



**An update on current and
future research goals and
needs**

**Craig A. Stoops. PhD BCE
Chief Science Officer**

Background

- **Residential Mosquito Control Company**
- **35 States and >325 locations**
- **Founded in 2002 by Joey Osborne**
- **Joined Mosquito Authority full time on July 1st 2017**
- **To advance Mosquito Authority through R&D projects that improve our ability to control vector and pest species to better serve our customers**
- **Serve as a Technical Expert to assist with Entomological problems**
- **Assist with Mosquito Authority Training**
- **Serve as a liaison with professional societies (AMCA), industry partners and county, state and federal government agencies**
 - **AMCA Science and Technology Committee**
 - **Projects with U.S. CDC, ECU, NCSU**

Mosquito Authority Laboratory and Insectary

Aedes albopictus

Culex quinquefasciatus

Musca domestica

Identification

Behavior/Trap/Efficacy

Insecticide Resistance

1700 acre Industrial Park

Area Laboratories

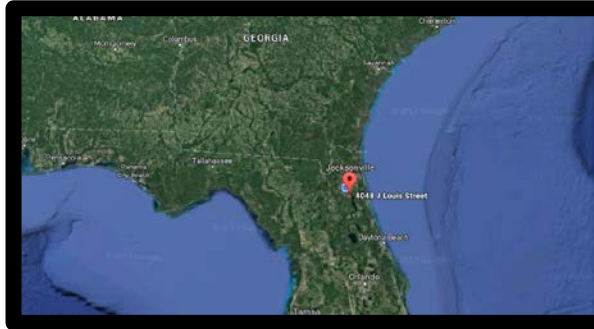
Navy – NECE Jacksonville

USDA – CMAVE Gainesville

UF/FMEL –Gainesville/Vero

Jacksonville MCD

AMCD St. Augustine



Operations

Source Reduction

Larvicides

Barrier Sprays

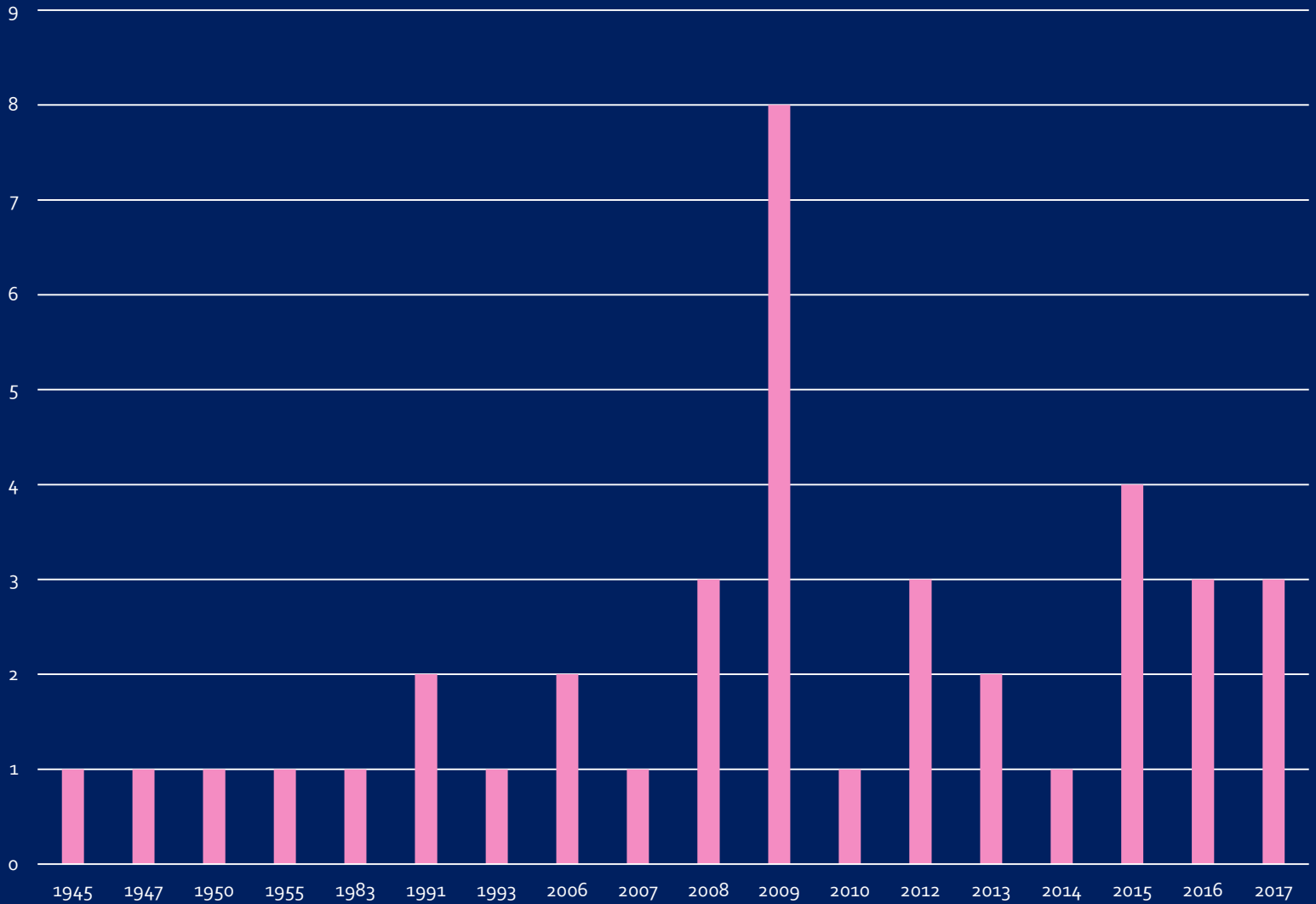
Pyrethroids – Bifenthrin/
Deltamethrin



Sustain MBG
Biological Larvicide



Number of Publications on Barrier Sprays 1945-2017



Mosquito Authority Ongoing Research

Allen et al. JAMCA 25: 338-346

Hoffman et al. JAMCA 25:323-331 2009

Farooq et al. JAMCA 26: 422-429 2010

Hoffman-

Stihl SR450 deposited (Talstar) 16.8 ng/cm³

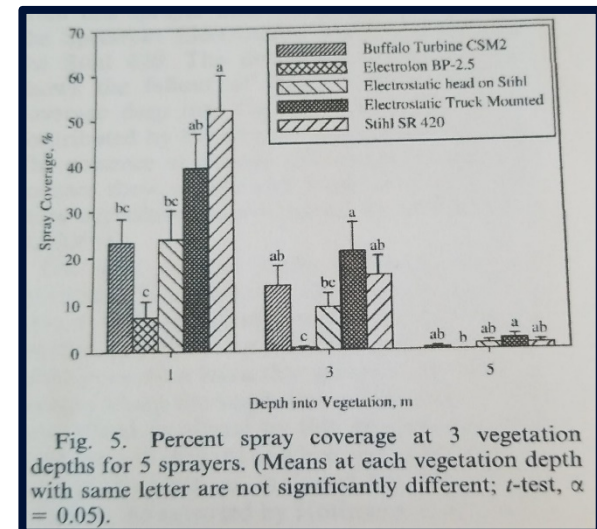
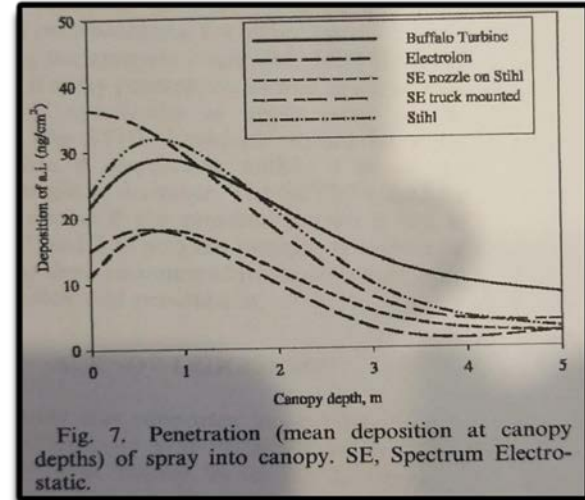
Significantly greater amount on top of leaf

