BG Sentinel
 - 1, 1.5, 2

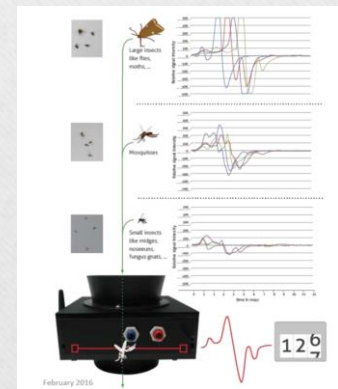


- GAT

- Snap

- Counter

- BG-Pro



Biogents BG-Pro



BG Sentinel



BG-Pro



CDC Light Trap

BG-Pro Configurations



Hanging Version



Ground Version

How Well Does It Work?

- Suffolk conducted two trap comparison studies
 - **BG-Pro vs. BG Sentinel 2 vs. CDC Trap**
 - All traps placed at ground level with constructed rain guard
 - All traps were baited with CO2 and a BG Lure
 - No traps had light sources
 - **BG-Pro with and without light source vs CDC Trap with and without light source**
 - All traps set 1.5 meters off the ground
 - All traps baited with CO2

BG-Pro vs BG Sentinel 2 vs CDC

- Focusing on ability to collect *Aedes albopictus*
- Location:
 - Empty lot in Urban Downtown Suffolk
 - Partly wooded, partly maintained grass
- Trap Locations:
 - In wooded portions
 - 20m apart
- Trap design:
 - 3x3 Latin Square
 - All traps set during same night
 - 24hr trap night
 - 9 rotations
 - Random order every 3 rotations



