

Beneficial Releases in Cotton with

▶ Drones

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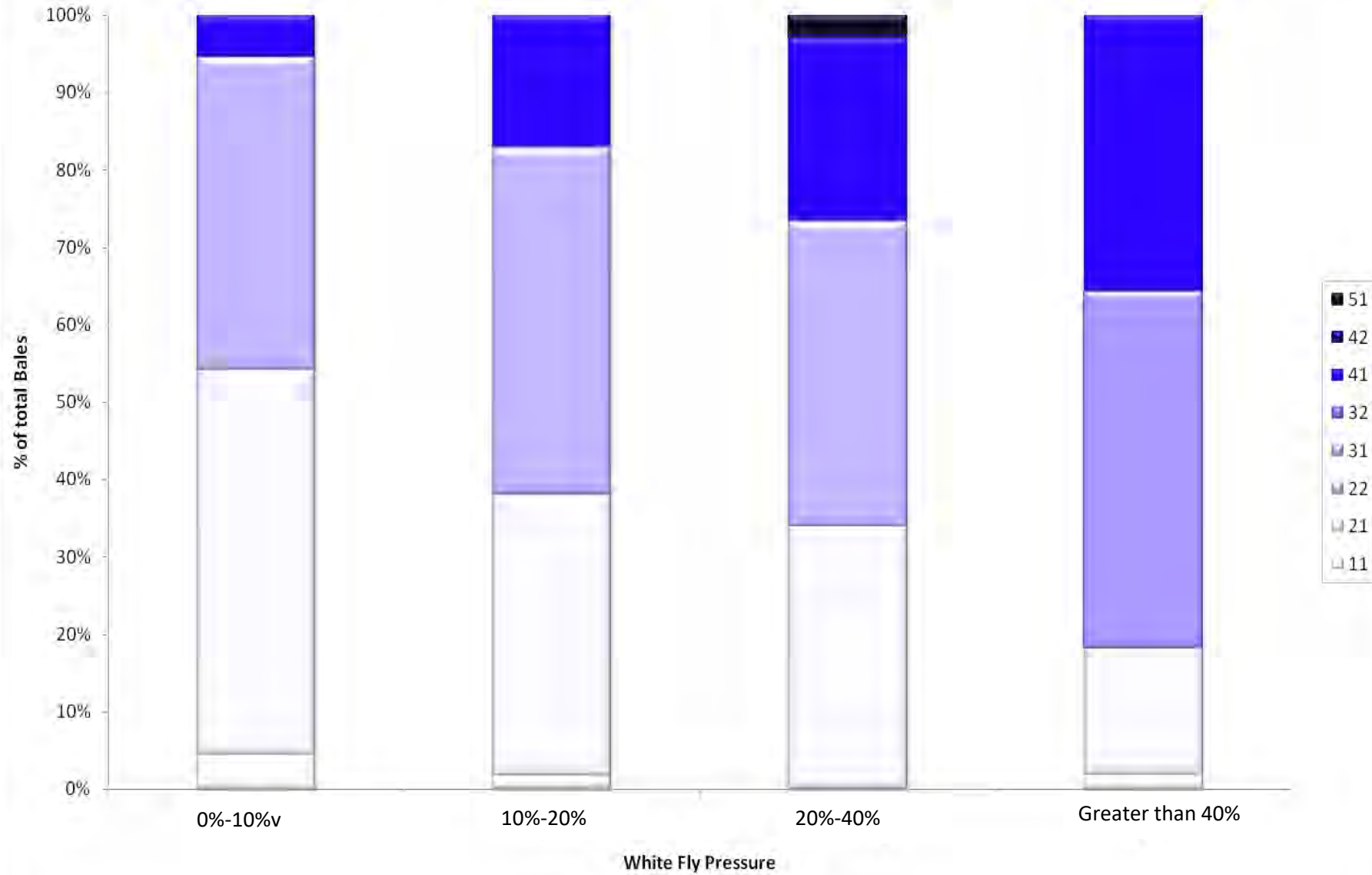
HISTORY

History

- ▶ 3 years of releases
- ▶ 2016 100 ha
- ▶ 2017 400ha
- ▶ 2018 4000 ha

- ▶ Alternatives to whitefly and mite control
 - ▶ Increasing resistance
 - ▶ Decreasing efficacy
- ▶ Minimise damage without yield compromise
- ▶ Maintain quality - ie minimal honeydew