1 m height 17.6 ng/cm³ with no sig difference
top/bottom

2m height overall deposition was 15.2 sig difference
top/bottom

Farooq – 1m depth 20 to 50% paper coverage

4m depth 5% paper coverage



Mosquito Authority

Ongoing Research

VanDusen et al. Pest Manag Sci DOI 10.1002/ps.4081 2015

Richards et al. J Med Entomol 54: 1659-1665 2017

Bunn et al. J Med Entomol (submitted) 2017

All work was done in collaboration with Mosquito Authority

VanDusen – 0 to 25.6 ng μL^{-1} on foliage

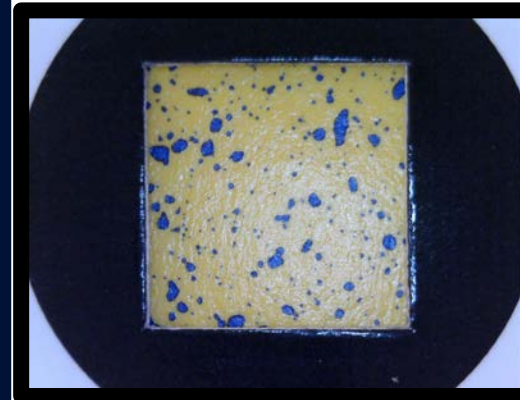
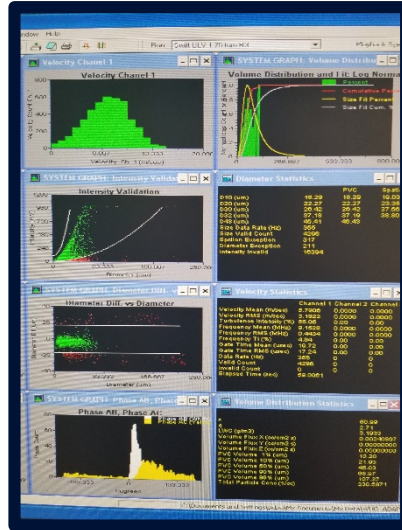
Range of 0 to 4347 ng cm^{-2} and a mean of 721 ng cm^{-2}

No significant correlation between total mosquito collections and collected bifenthrin residue

All papers report impact of Bifen on mosquito abundance with variability between genera and species, weather, site etc....

Mosquito Authority Ongoing Research

Development and testing of novel ways to improve efficacy and decrease amount of a.i. applied during barrier applications





TRAP INSTRUCTIONS

CONTENTS

Traps (5)
Ovistrrip Papers (15)
Twine (5)
Paper Clips (10)
WhirlPak Baggies (15)
Return Envelopes (1)



February 2017

17 States

1212 Ovistrrips

523

Aedes albopictus

We will continue the Zika trap project through the 2018 season in
In collaboration with USDA Invasive Mosquito Project

Mosquito Authority

Ongoing research



Biodegradable Ovitrap



Modelling environmental conditions for season launch



Tick trap development and implementation

Mosquito Authority Research Needs



New non-pyrethroid a.i.



New application methods

THANK YOU

Dr. Stephanie Richards ECU

Mr. Jacques Bertrand NECE

Dr. Mohammad Farooq NECE

Dr. Lee Cohnstaedt USDA ARS

Dr. Michael Reiskind NCSU

Dr. Kurt Vandock Bayer

Mr. Joe Andrews

Dr. Graham White