BG-Pro vs BG Sentinel 2 vs CDC



BG-Pro

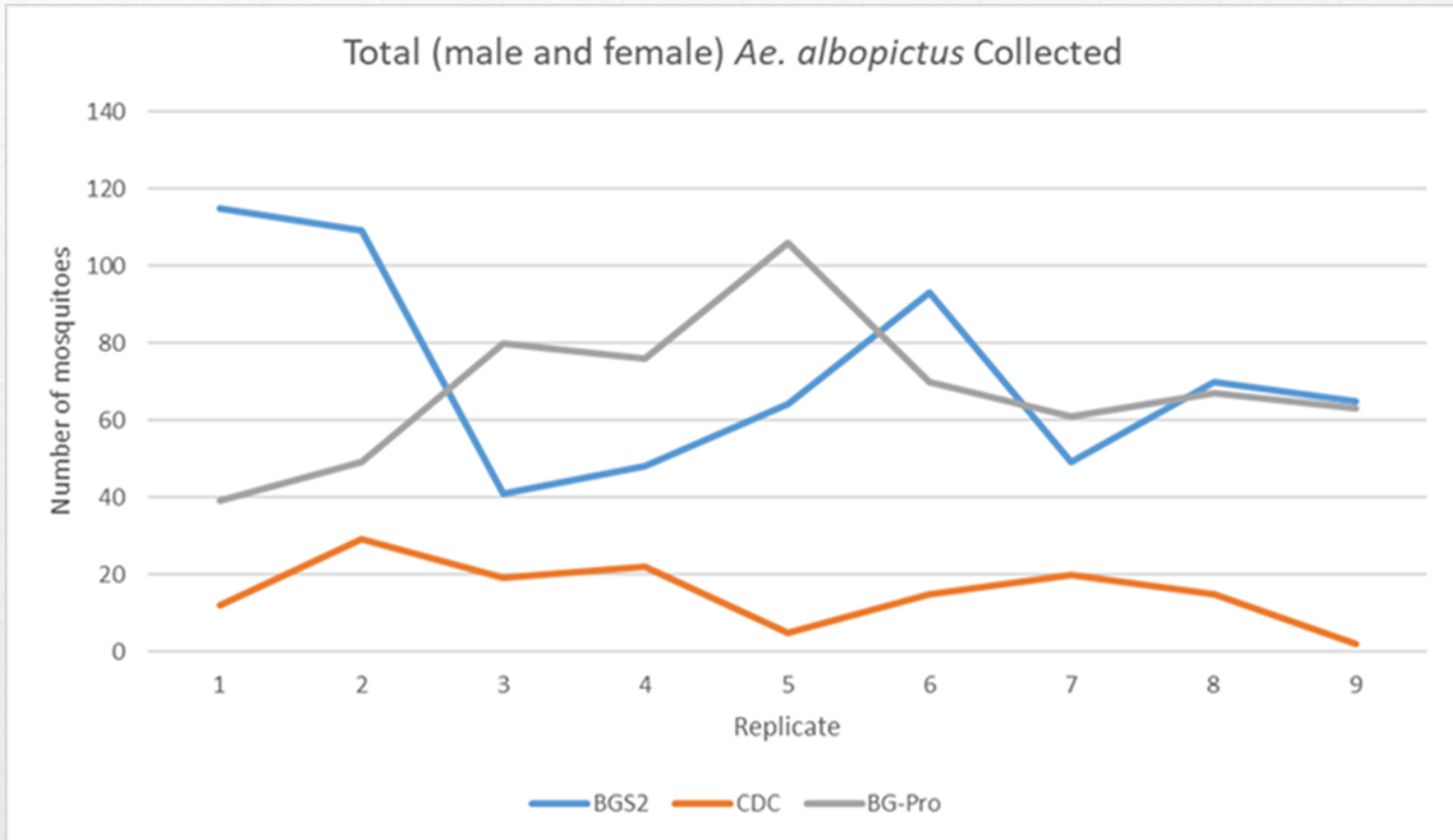


BGS2



CDC

BG-Pro vs BG Sentinel 2 vs CDC



BG-Pro vs BG Sentinel 2 vs CDC

- 1,460 mosquitoes were collected from all traps
 - 791 female, 669 males
 - *Aedes albopictus* accounted for over 96%
- Mosquito totals per trap
 - BG Sentinel 2- **676**
 - BG-Pro- **639**
 - CDC Trap- 145
- Statistics Results
 - 3x3 LSD ANOVA with Tukey post hoc
 - No significant difference between BG-Pro and BGS2 w/ *Ae. albopictus* collected
 - CDC collected significantly less *Ae. albopictus* than both the BG-Pro and BGS2 ($p < 0.1$)

BG-Pro (with and without light) vs CDC Light Trap (with and without light)