Colour v's White Fly Populations 2009



- ▶ Research Releases
- ▶ Beneficials targeting whitefly
- ▶ Other Crops
- ▶ Releases
- ▶ Cost effective

Eretmocerus Hayati



Area Wide Management Areas

- ▶ 3 main areas
- ▶ Reduce impacts of outside chemistry
- ▶ Integrated hayati movement
- ▶ Logistical management
- ▶ Improve survival of hayati
- ▶ Neighbour communication



Spring Plains

Boolcarroll

Merah North

Wee Waa

Edgeroi

A39

A39

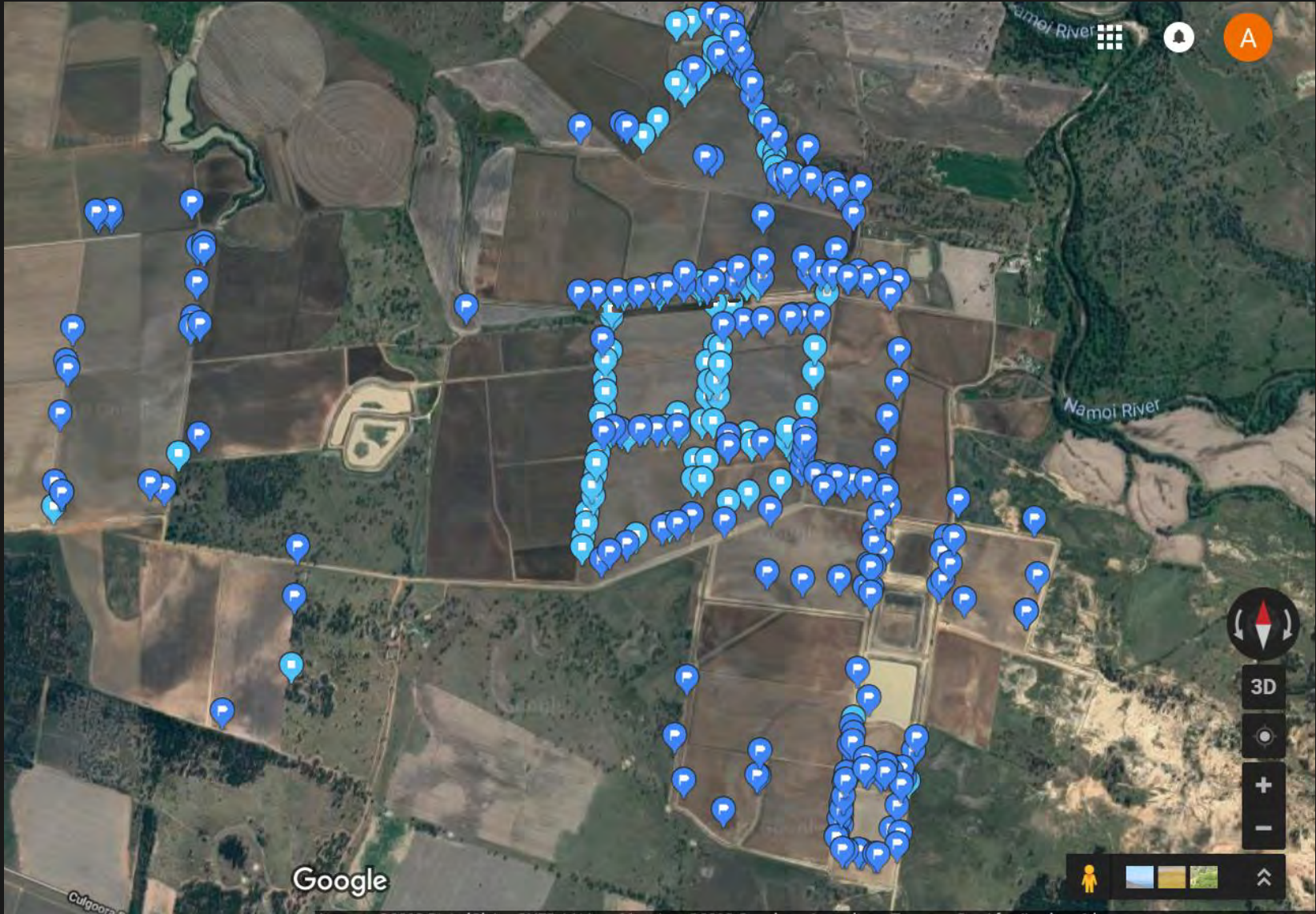
Narrabri

Google



Hayati Release Program

- ▶ Staged Releases
- ▶ Hand Releases - fields edges native vegetation
- ▶ Drone Releases - hayati and predatory mites



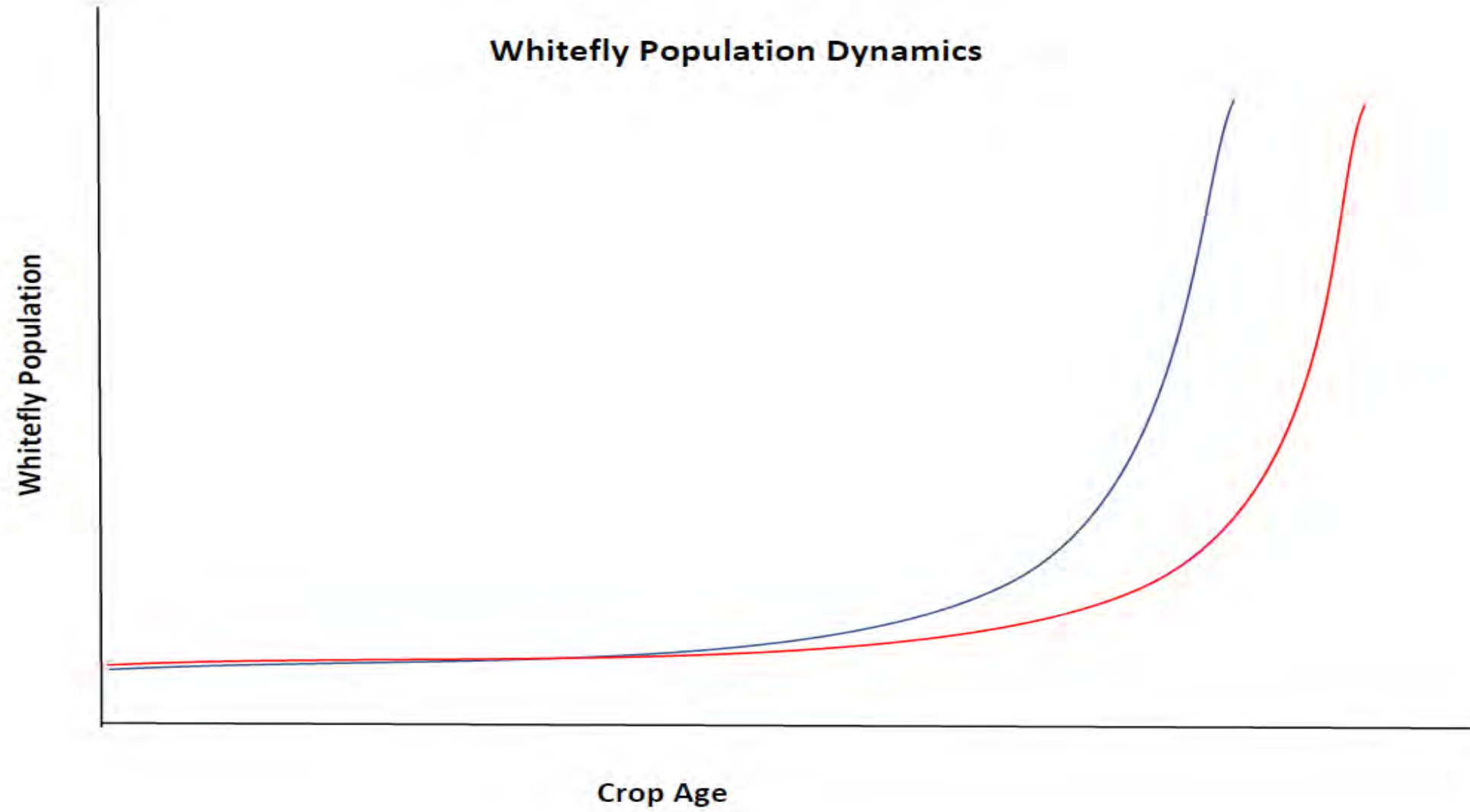
Hand
Releases



Drone Releases

AeroBugs

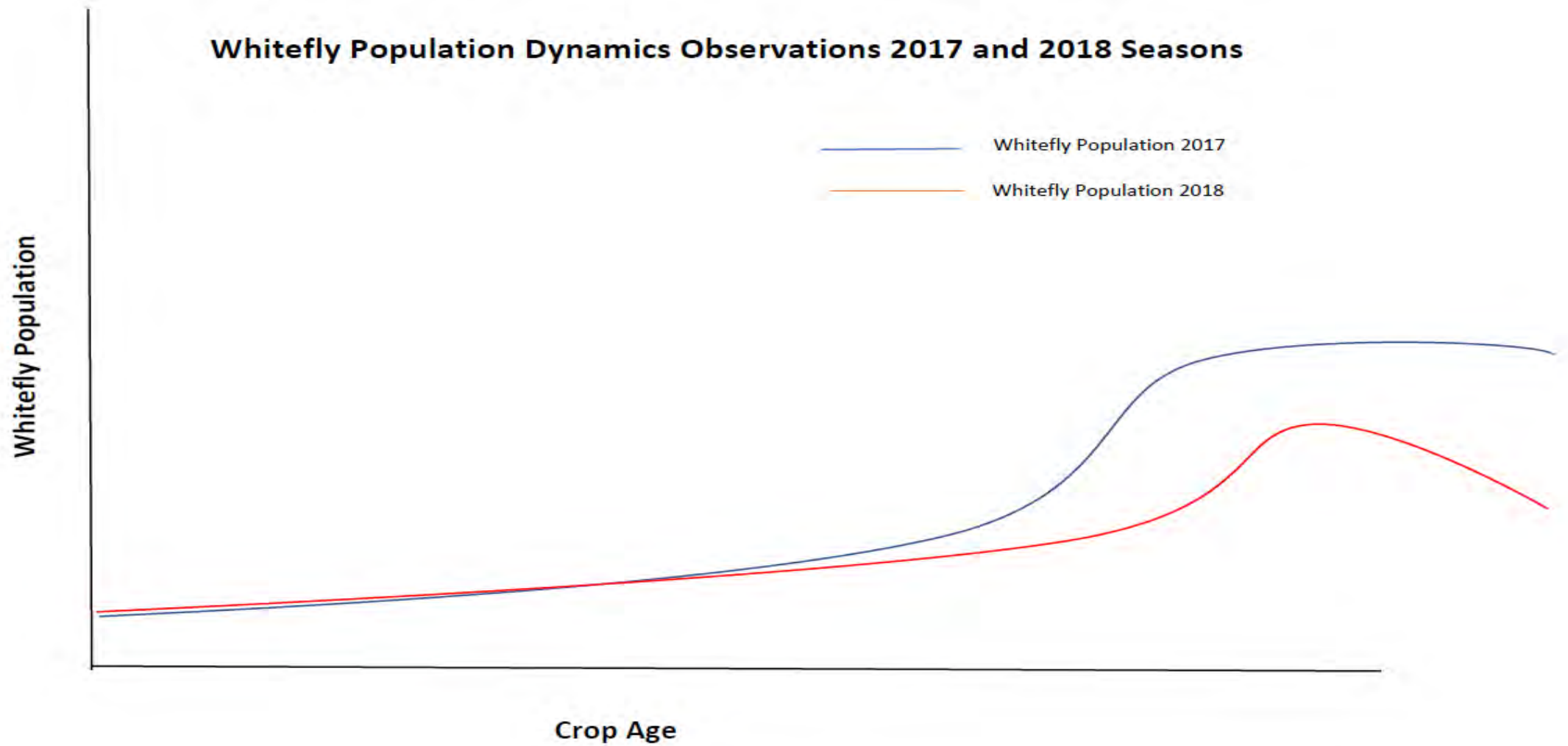
Whitefly Population Dynamics



General Observations

- ▶ Season long investment
- ▶ Need to establish breeding population
- ▶ Monitor parasitism
- ▶ Application variables
- ▶ Logistical issues
- ▶ Adults - lower honeydew

Whitefly Population Dynamics Observations 2017 and 2018 Seasons



Results

- ▶ Reduced Insecticide
- ▶ Not a silver bullet
- ▶ Another Tool in IPM
- ▶ Area Wide Management beneficial
- ▶ Differences in release methods, mixes, rates
- ▶ Cost Effective

Future

- ▶ Whitefly Predictions
- ▶ HOPE for the BEST
- ▶ PREPARE for the WORST