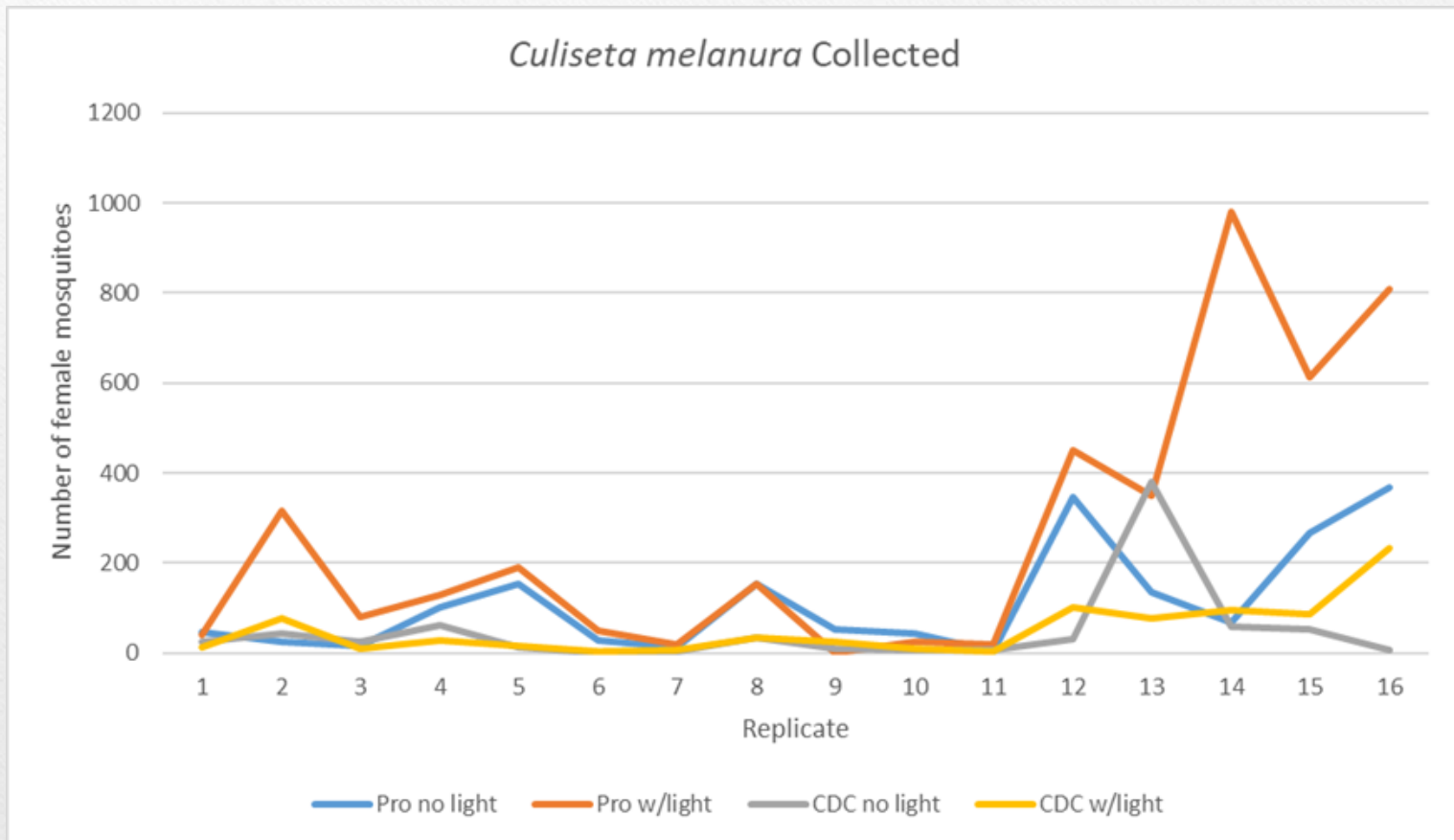
- Focusing on woodland species
- Location:
 - Wooded lot in Suburban Downtown Suffolk
 - Fully wooded with deep ravine through center
- Trap Locations:
 - 60m apart
- Trap design:
 - 4x4 Latin Square
 - All traps set during same night
 - 24hr trap night
 - 16 rotations
 - Random order every 4 rotations



BG-Pro (with and without light) vs CDC Light Trap (with and without light)



BG-Pro (with and without light) vs CDC Light Trap (with and without light)



BG-Pro (with and without light) vs CDC Light Trap (with and without light)

- 8,712 mosquitoes were collected from all traps
 - 8,516 female, 196 males
 - *Culiseta melanura* accounted for almost 93%
- Mosquito totals per trap
 - BG-Pro w/light- **4,671**
 - BG-Pro no light- 2,035
 - CDC w/light- 1,035
 - CDC no light- 971
- Statistics Results
 - 4x4 LSD ANOVA with Tukey post hoc
 - The BG-Pro with light collected significantly more *Cs. melanura* than all the other trap configurations
 - $p = 0.02$ for BG-Pro without light
 - $p < 0.01$ for both CDCs
 - There was no significant difference between the other configurations
 - BG-Pro traps caught three times as many *Culex pipiens* as the CDC traps
 - Total of 48 vs 15

Pros or Cons of the BG-Pro



- BG-Pro with light consistently collected much more than just mosquitoes
- LED light source attracted moths, crane flies, beetles, and much more (including an owl fly)

- BG-Pro has many moving parts
 - Can be awkward during travel when assembled
 - Moving pieces can be prone to breakage or malfunction
 - No issues during trials



Conclusions and Recommendations

- BG-Pro
 - If set instead of a BGS2
 - We found it will collect similar numbers of *Ae. albopictus*
 - If set instead of a CDC light trap
 - We found it will collect more *Cs. melanura*
 - Other species are still being tested
- BG-Pro can replace multiple traps in your arsenal
 - “One size fits all”
- Can its assembly withstand the Pro-fessional routine of mosquito control?
 - We used our two traps for 3-8 weeks with no uncommon malfunctions

Future Plans

- We have learned that areas in the southern US (LA and FL), use CDC traps with no light to successfully collect *Culex quinquefasciatus*
- We would like to explore this more with a comparison study of the BG-Pro in areas of high *Culex pipiens/quinquefasciatus*



Harris County Texas Mosquito Control

Acknowledgments

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Questions?

